Beachwood City Council Meeting Agenda
Monday, March 4, 2019, 7:00 PM
at Beachwood City Hall, Council Chambers,
25325 Fairmount Boulevard, Beachwood, Ohio 44122

-Pledge of Allegiance to the Flag of the United States of America-
Pledge of Allegiance led by: Ari Shlachter

Agenda Items

1. Roll Call

2. Reports

   a. Mayor

   b. Council Member (non-agenda items)

   c. Department Directors

3. Citizen's Remarks (City Council limits Citizen's Remarks to five (5) minutes each)

4. Approval of Minutes

   Approval of the Minutes of the Regular Council Meeting held on February 19, 2019

5. Building & Grounds Committee
   Ordinance No. 2019-33
   An Ordinance authorizing the Mayor to enter into an agreement with Orchard, Hiltz & McCliment, Inc., dba OHM Advisors for the development of a Conceptual Design and Implementation Plan for City-Wide Signage and Beautification; and declaring this to be an urgent measure

6. Economic Development Committee
   Ordinance No. 2019-34
   An Ordinance authorizing the Mayor to enter into a Community Reinvestment Area Agreement with New Leaf Living, LLC and Balance Solutions Physical Therapy, Inc. for the renovation of an existing facility located at 23175 Commerce Park, Beachwood, Ohio; and declaring this to be an urgent measure

7. Finance & Insurance Committee
   Ordinance No. 2019-32
   An Ordinance authorizing and directing the payment of certain claims (Bills) for Professional and other Services; and declaring this to be an urgent measure

8. Finance & Insurance Committee
   Ordinance No. 2019-35
   An Ordinance Amending Appropriations for Current Expenditures and Other Expenses of the City of Beachwood, State of Ohio, for the fiscal year 2019, January 1, 2019 to December 31, 2019, inclusive; and declaring this to be an urgent measure

9. Public Works Committee
   Ordinance No. 2019-36
   An Ordinance adopting the Solid Waste Management Plan Update for the Cuyahoga County Solid Waste Management District For Years 2019-2033; and declaring this to be an urgent measure

10. Recreation/Community Services Committee
    Ordinance No. 2019-37
    An Ordinance authorizing the Mayor to purchase Pool Chemicals from Patterson Pools, LLC through the end of the 2019 season for the City of Beachwood, Ohio Family Aquatic Center; and declaring this to be an urgent measure

11.	Safety & Public Health Committee **Ordinance No. 2019-38**	An Ordinance authorizing the Mayor to Purchase new Panansonic Toughbook Computers for installation in City of Beachwood, Ohio Police Patrol Vehicles from CDW Government, LLC; and declaring this to be an urgent measure

Pending

1. An Ordinance amending various sections of the City of Beachwood, Ohio Planning and Zoning Code and the City of Beachwood, Ohio Building Code to include the addition of Chapters 1108 and 1144. and the removal of Chapters 1115, 1149, 1301, 1315, 1319, 1321, 1323, 1325, 1331, and 1333
   Placed on First Reading and referred to P&Z: May 7, 2018
   Referred to Public Hearing that will be held on April 1, 2019: February 4, 2019

2. An Ordinance amending BCO Chapter 1111, Section 1111.02, Subsection (l) Class U-7A Uses of the City of Beachwood, Ohio Planning and Zoning Code
   Placed on First Reading and referred to P&Z: January 22, 2019

BEACHWOOD CITY COUNCIL MINUTES OF THE REGULAR COUNCIL MEETING HELD AT BEACHWOOD CITY HALL, COUNCIL CHAMBERS, 25325 FAIRMOUNT BOULEVARD, ON MONDAY, FEBRUARY 19, 2019 AT 7:00 P.M.

The meeting was called to order at 7:03 P.M. by Council President Brian Linick.

Julia Miller led the Pledge of Allegiance.

ROLL CALL:	Present:	J. Berns A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	Absent:	None.
	Also Present:	M. S. Horwitz, C. Arrietta, D. A. Calta, K. Carmen, W. Griswold, G. Haba, L. Heiser, S. Lutz, T. Turick

MAYOR'S REPORTS

Mayor Horwitz congratulated thanked Mr. Arrietta and his employees during the winter weather.

Mayor Horwitz mentioned the Arts Council and the show that is being exhibited in the Community Center.

Mayor Horwitz also spoke about the employees at 3800 Park East Drive that may be affected by the closure of the building. He stated that the Administration has passed on information regarding Job Fairs in the area to those employees.

COUNCIL MEMBERS (NON-AGENDA ITEMS)

None.

DEPARTMENT DIRECTOR REPORTS

None.

CITIZEN'S REMARKS

Majeed G. Makhlouf
3733 Park East Drive, Suite 200

Mr. Makhlouf also spoke about the proposed Zoning Code Text Amendment that is proposed and pending on the City Council Agenda.

Mr. Makhlouf expresses concerns that the amendment would be delayed.

APPROVAL OF THE MINUTES OF THE REGULAR COUNCIL MEETING HELD ON FEBRUARY 4, 2019.

Moved by B. Linick, seconded by J. Taylor, that the minutes of the Regular Council Meeting held on February 4, 2019 be approved.

ROLL CALL:	Yes:	J. Berns, A. Isaacson, B. B. Janovitz B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

FINANCE AND INSURANCE COMMITTEE

1. An Ordinance authorizing and directing the payment of certain claims (Bills) for professional and other services; and declaring this to be an urgent measure.

Moved by A. Isaacson, seconded by J. Pasch, that Ordinance No. 2019-26 be placed on final reading.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED-RULES SUSPENDED

Moved by A. Isaacson, seconded by J. Pasch, that Ordinance No. 2019-26 be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

PUBLIC WORKS COMMITTEE

1. An Ordinance authorizing the Mayor to renew a Contract with Medina Supply Company for the purchase of Ready-Mix Concrete for 2019; and declaring this to be an urgent measure.

Moved by J. Berns, seconded by A. Isaacson, that Ordinance No. 2019-27 be placed on final reading.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED-RULES SUSPENDED

Moved by J. Berns, seconded by A. Isaacson, that Ordinance No. 2019-27 be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

2. A Motion authorizing the Clerk to advertise for bids for the 2019 Capital Roads Halburton Road Phase 2 Project.

Moved by E. Synenberg, seconded by J. Berns, that the Motion be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

3. A Motion authorizing the Clerk to advertise for bids for the 2019 Capital Roads Campus Rd. Water Main Replacement Project.

Moved by J. Taylor, seconded by B. B. Janovitz, that the Motion be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
No: None.		
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

RECREATION AND COMMUNITY SERVICES COMMITTEE

1. An Ordinance accepting a quotation from M&G Pools, LLC for the spring preparation; and declaring this to be an urgent measure.

Moved by B. B. Janovitz, seconded by E. Synenberg, that Ordinance No. 2019-28 be placed on final reading.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED-RULES SUSPENDED

Moved by B. B. Janovitz, seconded by E. Synenberg, that Ordinance No. 2019-28 be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

SAFETY AND PUBLIC HEALTH COMMITTEE

1. An Ordinance authorizing the Mayor to enter into a Memorandum of Understanding with the Fraternal Order of Police Lodge No. 86, Patrol Officers Bargaining Units, addressing Canine Unit Handlers; and declaring this to be an urgent measure.

Moved by J. Pasch, seconded by B. B. Janovitz, that Ordinance No. 2019-29 be placed on final reading.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED-RULES SUSPENDED

Moved by J. Pasch, seconded by B. B. Janovitz, that Ordinance No. 2019-29 be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

SAFETY AND PUBLIC HEALTH COMMITTEE (CONTINUED)

2. An Ordinance authorizing the Mayor to issue a Purchase Order to Almur Construction Inc. dba Citywide Solutions Inc. for the purchase of cameras for the Cedar Road Area Camera Project; and declaring this to be an urgent measure.

Moved by J. Taylor, seconded by J. Berns, that Ordinance No. 2019-30 be placed on final reading.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED-RULES SUSPENDED

Moved by J. Taylor, seconded by J. Berns, that Ordinance No. 2019-30 be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

3. An Ordinance authorizing the Mayor to enter into a Contract with Nexgen Integration LLC for the Installation of Cameras and Network Video Recorders for the Cedar Road Are Camera Project, waiving Competitive Bidding; and declaring this to be an urgent measure.

Moved by J. Berns, seconded by J. Pasch, that Ordinance No. 2019-31 be placed on final reading.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED-RULES SUSPENDED

Moved by J. Berns, seconded by J. Pasch, that Ordinance No. 2019-31 be adopted.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

ADJOURNMENT

Moved by A. Isaacson, seconded by J. Pasch, to adjourn the Regular Council Meeting at 7:23 P.M. to the next regularly scheduled Council Meeting.

ROLL CALL	Yes:	J. Berns, A. Isaacson, B. B. Janovitz, B. Linick, J. Pasch, E. Synenberg, J. Taylor
	No:	None.
	Abstain:	None.
	Not Voting:	None.
		MOTION ADOPTED

Approved: _____
Clerk

_____
Mayor

****

Pursuant to Ordinance Number 2017-107 Council has determined that the official Minutes of its Body, its Committees, and those of the Planning and Zoning Commission shall consist of the Audio Recording of the meetings together with a written synopsis of all agenda items and votes.

INTRODUCED BY: ORDINANCE NO. 2019-33

AN ORDINANCE AUTHORIZING THE MAYOR TO ENTER INTO AN AGREEMENT WITH ORCHARD, HILTZ & MCCLIMENT, INC., DBA OHM ADVISORS FOR THE DEVELOPMENT OF A CONCEPTUAL DESIGN AND IMPLEMENTATION PLAN FOR CITY-WIDE SIGNAGE AND BEAUTIFICATION; AND DECLARING THIS TO BE AN URGENT MEASURE

WHERAS, the City has previously discussed creating and implementing a Signage/Wayfinding Project and a Street Beautification Project; and

WHEREAS, Orchard, Hiltz, & McCliment, Inc. dba OHM Advisors (hereinafter "OHM Advisors") has submitted a proposal to conduct a Wayfinding Analysis and Strategy, and develop a Sign Concept and Implementation Plan, a Gateway Concept Plan, and a Corridor Beautification Concept Plan; and

WHEREAS, Council now desires to enter into an Agreement with OHM Advisors for a conceptual design and implementation plan for City-wide signage and beautification in an amount not to exceed Twenty-Nine Thousand Five Hundred Dollars and No/Cents ($29,500.00).

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Beachwood, County of Cuyahoga, and State of Ohio, that:

Section 1: The Mayor is hereby authorized to enter into an agreement with OHM Advisors for a conceptual design and implementation plan for City-wide signage and beautification, in a form substantially similar to that outlined in the proposal, which is attached hereto and incorporated herein as Exhibit "A" in amount not to exceed Twenty-Nine Thousand Five Hundred Dollars and No/Cents ($29,500.00).

Section 2: It is found and determined that all formal actions and deliberations of Council and its committees relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105 of the Codified Ordinances of the City.

Section 3: This Ordinance is hereby declared an urgent measure which is immediately necessary for the preservation of the public peace, health or safety or the efficient operation of the City, and for the further benefit of residents in the City of Beachwood; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

WHEREFORE, this Ordinance shall take effect and be in force from and after the earliest date permitted by law.

Attest: I hereby certify this legislation was duly adopted on the 4th day of March, 2019, and presented to the Mayor for approval or rejection in accordance with Article III, Section 8 of the Charter on the 5th day of March, 2019.

_____
Clerk

Approval: I have approved this legislation this 5th day of March, 2019, and filed it with the Clerk.

_____
Mayor

OHM Advancing Communities

December 20, 2018

Mayor Martin Horwitz
City of Beachwood
25325 Fairmount Boulevard
Beachwood, OH 44122

RE: City-wide Signage and Beautification Concept Development
Proposal #18273

Dear Mayor:

The City of Beachwood has earned a reputation as a five-star community. It is only right that the City's physical identity and brand be clear and beautiful to all citizens who drive through or work, live, and play in Beachwood.

Project Description
Based on our July 16 meeting with you, Tina Turick, and Bill Griswold, we understand the City would like to examine ways to:

- Strengthen its brand presence throughout the city.
- Improve wayfinding throughout the city.
- Beautify primary gateways into the city and primary vehicular corridors through the city.

Services & Deliverables

OHM Advisors (OHM) will lead the project team, and be responsible for gateway concepts and corridor beautification concepts. Our subconsultant, Guide Studio, will be responsible for wayfinding and signage program design. We will provide the following services and deliverables:

Task #1: Wayfinding Analysis and Strategy (Week #1 – Week #4)
Wayfinding Strategy is a long-term plan for the development and implementation of a sign system for a complex environment. Your Wayfinding Strategy will provide your community with a clear understanding on what type of sign system and approach is required to address your wayfinding issues. At the end of this phase, the City of Beachwood will understand what type of program — down to the actual sign types you require, where we recommend signs are placed, a content and nomenclature matrix to begin developing messaging for the sign system, quantities for each recommended sign type and a preliminary project budget to further develop the program and get it fabricated and installed. We will provide the following:

- **Existing Plans, Studies, Research, Data, and Brand:** Review and evaluation of existing research, studies, and strategic plans procured or developed for your organization by others.
- **Wayfinding Analysis Discovery/Site Visit:** Meeting and site visit (Meeting #1) with the client team to understand the overall issues, navigation composition and character of the place, as well as challenges and future plans. A Wayfinding Analysis Survey will be developed and sent out to members of the community (Stakeholders identified by the City) as part of the comprehensive Discovery Process.
- **Deliverable: Wayfinding Analysis Report:**
  - Travel path(s), arrival and decision point study
  - Sign Type Hierarchy that outlines and defines the recommended sign types for the wayfinding system. For a Community Identity and Wayfinding program, the sign types we will focus on may include:

OHM Advisors
6555 CARNEGIE AVENUE, STE. 201 T 216.8651335
CLEVELAND, OHIO 44103 OHM-Advisors.com

Gateway, Vehicular Directional(s), and Facility Identification. The primary signage target audience will be motorized users.

- Preliminary Sign Location Plan
- Nomenclature Matrix: terminology and message criteria for sign program
- Preliminary Sign Program Budget, based on determined sign types, quantities and similar project fabrication and installation costs. This budget is organized into recommended priorities for the implementation of the new sign system for immediate improvement for your wayfinding experience.
- Presentation of key recommendations to be considered for the improvement of experience or the support of placemaking (Meeting #2).

Task #2: Signage Program Design & Implementation (Week #5 – Week #8)

- **Conceptual Design:** This initial design step will address functional and aesthetic goals for a city-wide sign program. We will select three (3) sign types from the sign type recommendations made in the Wayfinding Analysis and present up to two (2) conceptual design themes for the proposed sign program based on the brand identity and character study conducted in Task 1 (Meeting #3). Conceptual Design presentation typically includes hand sketches, support imagery and notations to describe the concepts. Client team will select a conceptual direction to move forward and provide consolidated feedback to inform the next phase of development.
- **Deliverable: Sign Concept and Implementation Plan:** Update budget based on selected concept design. Develop a budget phasing plan for implementing signage throughout the city.

Task #3: Gateway Concept Development (Week #5 – Week #10)

Tied directly to wayfinding and signage are larger-scale gateway treatments. We will identify key intersections that should be considered for gateway concept development, and provide the following, for up to three of the intersections, at the City's choosing:

- Create a base plan for each gateway, including parcel ownership, from Cuyahoga County GIS data.
- Develop up to two enhancement concepts for each gateway. Any improvements inside the ODOT Right of Way will conform to ODOT's standard requirements. Concepts could include signage, landscape improvements, bridge enhancements, and lighting, and will consist of plan graphics and character imagery.
- Meet with and present concepts to the city (Meeting #2). Develop consensus on preferred concept.
- Refine concept for each gateway and create final deliverables.
- **Deliverables:**
  - Color illustrative gateway concept plan
  - Character imagery, to convey design intent
  - Schematic-level cost estimate

Task #4: Corridor Beautification Concept Development (Week #5 – Week #10)

The Richmond and Fairmount corridors travel border-to-border through the city, and lead to the city's current administrative center and the future Heart of Beachwood. It is important to examine the best enhancements that will speak the city's brand, and lead visitors to the city's core.

- Develop up to two concepts for each corridor. The concepts will coordinate with existing ROW and utilities, as provided in electronic format from the city.
- Streetscape concepts will be represented with a representative color plan segment and section sketches.
- OHM will meet with and present the concept options to the City's project team, with the goal of building consensus around a preferred option (Meeting #2).
- Based on the feedback, OHM will finalize the preferred concept, update the plan and section, and develop a schematic-level cost estimate.
- **Deliverables:** Corridor plan typical segment and section, and cost estimate.

Clarifications:

1. All deliverables will be in PDF format.
2. Gateway, corridor beautification, and signage design and construction documentation are not included in the scope of work, but may be added at any time for additional fee.
3. Public meeting preparation and participation, or presentation(s) to City Council may be required to complete the project. If requested, we can prepare materials for and participate in any public meetings or City Council presentations, at the hourly rates listed below.

Schedule:

OHM Advisors will begin the above scope of work within fourteen (14) days of receiving a signed authorization to proceed. All work shall follow the schedule indicated with each Task above.

Fee:

We will perform the tasks listed above for the following lump sum fees, including all expenses:

Task	Fee
Task #1: Wayfinding Analysis and Strategy	$7,000
Task #2: Signage Program Design & Implementation	$7,500
Task #3: Gateway Concept Development	$7,500
Task #4: Corridor Beautification Concept Development	$7,500
Total	**$ 29,500**

Hourly Rates:

1) Landscape Architect III: $125
2) Landscape Architect II: $105
3) Landscape Architect I: $95
4) Wayfinding Strategist: $130
5) Environmental Graphic Design Consultant: $120

Authorization
If you find this proposal to be acceptable, please provide OHM with authorization to proceed by signing below and returning a copy of the signed proposal.

We are excited for the opportunity to work with you on this project! Please do not hesitate to contact me directly at 216-346-2637, should you have any questions or need additional information.

Sincerely,
OHM Advisors

Matt Hils, Project Manager
matt.hils@ohm-advisors.com
D: 330.913.1057 C: 216.346.2637

Russ Critelli, PE, PMP, Principal
Russ.critelli@ohm-advisors.com
D: 216.865.1339 C: 216.704.4025

Authorization to Proceed
City of Beachwood

Signature Date

Printed Name Title

Standard Terms & Conditions

1. THE AGREEMENT – These standard Terms and Conditions and the attached Proposal or Scope of Services, upon their acceptance by the Owner, shall constitute the entire Agreement between OHM Advisors, registered in the State of Ohio, and the Owner. The Agreement shall supersede all prior negotiations or agreements, whether written or oral, with respect to the subject matter herein. The Agreement may be amended only by mutual agreement between OHM Advisors and the Owner and said amendments must be in written form.
2. SERVICES TO BE PROVIDED – OHM Advisors will perform the services as set for the in the attached proposal or scope of services which is hereby made a part of the Agreement.
3. SERVICES TO BE PROVIDED BY OWNER –
   The Owner shall at no cost to OHM Advisors:
   a. Provided OHM Advisors' personnel with access to the work site to allow timely performance of the work required under this Agreement.
   b. Provide to OHM Advisors within a reasonable time frame, any and all data and information as may be required by OHM Advisors to perform the services under this Agreement.
   c. Designate a person to act as Owners representative who shall have the authority to transmit instructions, receive information, and define Owner policies and decisions as they relate to services under this Agreement.
4. PERIOD OF SERVICE – The services called for in this Agreement shall be completed within the time frame stipulated in the Proposal or Scope of Services, or if not stipulated shall be completed within a time frame which may reasonably be required for completion of the work. OHM Advisors shall not be liable for any loss or damage due to failure or delay in rendering any service called for under this agreement resulting from any cause beyond OHM Advisors' reasonable control.
5. COMPENSATION – The Owner shall pay OHM Advisors for services performed in accordance with the method of payment as stated in the Proposal or Scope of Services. Method of compensation may be lump sum, hourly: based on a rate schedule, percentage of the construction cost, or cost plus a fixed fee. ~~The Owner shall pay OHM Advisors for reimbursable expenses for sub-consultant services, equipment rental or other special project related terms at a rate of 1.15 times the invoice amount.~~
6. TERMS OF PAYMENT - Invoice shall be submitted to the Owner not more often than monthly for services performed during the preceding period. Owner shall pay the full amount of the invoice within thirty days of the invoice date. If payment is not made within thirty days, the amount due to OHM Advisors shall include a charge at the rate of one percent per month from said thirtieth day.
7. LIMIT OF LIABILITY – OHM Advisors shall perform professional services under this Agreement in a manner consistent with the degree of care and skill in accordance with applicable professional standards of services of this type of work. To the fullest extent permitted by law and not withstanding any other provision of this Agreement, the total liability in the aggregate, of OHM Advisors and it Officers, Directors, Partners, employees, agents, and sub consultants, and any of them to the Owner and anyone claiming by, through or under the Owner, for any and all claims, losses, costs or damages of any nature whatsoever arises out of, resulting from or in any way related to the project or the Agreement from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability, breach of contract or warranty, express or implied, of OHM Advisors or OHM Advisors' Officer, Directors, employees, agents or sub consultants, or any of them shall not exceed the amount of $25,000 or OHM Advisors' fee, whichever is greater.
8. ASSIGNMENT – Neither party to this Agreement shall transfer, sublet or assign any duties, rights under or interest in this Agreement without the prior written consent of the other party.

9. NO WAIVER – Failure of either party to enforce, at any time, the provisions of this Agreement shall not constitute a waiver of such provisions or the right of either party at any time to avail themselves of such remedies as either may have for any breach or breaches of such provisions.
10. GOVERNING LAW – The laws of the State of Ohio will govern the validity of this Agreement, its interpretation and performance.
11. DOCUMENTS OF SERVICE – The Owner acknowledge OHM Advisors' reports, plans and construction documents as instruments of professional services. Nevertheless, the plans and specifications prepared under this Agreement shall become the property of the Owner upon completion of the work and payment in full of all monies due OHM Advisors, however OHM Advisors shall have the unlimited right to use such drawings, specifications and reports and the intellectual property therein. The Owner shall not reuse or make any modifications to the plans and specifications without prior written authorization by OHM Advisors. In accepting and utilizing any drawings or other data on any electronic media provided by OHM Advisors, the Owner agrees that they will perform acceptance tests or procedures on the data within 30 days of receipt of the file. Any defects the Owner discovers during this period will be reported to OHM Advisors and will be corrected as part of OHM Advisors" basic Scope of Services.
12. TERMINATION – Either party may at any time terminate this Agreement upon giving the other party 7 calendar days' prior written notice. The Owner shall within 45 days of termination, pay OHM Advisors for all services rendered and all costs incurred up to the date of termination in accordance with compensation provisions in this Agreement.
13. OHM ADVISORS' RIGHT TO SUSPEND ITS SERVICES – In the event that the Owner fails to pay OHM Advisors the amount shown on any invoice within 60 days of the date of the invoice, OHM Advisors may after giving 7 days' notice to the Owner, suspend its services until payment in full for all services and expenses is received.
14. OPINIONS OF PROBABLE COST – OHM Advisors' preparation of Opinions of Probable Cost represent OHM Advisors' best judgment as a design professional familiar with the industry. The Owner must recognize that OHM Advisors has no control over costs or the prices of labor, equipment or materials, or over the contractor's method of pricing. OHM Advisors makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual cost.
15. JOB SITE SAFETY – Neither the professional activities of OHM Advisors, nor the presence of OHM Advisors or our employees and sub consultants at a construction site shall relieve the General Contractor or any other entity of their obligations, duties, and responsibilities including, but not limited to, construction means, methods sequences, techniques or procedures necessary for performing, superintending or coordinating all portions of the work of construction in accordance with the contract documents and the health or safety precautions required by any regulatory agency. OHM Advisors has no authority to exercise any control over any construction contractor or any other entity or their employees in connection with their work or any health or safety precautions. The Owner agrees that the General Contractor is solely responsible for jobsite safety and warrants that this intent shall be made clear in the Owners agreement with the General Contractor. ~~The Owner also agrees that OHM Advisors shall be indemnified and shall be made additional insureds under the General Contractors general liability insurance policy.~~
16. DISPUTE RESOLUTION – In an effort to resolve any conflicts that arise during the design or construction of the project or following the completion of the project, the Owner and OHM Advisors agree that all disputes between them arising out of or relating to this Agreement shall be submitted to nonbinding mediation, unless the parties mutually agree otherwise.

CITY OF BEACHWOOD
INTER-OFFICE COMMUNICATION

TO: Martin Horwitz, Mayor
FROM: Keri Zipay, Business Retention Specialist, William Griswold, Building Commissioner
DATE: 02/12/2019
SUBJECT: An Ordinance authorizing the Mayor to enter into a Community Reinvestment Area Agreement with New Leaf Living, LLC and Balance Solutions Physical Therapy, Inc. for the renovation of an existing facility located at 23175 Commerce Park, Beachwood, Ohio; and declaring this to be an urgent measure

Mayor,

This item was approved at Committee on February 11, 2019. This is the Balance Solutions CRA application.

I am requesting to place this on the next available agenda for approval.

INTRODUCED BY: ORDINANCE NO. 2019-34

AN ORDINANCE AUTHORIZING THE MAYOR TO ENTER INTO A COMMUNITY REINVESTMENT AREA AGREEMENT WITH NEW LEAF LIVING, LLC AND BALANCE SOLUTIONS PHYSICAL THERAPY, INC. FOR THE RENOVATION OF AN EXISTING FACILITY LOCATED AT 23175 COMMERCE PARK, BEACHWOOD, OHIO; AND DECLARING THIS TO BE AN URGENT MEASURE

WHEREAS, the council of the City Beachwood (hereinafter "Council") desires to pursue all reasonable and legitimate incentive measures to assist and encourage development in specific areas of the City of Beachwood that have not enjoyed reinvestment from remodeling or new construction; and

WHEREAS, New Leaf Living, LLC desires to renovate the existing facility located at 23175 Commerce Park, Beachwood, Ohio in order to relocate the Balance Solutions Physical Therapy operations which will initially employ eleven (11) full-time permanent employees, and four (4) part-time permanent employees, having an existing payroll of Six Hundred Sixteen Thousand Eight Hundred Forty Nine Dollars and No/Cents ($616,849.00) for full-time permanent employees and Seventy Six Thousand One Hundred Ten Dollars and No/Cents for part-time permanent employees ($76,110.00) (the "Project"); and

WHEREAS, New Leaf Living, LLC and/or Balance Solutions Physical Therapy, Inc. has invested One Million Two Hundred Thousand Dollars and No/Cents ($1,200,000.00) for Acquisition of Buildings, and intends to invest Three Hundred Fifty Thousand Dollars and No/Cents ($350,000.00) for Additions/New Construction, Four Hundred Fifty Thousand Dollars and No/Cents ($450,000.00) for Improvements to the Existing Building, One Hundred Thousand Dollars ($100,000.00) in New Machinery and Equipment, and One Hundred Thousand Dollars and No/Cents ($100,000.00) in Furniture and Fixtures, for a total anticipated Project investment of Two Million Two Hundred Thousand Dollars ($2,200,000.00) plus or minus ten percent (10%); and

WHEREAS, Council, by Ordinance 2018-36, adopted April 2, 2018, designated an area in the City as a "Community Reinvestment Area" pursuant Chapter 3735 of the Ohio Revised Code; and

WHEREAS, effective May 24, 2018, the Director of Development Services Agency, determined that the area designated in Ordinance 2018-36 contains the characteristics set forth in Section 3735.66 of the Ohio Revised Code and confirmed the area as a Community Reinvestment Area in compliance with Chapter 3735; and

WHEREAS, 23175 Commerce Park, Beachwood, Ohio is located in the City's Community Reinvestment Area; and

WHEREAS, the City, having the appropriate authority for this type of Project, desires to provide the New Leaf Living, LLC and Balance Solutions Physical Therapy, Inc. with the incentives available for the development of the Project in the Community Reinvestment Area under Chapter 3735 of the Ohio Revised Code and enter into an agreement setting forth the terms thereof.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Beachwood, County of Cuyahoga, and State of Ohio, that:

Section 1: City Council authorizes the Mayor to enter into a Community Reinvestment Area Agreement with New Leaf Living, LLC and Balance Solutions Physical Therapy, Inc., in a form substantially similar to that attached hereto and incorporated herein as Exhibit "A" and further requests the Mayor to ensure that the City complies with all necessary conditions for the implementation of the Agreement for the renovation of the facility located at 23175 Commerce Park, Beachwood, Ohio within the City's Community Reinvestment Area.

Section 2: The Clerk is hereby instructed to forward a copy of this Ordinance and the final Agreement to the Ohio Department of Taxation and the Ohio Development Services Agency within fifteen (15) days of Council's approval.

Section 3: It is found and determined that all formal actions and deliberations of Council and its committees relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105 of the Codified Ordinances of the City.

Section 4: This Ordinance is hereby declared an urgent measure which is immediately necessary for the preservation of the public peace, health or safety or the efficient operation of the City, and for the further reason that the Project may proceed as soon as possible; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

WHEREFORE, this Ordinance shall be in full force and effect from and after the earliest period permitted by law.

Attest: I hereby certify this legislation was duly adopted on the 4th day of March, 2019, and presented to the Mayor for approval or rejection in accordance with Article III, Section 8 of the Charter on the 5th day of March, 2019.

_____
Clerk

Approval: I have approved this legislation this 5th day of March, 2019, and filed it with the Clerk.

_____
Mayor

COMMUNITY REINVESTMENT AREA AGREEMENT

This Community Reinvestment Area Agreement ("Agreement") is made and entered into as of this __ day of ____, 2019 by and between:

City of Beachwood, **Ohio**, an Ohio municipal corporation, with its main offices located at 25325 Fairmount Boulevard, Beachwood, OH 44122 ("City"); and

New Leaf Living, LLC, an Ohio limited liability company, with its main offices currently located at 6001 Landerhaven Drive, Mayfield Heights, OH 44124; and

Balance Solutions Physical Therapy, Inc., an Ohio corporation, with its main offices currently located at 6001 Landerhaven Drive, Mayfield Heights, OH 44124.

WITNESSETH;

WHEREAS, the City has encouraged the development of real property located in the area designated as a Community Reinvestment Area ("CRA"); and

WHEREAS, New Leaf Living desires to renovate the existing facility located at 23175 Commerce Park, Beachwood, Ohio in order to relocate the Balance Solutions Physical Therapy operations which will initially employ eleven (11) full-time permanent employees, and four (4) part-time permanent employees; and

WHEREAS, the City Council, by Ordinance 2018-36 adopted April 2, 2018, designated the area as a "Community Reinvestment Area" pursuant Chapter 3735 of the Ohio Revised Code; and

WHEREAS, effective May 24, 2018, the Director of Development Services Agency, determined that the area designated in Ordinance 2018-36 contains the characteristics set forth in Section 3735.66 of the Ohio Revised Code and confirmed the area as a Community Reinvestment Area in compliance with Chapter 3735; and

WHEREAS, the City, having the appropriate authority for this type of Project, desires to provide New Leaf Living and Balance Solutions with the incentives available for the development of the Project in the Community Reinvestment Area under Chapter 3735 of the Ohio Revised Code; and

WHEREAS, New Leaf Living has submitted a Community Reinvestment Area Application ("Application") to the City, a copy of which is attached hereto and incorporated herein as Exhibit "A"; and

WHEREAS, New Leaf Living has remitted the required state application fee of $750.00 made payable to the Ohio Development Services Agency with the Application to be forwarded with a copy of the final Agreement; and

WHEREAS, the authorized representatives of the City have investigated New Leaf Living's application and have recommended the same to the City Council on the basis that New Leaf Living, and Balance Solutions are qualified by financial responsibility and business experience to create and preserve employment opportunities in said Community Reinvestment Area and improve the economic climate of the City; and

WHEREAS, the Project as proposed by New Leaf Living is located in the Beachwood City School District; and

WHEREAS, the School District has been notified, if applicable; and

WHEREAS, pursuant to Ohio Revised Code Section 3735.67(A) and in conformance with the format required under Ohio Revised Code Section 3735.671(B), the parties desire to set forth their agreement.

NOW, **THEREFORE**, in consideration of the mutual covenants in this Agreement and the benefit to be derived by the parties from the execution of this Agreement, the parties agree as follows:

1. New Leaf Living shall renovate an existing building located at 23175 Commerce Park in the City of Beachwood, County of Cuyahoga and the State of Ohio, the property is also known as permanent parcel number 742-22-010, and is more fully identified in Exhibit "B" a copy of which is attached hereto and incorporated herein, ("Property").

   The Project will involve an estimated total real property investment of Two Million Two Hundred and Thousand Dollars ($2,200,000.00) at the Property for purchase and renovation of the existing facility. The renovated facility will be utilized for physical therapy services. The proposal will allow Balance Solutions to expand its capacity to meet current and expected increasing customer demand. The Project will commence in April 2019 and is expected to be completed by July 2019. The Project renovations will include, but not be limited to an exterior façade update, ground sign upgrade, the installation of a fiber optic network, ADA compliant enhancements to the entryway, doors, elevators, and restroom facilities, the installation of a bike rack and premium parking spaces for electric and/or carpool vehicles.

   The Project will result in New Leaf Living investing:

   Three Hundred and Fifty Thousand Dollars ($350,000.00) for additions/new construction to the existing facility at the Project;

   Four Hundred and Fifty Thousand Dollars ($450,000.00) for improvements to the existing facility at the Project;

One Hundred Thousand Dollars ($100,000.00) for new machinery and equipment to be first used in operation at the Project;

One Hundred Thousand Dollars ($100,000.00) for new furniture and fixtures at the Project;

Zero Dollars ($0.00) for new inventory at the Project;

Zero Dollars ($0.00) for relocated furniture and fixtures and machinery and equipment previously used at another location in the State prior to this Agreement; and

Zero Dollars ($0.00) for relocated inventory transferred from another location in the State prior to this Agreement.

Real and Personal Property Investments by New Leaf Living will provide for a total Project investment of Two Million Two Hundred and Thousand Dollars ($2,200,000.00) plus or minus ten percent (10%). The Project will begin in April of 2019, and all acquisition, renovation/construction, and installation are expected to be completed by July 31, 2019.

In addition, New Leaf Living further estimates that the Project will result in the relocation of Eleven (11) Full-Time Permanent employees and Four (4) Part-Time Permanent employees with a payroll of Six Hundred and Sixteen Thousand Dollars ($616,000.00) for the Full-Time Permanent Employees and Seventy-six Thousand Dollars ($76,000.00) for the Part-Time Permanent Employees. The Total Payroll to be relocated to this Project within the City of Beachwood for transferred Full-Time and Part-Time Permanent employees will be Six Hundred and Ninety-two Thousand Dollars ($692,000.00).

2. Balance Solutions shall create, within a time period not exceeding thirty-six (36) months after the completion of construction deadline of July 31, 2019, the equivalent of:

   7 new Full-Time Permanent employees;
   3 new Part-Time Permanent employees;
   0 new Full-Time Temporary employees; and
   0 new Part-Time Temporary employees.

   Thus, by July 31, 2022, Balance Solutions will employ Eighteen (18) Full-time Permanent employees and Seven (7) Part-time Permanent employees.

   This increase in the number of employees will result in approximately One Million One Hundred Thousand Dollars ($1,160,000.00) of annual payroll for Balance Solutions.

The following is an itemization of payroll by the type of new employees created:

$1,000,000.00	Full-Time Permanent;
$160,000.00	Part-Time Permanent;
$0.00	Full-Time Temporary; and
$0.00	Part-Time Temporary.

The job creation period begins July 2019 and all employees will be in place by December 31, 2022.

Balance Solutions currently has zero (0) employees at the Project.

In total, as of January 1, 2019, Balance Solutions has in the State of Ohio:

11	existing Full-Time Permanent employees;
4	existing Part-Time Permanent employees;
0	existing Full-Time Temporary employees; and
0	existing Part-Time Temporary employees.

For a total of Fifteen (15) existing employees.

New Leaf Living and Balance Solutions shall provide to the City's CRA Housing Officer/Tax Incentive Review Council any information reasonably required by the Officer/Council for use by the Tax Incentive Review Council and the City to evaluate each of such party's compliance with the Agreement, including returns filed pursuant to Ohio Revised Code Section 5711.02, if requested by the CRA Housing Officer or Tax Incentive Review Council. New Leaf Living and Balance Solutions agree to file all local income tax records, including Net Profit Tax, with the Regional Income Tax Agency and not with any other portal or gateway.

3. The City grants New Leaf Living a tax exemption for real property improvements made to the Project Site pursuant to Section 3735.67 of the Ohio Revised Code and shall be in the following amounts:

Exemption Year	Tax Year	Collection Year	Percent
1	2019	2020	50%
2	2020	2021	50%
3	2021	2022	50%
4	2022	2023	50%
5	2023	2024	50%
6	2024	2025	50%
7	2025	2026	50%

8	2026	2027	50%
9	2027	2028	50%
10	2028	2029	50%

The percentage of the assessed value of the real property improvements shall be exempted for Ten (10) years at Fifty percent (50%).

The exemption commences the first year the real property would first be taxable were that Property not exempted from taxation. Tax exemption shall commence when 100% the real property valuation from the Project is placed on the Cuyahoga County tax rolls (estimated date of January 1, 2019) and no tax exemption shall extend beyond the tax year ending December 31, 2028 ("Exemption Period"). This Agreement shall be effective as of its date and will continue in full force and effect for the Exemption Period as set forth herein.

New Leaf Living must file the appropriate tax forms with the County Auditor (DTE 24) to effect and maintain the exemption covered in the Agreement.

5. During the Exemption Period, as may be required by Ohio Revised Code 5709.82(D), the City agrees to compensate the Beachwood City School District those amounts the Beachwood City School District would have received but for the granting of this exemption ("Revenue Sharing Payment"). If required to be made, the City shall deliver the Revenue Sharing Payment, to the School District on an annual calendar year basis.

   Commencing on or before May 31st of the first year following the first Exemption Year and continuing the same schedule each year thereafter through and including May 31st of the first year following the final exemption year. The Revenue Sharing Payments provided for under this Agreement shall be tendered by the City on or before May 31st of each year following the first exemption year, directly to the School District, in all events once receipt of the tax incentive under this Agreement has commenced. The obligation to make the Revenue Sharing Payments to the School District is made for the benefit of the School District.

6. During the Exemption Period, New Leaf Living shall pay an annual fee equal to the greater of One percent (1%) of the dollar value of incentives offered under the Agreement or Five Hundred Dollars ($500.00), provided, however, that if the value of the incentives exceeds Two Hundred Fifty Thousand Dollars ($250,000.00), the fee shall not exceed Two Thousand Five Hundred Dollars ($2,500.00). The City shall be required to invoice New Leaf Living at least thirty (30) days prior to the deadline set forth below.

   The annual fee shall be made payable to the City of Beachwood by March 31st of each year the Agreement is in effect and such payment shall be made by company check delivered to the office of the City of Beachwood Economic Development

Department. This fee shall be deposited in a special fund created for such purpose and shall be used exclusively for the purpose of complying with Ohio Revised Code Section 3735.671(D) and by the Tax Incentive Review Council created under Ohio Revised Code Section 5709.85, exclusively for the purposes of performing the duties prescribed under that section.

7. New Leaf Living shall pay such real property taxes as are not exempted under this Agreement and charged against such Property and shall file all tax reports and returns as required by law. If New Leaf Living fails to pay such taxes or file such returns and reports, all exemptions from taxation granted under this Agreement are rescinded beginning with the year for which such taxes are charged or such reports or returns are required to be filed and thereafter.

8. The City shall perform all such acts as are reasonably necessary or appropriate to effect, claim, reserve, and maintain the exemption from taxation granted under this Agreement including, without limitation, joining in the execution of all documentation and providing any necessary certificates required in connection with such exemption.

9. If for any reason the Community Reinvestment Area designation expires, the Director of the Ohio Development Services Agency revokes certification of the area, or the City revokes the designation of the area, the exemption and entitlements granted under this Agreement shall continue for the number of years specified under this Agreement, unless New Leaf Living materially fails to fulfill their obligations under this Agreement and the City terminates or modifies the exemption from taxation granted under this Agreement.

10. If New Leaf Living and Balance Solutions materially fail to fulfill their obligations under this Agreement, or if the City determines that the certification as to delinquent taxes required by this Agreement is fraudulent, the City may terminate or modify the exemptions from taxation granted under this Agreement and may require upon demand the repayment of the amount of taxes for real property that would have been owed if the Property had not been exempted from taxation under this Agreement.

    A material failure includes, but is not limited to, New Leaf Living's failure to meet any of the requirements set forth in Item one (1), and/or Item two (2) of this Agreement during any one (1) tax year.

    New Leaf Living or Balance Solutions shall have the right to terminate this Agreement upon notice if they are unable to meet the requirements set forth in Item one (1) and/or Item two (2) of this Agreement, and New Leaf Living and/or Balance Solutions shall be required to repay the total amount of abated taxes as of the date of such termination.

11. New Leaf Living and Balance Solutions each certify, that at the time this Agreement is executed, neither New Leaf Living or Balance Solutions, as applicable, owe any delinquent real or tangible personal property taxes to any taxing authority of the State of Ohio, and do not owe delinquent taxes for which such party is liable under Chapter 5733., 5735., 5739., 5741., 5743., 5747., or 5753. of the Ohio Revised Code, or, if such delinquent taxes are owed, such party is currently paying the delinquent taxes pursuant to an undertaking enforceable by the State of Ohio or an agent or instrumentality thereof, has filed a petition in bankruptcy under 11 U.S.C.A. 101, et seq., or such a petition has been filed against it. For the purpose of this certification, delinquent taxes are taxes that remain unpaid on the latest day prescribed for payment without penalty under the chapter of the Ohio Revised Code governing payment of those taxes.

12. New Leaf Living and Balance Solutions, each affirmatively covenant that it does not owe: (1) any delinquent taxes to the Federal government, the State of Ohio or a political subdivision of the State; (2) any moneys to the Federal Government, State or a state agency for the administration or enforcement of any environmental laws of the State; and (3) any other moneys to the Federal Government, the State, a state agency, or a political subdivision of the State that are past due whether the amounts owed are being contested in a court of law or not.

13. New Leaf Living, Balance Solutions and the City acknowledge that this Agreement must be approved by formal action of the legislative authority of the City as a condition of this Agreement taking effect. This Agreement takes effect upon such approval and subsequent execution of this Agreement by the Mayor of the City.

14. The City encourages recipients of Community Reinvestment Area tax benefits to use non-discriminatory hiring practices in their operations. By executing this Agreement, New Leaf Living and Balance Solutions commit to follow non-discriminatory hiring practices and each acknowledges that no individual may be denied employment solely on the basis of race, religion, sex, disability, color, national origin, or ancestry.

15. The Company agrees to include their location as being in the City of Beachwood in all promotional and marketing materials it may distribute as it deems appropriate.

16. All exemptions from taxation granted under this Agreement shall be revoked if it is determined that New Leaf Living, Balance Solutions, any successor party to New Leaf Living or Balance Solutions, or any related member (as those terms are defined in division (E) Section 3735.671 of the Ohio Revised Code) has violated the prohibition against entering into this Agreement under Division (E) of Section

3735.671 or Section 5709.62 or 5709.63 of the Ohio Revised Code prior to the time prescribed by that division or either of those sections.

17. New Leaf Living and Balance Solutions affirmatively covenant that they have made no false statement to the State or local political subdivisions in the process of gaining approval of the Community Reinvestment Area incentives. If any representative of either New Leaf Living and Balance Solutions has knowingly made a false statement to the State or local political subdivision to obtain the Community Reinvestment Area incentives, such misrepresenting party shall be required to immediately return all benefits received under the Community Reinvestment Area Agreement pursuant Ohio Revised Code Section 9.66(C)(2) and shall be ineligible for any future economic development assistance from the State, any state agency, or a political subdivision pursuant to Ohio Revised Code Section 9.66(C)(1). Any person who provides a false statement to secure economic development assistance may be guilty of falsification, a misdemeanor of the first degree, pursuant to Ohio Revised Code Section 2921.13(F)(1), which is punishable by a fine of not more than One Thousand Dollars ($1,000.00) and/or a term of imprisonment of not more than six (6) months.

18. By the entering into and the execution of this Agreement, New Leaf Living and Balance Solutions acknowledge that the City in no way waives or implies the approval of a site plan for the Project or requires the City to render an approval of any site plan submitted for the Project. New Leaf Living and Balance Solutions agree to follow the usual and customary process of site plan approval.

19. Neither New Leaf Living or Balance Solutions for themselves, their successors and assigns and every successor in interest to the Property or any part thereof, during the Exemption Period, shall seek a reduction in the County Fiscal Officer's appraised value of the Property.

20. This Agreement will not be amended, supplemented, or modified except by an instrument in writing, signed by the City, New Leaf Living or Balance Solutions.

21. This Agreement sets forth the entire agreement between the parties as to its subject matter and merges and supersedes all previous discussions, agreements, and undertakings between the parties with respect to the subject matter of this Agreement.

22. This Agreement may be signed in any number of counterparts, each of which constitute an original but all of which constitute one agreement. Any party to this Agreement may sign this Agreement by signing any counterpart. Additionally, the parties agree that for purposes of facilitating the signing of this Agreement, (a) the signature pages taken from the separate individually executed counterparts of this Agreement may be combined to form multiple fully signed counterparts and (b) a facsimile transmission or .pdf file transmitted via electronic mail will be deemed to be an original signature for all purposes. All executed counterparts of

this Agreement will be deemed to be originals, but all counterparts taken together or collectively, as the case may be, will constitute one and the same agreement.

23. All notices, communications, requests and demands between the parties required or permitted to be given under this Agreement to be effective must be in writing (including without limitation by facsimile transmission or electronic mail), and, unless otherwise expressly provided, will be deemed to have been sufficiently given or made when physically delivered or mailed by U. S. registered or certified mail or, in the case of notice by facsimile transmission or electronic mail, when received and telephonically or electronically confirmed, addressed as follows, or to any address as may be notified in writing by the parties:

If to City of Beachwood:
Attention: Keri Zipay, Business Retention Specialist

City of Beachwood
Economic Development Department
25325 Fairmount Boulevard
Beachwood, Ohio 44122
E-Mail: Keri.Zipay@Beachwood.Ohio.com
Phone: (216) 292-1915

If to New Leaf Living, LLC:
Attention: Kelly Beaudoin
6001 Landerhaven Drive
Mayfield Heights, Ohio 44124
E-Mail: balancesolutions@sbcglobal.net
Phone: (440) 449-3400

If to Balance Solutions Physical Therapy Inc.:
Same as above.

24. This Agreement will be binding upon and inure to the benefit of the City, New Leaf Living and Balance Solutions, their respective successors and assigns. Neither New Leaf Living nor Balance Solutions may assign this Agreement or any of its rights or obligations in whole or in part to any person without the prior written consent of the City, which consent must not be unreasonably withheld. This Agreement is not transferable or assignable without the express, written approval of the City.

25. This Agreement and the rights and obligations of the parties under this Agreement will be governed by, and construed and interpreted in accordance with, the law of the State of Ohio without regard to conflict of laws principles.

26. Any provision of this Agreement that is prohibited or unenforceable in any jurisdiction will, as to the jurisdiction, be ineffective to the extent of the prohibition or unenforceability without invalidating the remaining provisions, and any such prohibition or unenforceability in any jurisdiction will not invalidate or render unenforceable the provision in any other jurisdiction.

27. Any headings and/or table of contents contained in this Agreement are for convenience of reference only and will not limit or otherwise affect the meaning.

[REST OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have each caused this Agreement to be executed after due authorization as of the date aforesaid.

CITY OF BEACHWOOD:

By: _____
Martin S. Horwitz, Mayor

Date: _____, 2019

NEW LEAF LIVING, LLC:

By: _____
Kelly Beaudoin, Managing Member

Date: _____, 2019

BALANCE SOLUTIONS INC.:

By: _____
Kelly Beaudoin

Date: _____, 2019

KELLY BEAUDOIN, individually

By: _____
Kelly Beaudoin,

Date: _____, 2019

The legal form of the within instrument is hereby approved.

By:_____
Diane A. Calta, Director of Law

Date: _____, 2019

STATE OF OHIO)
) SS:
COUNTY OF CUYAHOGA)

The foregoing instrument was acknowledged before me on _____, 2019, by Martin S. Horwitz, the Mayor of the City of Beachwood, Ohio, an Ohio political subdivision, on behalf of the City.

[SEAL]

_____
NOTARY PUBLIC
My Commission Expires: _____

STATE OF OHIO)
) SS:
COUNTY OF CUYAHOGA)

The foregoing instrument was acknowledged before me this ____ day of _____, 2019, by Kelly Beaudoin as, Managing Member of New Leaf Living, LLC, an Ohio limited liability company. She is personally known to me or has produced a driver's license as identification.

[SEAL]

_____
NOTARY PUBLIC
My Commission Expires: _____

STATE OF OHIO)
) SS:
COUNTY OF CUYAHOGA)

The foregoing instrument was acknowledged before me this ____ day of _____, 2019, by Kelly Beaudoin, the _____ of Balance Solutions Inc., an Ohio corporation and in her individual capacity. She is personally known to me or has produced a driver's license as identification.

[SEAL]

_____
NOTARY PUBLIC
My Commission Expires: _____

CITY OF BEACHWOOD
COMMUNITY REINVESTMENT AREA APPLICATION

Applicants seeking real property tax incentives through the City of Beachwood Community Reinvestment Area program must submit the following form for consideration. All applicable information as requested in this form must be provided, and the applicant is responsible for the accuracy of the information submitted.

1. **APPLICANT INFORMATION:** Please provide the legal name, address and other contact information of the property owner, (hereinafter "Applicant or Company") for this request.
   a. Applicant Name(s): Kelly Beaudoin
   b. Contact Name(s): Kelly Beaudoin, Adam Aiello
   c. Applicant Mailing Address: 6001 Landerhaven Drive
   d. City/State/Zip: Mayfield Heights, Ohio, 44124
   e. Email address: balancesdutions@sbcglobal.net
   f. Website address: balancesolutions.com
   g. Daytime Phone #: 440-449-3400 Fax: 440-449-3402
   h. Federal Tax ID#: _____

2. **AFFILIATED COMPANY INFORMATION:** If there is/are another company(ies) (hereinafter "Affiliate(s)") that will benefit from the receipt of this economic development incentive program, please list the appropriate contact information for each company. (An Affiliate is defined as any company in which either the Applicant, or Applicant's principals, has a financial interest.)
   a. Affiliate Name(s): New Leaf Living
   b. Contact Name(s): Kelly Beaudoin, Adam Aiello
   c. Affiliate Relationship to Applicant: Property Owner
   d. Affiliate Mailing Address: 6001 Landerhaven Drive
   e. City/State/Zip: Mayfield Heights, Ohio, 44124
   f. Email address: adam@newleafpropertymgt.com
   g. Website address: _____
   h. Daytime Phone #: 440-315-8473 Fax: _____
   i. Federal Tax ID#: _____

3. **PROJECT LOCATION**: Please specify the street address of the proposed project:
Project Street Address: 23175 Commerce Park ("Project Site")
Beachwood, Ohio 44122

4. **TIME IN BUSINESS**: How long has the Company/Affiliate to benefit from the incentive program been in existence? 15 Years 2 Months

5. **INDUSTRIAL CLASSIFICATION**: List primary 6 digit North American Industry Classification System (NAICS) Code of the company to benefit from the incentive program:
531140

Please list any other significant NAICS Code numbers:
621340 , _____ , _____

6. **COMPANY AND AFFILIATE OFFICERS/PRINCIPALS**: Please provide the name of all owners, principals and/or primary officers of the Company on the lines below:
a. Kelly Beaudoin - Balance Solutions - 100%
b. Kelly Beaudoin - New Leaf Living - 100%
c. _____
d. _____

7. **BUSINESS ORGANIZATION**: Please indicate under which type of organization your Company presently operates or the Affiliate operates (check all that apply):
a. _____Corporation
b. _____Sole Proprietorship
c. _____Partnership
d. X LLC
e. _____Franchise
f. _____Joint Venture
g. _____Start-Up
h. _____Other (specify)

8. **BUSINESS CLASSIFICATION**: Please describe the type of business in which the Applicant, or Affiliate to benefit from the incentive program, is involved (check all that apply):
a. _____Construction
b. _____Manufacturing
c. X Service
d. _____Research & Development
e. _____Retail
f. X Others (specify)
Medical

9. **CURRENT EMPLOYMENT**: For each of the categories listed below, please specify the number of employees currently employed by the Applicant, or Affiliate:
a. 11 Full-time permanent
b. 4 Part-time permanent
c. _____Full-time temporary
d. _____Part-time temporary
e. _____Seasonal
f. _____None (New Business)

10. **TOTAL OHIO EMPLOYMENT**: Please indicate the total number of employees employed by the Applicant *in the State of Ohio*: 15

11. **CURRENT PAYROLL**: For each of the categories listed below, please specify the dollar amount of payroll for the employees currently employed by the Applicant, or Affiliate:

a. $616,849 Full-time permanent
b. $76,110 Part-time permanent
c. $_____ Full-time temporary
d. $_____ Part-time temporary
e. $_____ Seasonal
f. _____ None (New Business)

12. **PROJECTED NEW EMPLOYMENT**: If granted an incentive from the City of Beachwood, for each employment category listed below, please specify the number of employees the Applicant, or Affiliate to benefit from the incentive program *(Those to be located at the Beachwood Project Site)* will create over a three-year (3) time period:

	Year 1	Year 2	Year 3
a. Full-time permanent	3	2	2
b. Part-time permanent	1	1	1
c. Full-time temporary			
d. Part-time temporary			
e. Seasonal			

13. **PROJECTED NEW PAYROLL**: For each of the categories listed below, please specify the dollar amount of annual payroll for the employment to be created by the Applicant, or Affiliate to benefit from the incentive program *(Those to be located at the Beachwood Project Site)*:

	Year 1	Year 2	Year 3
a. Full-time permanent	$100,000	$150,000	$140,000
b. Part-time permanent	$25,000	$30,000	$30,000
c. Full-time temporary	$	$	$
d. Part-time temporary	$	$	$
e. Seasonal	$	$	$
f. Total Annual Payroll	$	$	$

14. **USES OF FUNDS**: For each of the categories listed below, please estimate the amount to be invested by the Applicant or Affiliate to establish, expand, renovate or occupy the proposed Project Site:

a. Acquisition of Buildings: $1.2 M
b. Additions/New Construction $350,000 K
c. Improvements to Existing Buildings: $450,000 K
d. Machinery & Equipment: $100,000 K
e. Furniture & Fixtures: $100,000 K
f. Inventory: $0
g. Total New Project Investment: $2.2 M

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15. **PROJECT TIMELINE:** Project will begin March 1, 2019 and be completed June 1, 2019.

16. **RELOCATION:** Will the project involve the relocation of employment positions or assets from one Ohio location to another? Yes X No_____

a. If yes, state the location from which employment positions or assets will be relocated and the location to where the employment positions or assets will be located:
6001 Landerhaven Dr. Mayfield Hts. → 23175 Commerce Pk., Beachwood

b. If yes, state the current employment level for each location in the state to be affected by the relocation of employment positions or assets:
ALL positions and ALL assets to be Relocated to 23175 Commerce Pk. Beachwood

c. If yes, what is the projected impact of the relocation, detailing the number and type of employee and/or assets to be relocated *(Those to be located at the Beachwood Project Site)*?

10 - Full-time Physical Therapists / Assistants
3 Full-Time Administrative - ALL Assets Relocated

17. **CONSOLIDATION:** Will the project involve the consolidation of business operations or assets from another Ohio location? Yes_____ No X

If yes, please itemize the location, assets, and employment positions to be transferred:

18. **DELINQUENCIES:**

a. Does the Applicant, or Affiliate to benefit from the incentive program, owe any delinquent taxes to the Federal Government, State of Ohio or a political subdivision? Yes_____ No X

b. Does the Applicant, or Affiliate to benefit from the incentive program, owe any moneys to the Federal Government, State or a state agency for the administration or enforcement of any environmental laws? Yes _____ No X

c. Does the Applicant, or Affiliate to benefit from the incentive program, owe any other moneys to the Federal Government, the State, a state agency or a political subdivision of the State that are past due, whether the amounts owed are being contested in a court of law or not? Yes_____ No X

d. If yes to any of the above, please provide details of each instance including, but not limited to, the location, amounts and/or case identification numbers.

19. **LEGAL PROCEEDINGS:** Are there any current or pending law suits involving either the principals of or the Applicant or any Affiliate? Yes_____ No X

If yes, provide details below, and attach any supporting documentation related to the law suits.

20. **PROJECT DESCRIPTION:** In the space provided below, please describe the project. This statement should focus on the ability to grow and to expand capacity. Savings, efficiencies and improvements in technology expected as a result should also be addressed. Describe new products, if any, which will result from the project. Discuss the potential for spin-off industries if this project is funded. State what the Company expects to accomplish with the overall project. This should include information on existing as well as planned products, services or business information.

As of today the entire building of 14000 sqft has no committed tenants. The Child daycare, occupying 10K sqft is moving out in just a few days - Jan 1st, 2019. The Adult daycare currently occupying 4k sqft has notified me of selling / retiring and currently does not have an active lease.

We will utilize this building for Physical Therapy and Wellness services and to attract other medically related businesses at this location. The increase of payroll from the existing business to the new should be approx 600K/Yr

The current structure and design of the building, both inside and out, inhibits our ability to use the space efficiently as it was designed to facilitate Childcare with many open spaces. The changes needed at this location include a Handicap ramp and other ADA features which are necessary to treat this patient population. The ability to reallocate funds will allow us to remodel the interior from the the existing five (5) randomly located rooms into seventeen (17) private treatment rooms, large exercise studio and gym area. An updated building will allow us to increase employment from fifteen (15) to thirty-three (33) employees within 3 years. A few of the services we will provide with a renovated building include community based programs for seniors who are at risk for falling, osteoporosis exercise programs, Functional Work Testing to help injured workers return to employment, a variety of exercise classes for different populations, as well as continuing education programs.

This building on the corner of Commerce is over due for a face-lift that attracts clients as well as a professional workforce. Being able to convert the nearly 100 existing fluorescent lighting fixtures into LED would be a significant impact. Along with replacing the existing broken wooden windows from 1967.

21. **AMOUNT AND TERM OF REAL PROPERTY TAX INCENTIVE:** Please specify the amount of abatement, and the term of the real property tax incentive requested by the applicant covering the project described in SECTION A above:

a. Tax Incentive amount (the maximum shall not exceed 50%): _____%

b. Tax Incentive term: _____years

22. **TAX INCENTIVE JUSTIFICATION:** Please specify the applicant's reasons for requesting tax incentives (be as quantitatively specific as possible)

The Tax Incentive will be immediately used and put towards:
ADA Ramp, canopy and face-lift $150K , repaving the parking lot 45K. Electrical work 100K
Fire suppression adjustments 10K. Replacing 20 Windows 45K. Increasing Payroll by 900K

23. **FINANCIAL INFORMATION**: Please provide the last three (3) years of profit and loss statements for the Company and any Affiliate.

TAX INCENTIVE APPLICATION NOTES

a. A copy of this proposal must be forwarded by the City to the affected Board of Education along with notice of the meeting date on which the local government will review the proposal. Notice must be given a minimum of fourteen (14) days prior to the scheduled meeting to permit the Board of Education to appear and/or comment before the legislative authorities considering the request.

b. A copy of the final City of Beachwood Community Reinvestment Area Agreement will attach this Application as Exhibit A, and must be forwarded to the Ohio Department of Taxation and the Ohio Department of Development within fifteen (15) days of final approval.

REQUIREMENTS AND CERTIFICATIONS

The undersigned, duly authorized Officers of the Applicant, hereby certify that the statements made in the foregoing application and in all attachments submitted in connection with this application are true and correct to the best information and belief of the undersigned and are submitted as a basis for determining approval of Community Reinvestment Area tax incentive request.

I/we certify that the requirements listed below will be met:

a. Submission of this application expressly authorizes the City of Beachwood to contact the Ohio Environmental Protection Agency to confirm statements contained within this application, and to review applicable confidential records. As part of this application, the applicant may also be required to directly request from the Ohio Department of Taxation, or complete a waiver form allowing the Department of Taxation, to release specific tax records to the City of Beachwood for consideration of this request.

b. The Applicant affirmatively covenants that the information contained in and submitted with this application is complete and correct and is aware of the ORC Sections 9.66(C)(1) and 2921.13(D)(1) penalties for falsification which could result in the forfeiture of all current and future economic development assistance benefits as well as a fine of not more than $1,000 and/or a term of imprisonment of not more than six months.

c. The Applicant agrees to supply additional information upon request.

Kelly Beaudoin — Signature

12/26/18 — Date

Kelly Beaudoin, owner — Name and Title of Property Owner (Typed or printed))

****

Submit completed application to:

Economic Development Department
Attention: Keri Zipay
Business Retention Specialist
City of Beachwood
25325 Fairmount Boulevard
Beachwood, Ohio 44122

Phone: (216) 292-1915
Keri.Zipay@BeachwoodOhio.com

Commerce Park CRA allocation application form

Property address: 23175 Commerce Park **Date:** 12/3/18

1. Level of planned capital investment: ☐ $50,000-249,999 (1 point) ☐ $250,000-499,999 (2 points) ☒ $500,000-999,999 (3 points) ☐ $1,000,000-$1,999,999 (4 points) ☐ $2,000,000+ (5 points)

2. LEED certification level: ☒ N/A (0 points) ☐ Certified (1 point) ☐ Silver (2 points) ☐ Gold (3 points) ☐ Platinum (4 points)

3. % of building sq. footage increase: ☒ 0-10% (0 points) ☐ 10-24% (1 point) ☐ 25-49% (2 pts) ☐ 50-74% (3 pts) ☐ 75-100%+ (4 pts)

4. Public car charging station installation: Yes (2 points) ☐ No (0 points) ☒

5. Bike rack installation: ☒ Yes (1 point) ☐ No (0 points)

6. ADA compliance enhancements: ☒ Entry (1 point) ☒ Doors/Elevator (1 point) ☒ Facilities (1 point) ☐ None (0 points)

7. Installation of fiber network: ☒ Yes (5 points) ☐ No (0 points)

8. Ground sign upgrade: ☒ Yes (1 point) ☐ No (0 points)

9. New business moving in? ☒ Yes (1 point) ☐ No (0 points)

   a) If yes, number of employees: 1-5 (1 point) ☐ 6-10 (2 points) ☐ 11-15 (3 points) ☐ 16 or more (4 points) ☒

3/13/2018 Keri Zipay

   b) If yes, Industry: Medical, BioMed, IT (5 points) ☒ Professional Services (4 points) ☐ Wholesale, Manufacturing (3 points) ☐ Restaurant/Café (2 points) ☐ Other (0 points) ☐

   A1. If yes, length of lease: ☐ 0-3 years (0 points) ☐ 4-5 years (1 point) ☐ 6-9 years (2 points) ☐ 10 years+ (3 points) ☐ N/A

   OR

   B1. If yes, is business owner purchasing building? ☒ Yes (4 points) ☐ No (0 points)

10. Exterior façade update? ☒ Yes (3 points) ☐ No (0 points)

11. Premium parking spaces for electric vehicles and/or carpoolers? ☒ Yes (1 point) ☐ No (0 points)

Score Total: 31

OFFICE ALTERATIONS

23175 COMMERCE PARK
BEACHWOOD, OHIO

INDEX OF DRAWINGS

X-1	TITLE SHEET
A-1	DEMO PLAN
A-2	FIRST FLOOR PLAN
A-3	REFLECTED CEILING PLAN
A-4	SCHEDULES & DETAILS
A-5	EXTERIOR ELEVATIONS
A-6	SECTION/DETAILS
A-7	INTERIOR ELEVATIONS
A-8	RESTROOM ELEVATIONS & DETAILS
P-1	PLUMBING DEMOLITION PLAN
P-2	PLUMBING PLAN
P-3	PLUMBING SPECS
E-1	ELECTRICAL DEMOLITION PLAN
E-2	ELECTRICAL LIGHTING PLAN
E-3	ELECTRICAL POWER PLAN
E-4	POWER DIAGRAM AND SCHEDULES
E-5	SPECIFICATIONS AND SCHEDULES

SCOPE OF PROJECT

ALTERATIONS TO EXISTING BUILDING CHANGING THE SPACE FROM AN EXISTING DAY CARE FACILITY INTO A NEW PHYSICAL THERAPY OFFICE. ALTERATIONS TO THE EXTERIOR PROVIDE NEW WINDOWS AND AN ADA COMPLIANT ENTRY/CANOPY TO THE WEST OF THE EXISTING ENTRANCE.

THE BUILDING IS FULLY SPRINKLERED AND ALTERATIONS TO BRING THE EXISTING SYSTEM INTO COMPLIANCE WITH THE ALTERATIONS SHALL BE SUBMITTED BY A DESIGN/BUILD CONTRACTOR AS A SEPARATE SUBMISSION.

ALTERNATE TO ADD A NEW ENTRY CANOPY AND ADDITION TO THE BUILDING FOR RLE AND LANDSCAPING STORAGE.

CODE INFORMATION

TOTAL EXISTING BUILDING AREA = 14,660 S.F.
PROPOSED ADDITION = 1,520 S.F.
TOTAL AREA = 16,180 S.F.

ACTUAL BUILDING HEIGHT = 13'-4"/1 STORY

USE GROUP- MIXED B (PHYSICAL THERAPY)/I-4 (ADULT DAY CARE)NON SEPARATED

CONSTRUCTION TYPE: 2B

BUILDING IS FULLY SPRINKLERED

I-2 CLASSIFICATION SHALL BE ENFORCED AS MOST RESTRICTIVE TYPE OF USE OF THE BUILDING FOR HEIGHT AND AREA RESTRICTIONS.

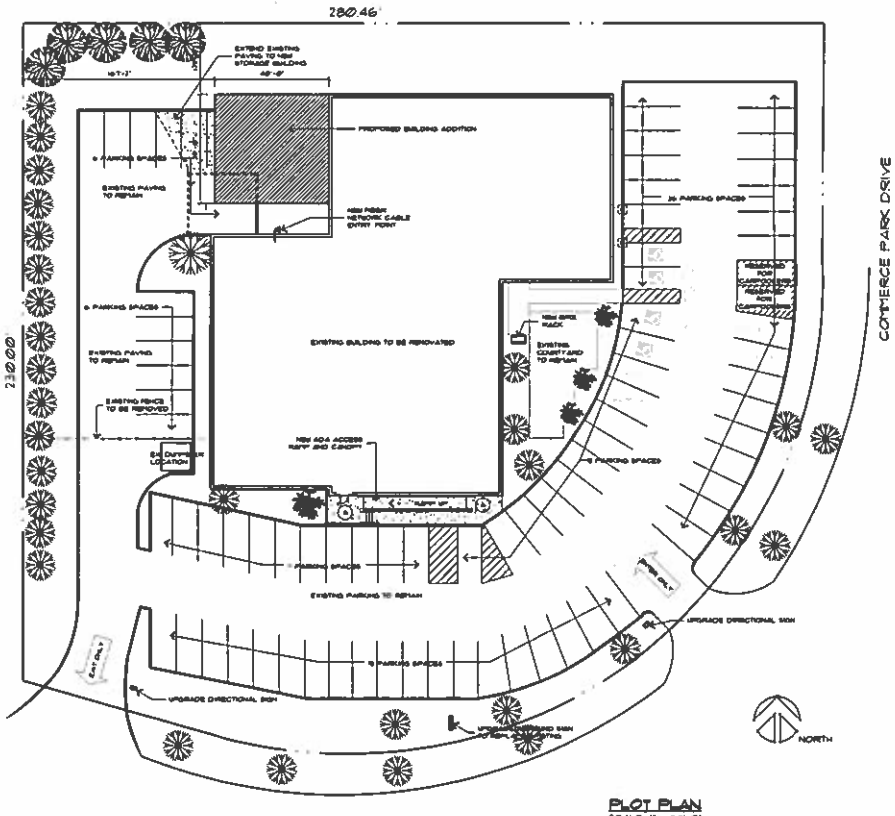
ALLOWABLE HEIGHT = 3 STORY, 75' (BUILDING COMPLIES)
ALLOWABLE AREA = 52,000 S.F. (BUILDING COMPLIES)

OCCUPANCY LOAD: PHYSICAL THERAPY - 11,126 S.F./100 S.F. PER OCCUPANT = 111 OCCUPANTS
ADULT DAY CARE - 3,500 S.F./35 S.F. PER OCCUPANT = 100 OCCUPANTS
PROPOSED AADDITION (1,520 S.F.) 100 S.F. PER OCCUPANT = 15 OCCUPANTS
TOTAL NUMBER OF OCCUPANT IN BUILDING = 226 OCCUPANTS

OBC TABLE 1006.3.1 - 2 MEANS OF ADA COMPLIANT EXITS REQUIRED FROM NEW SPACE (3 PROVIDED)

OBC TABLE 1017.2 - MAXIMUM EXIT ACCESS TRAVEL DISTANCE (B) WITH SPRINKLER = 250' (COMPLIES)

OBC TABLE 1020.1 - CORRIDOR RRE RESISTANCE RATING WITH SPRINKLER = 0 HOUR



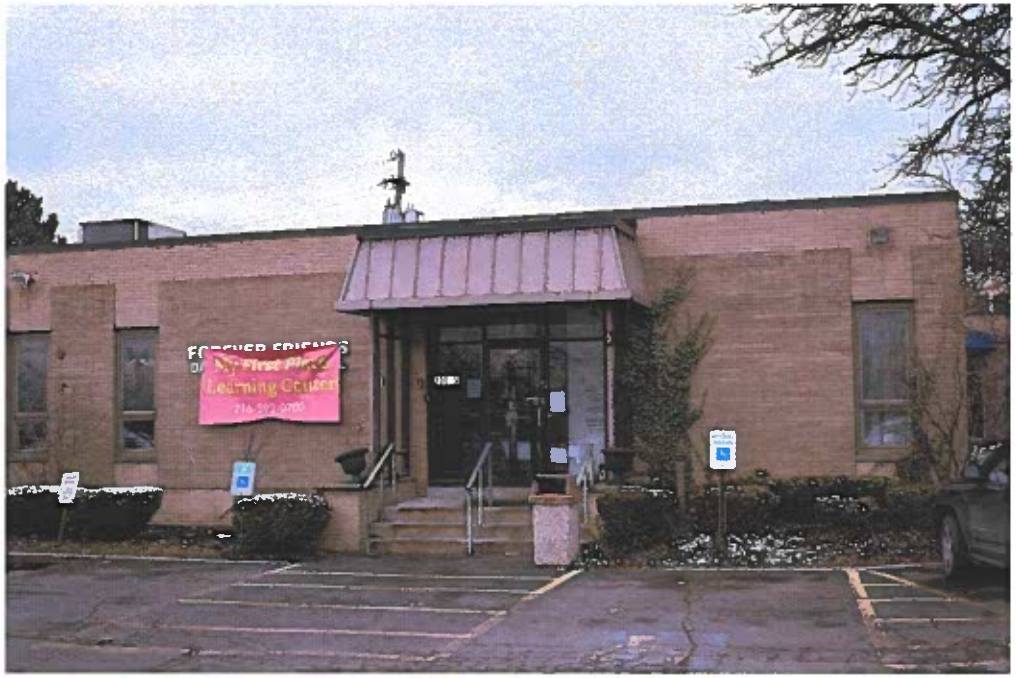
PLOT PLAN
SCALE: 1" = 20'-0"

STATE OF OHIO
STEPHEN CICIRETTO
REGISTERED ARCHITECT

DECEMBER 6, 2018
STEPHEN CICIRETTO
EXP. DATE 12/31/19

STEPHEN CICIRETTO, A.I.A. · ARCHITECT
270 PARK PLACE · CHAGRIN FALLS, OHIO 44022 · (440) 247-1000

REMARKS	REVISED FOR WINDOWS ON WEST ELEVATION 12/19/2018
DATE:	12/06/2018
DRAWN BY:	
PROJECT TITLE:	OFFICE ALTERATIONS 23175 COMMERCE PARK BEACHWOOD, OHIO
SHEET TITLE:	TITLE SHEET
SHEET NO:	X-1



Balance Solutions CRA simulation

Balance Solutions split income tax estimate during CRA

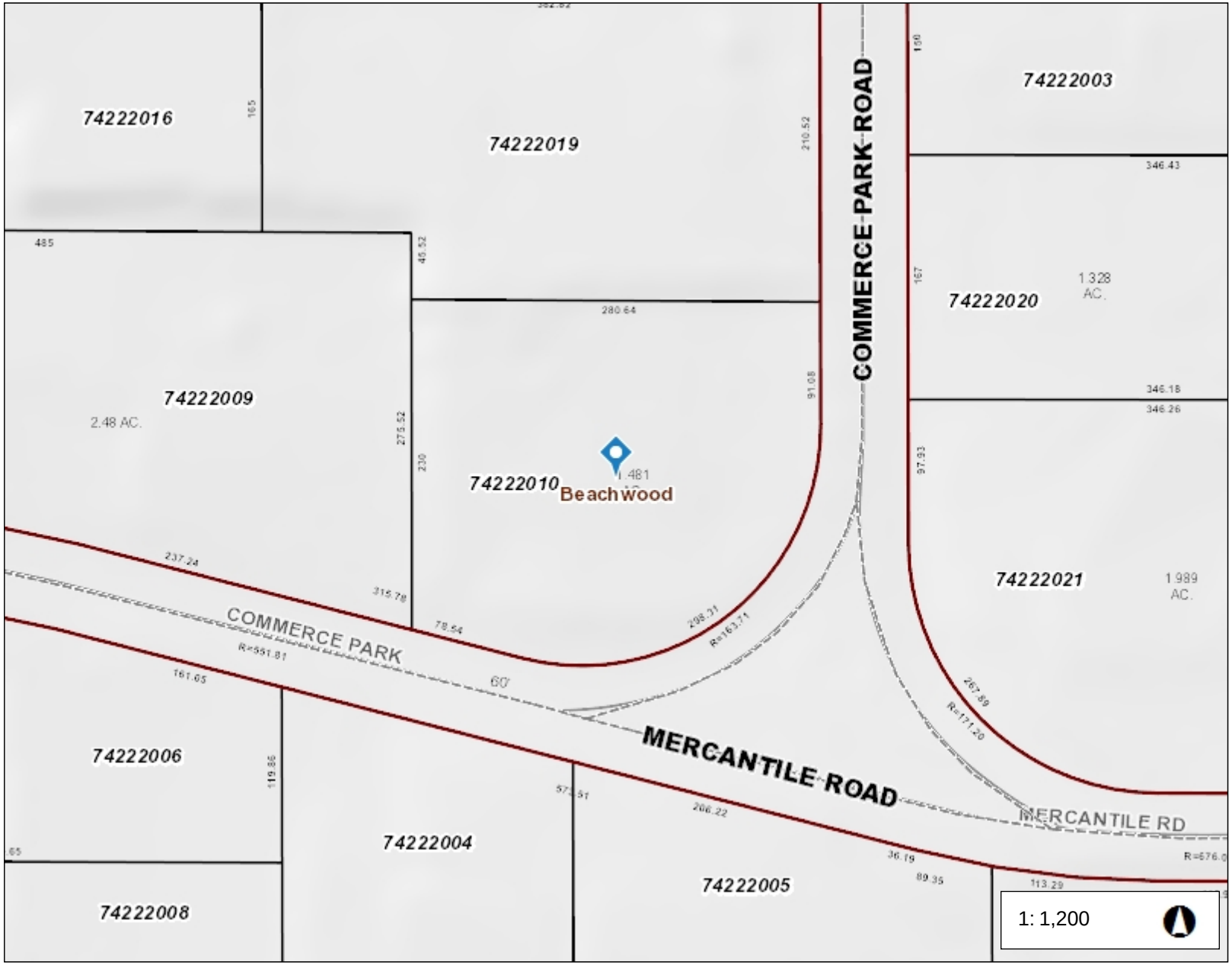
	Projected payroll	2%	Projected income tax split
Year 1	$ 692,959	$ 13,859	
Year 2	$ 817,959	$ 16,359	
Year 3	$ 997,959	$ 19,959	
Year 4	$ 1,167,959	$ 23,359	$ 11,680
Year 5	$ 1,167,959	$ 23,359	$ 11,680
Year 6	$ 1,167,959	$ 23,359	$ 11,680
Year 7	$ 1,167,959	$ 23,359	$ 11,680
Year 8	$ 1,167,959	$ 23,359	$ 11,680
Year 9	$ 1,167,959	$ 23,359	$ 11,680
Year 10	$ 1,167,959	$ 23,359	$ 11,680
TOTALS		**$ 213,692**	**$ 81,757**

+130K

Balance Solutions projected tax abatement during CRA timeframe

	Cost of property + imp	Estimated assessed value	Current tax	Estimated New Tax	Current school portion	New School portion	Estimated total abatement	Estimated school abatement
Year 1	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 2	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 3	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 4	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 5	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 6	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 7	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 8	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 9	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
Year 10	$ 2,200,000	$ 767,592	$ 33,460	$ 59,573	$ 21,414	$ 29,771	$ 13,056	$ 8,356
***Assuming assessed value doubles**					**$ 214,144**	**$ 297,705**	**$ 130,564**	**$ 83,561**

Cuyahoga County GIS Viewer



Date Created: 2/28/2019

Legend

- Municipalities
- Point Parcels
- Air Parcels
- Right Of Way
- Platted Centerlines
- Parcels

200 0 100 200 Feet

Projection:
WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Cuyahoga County Enterprise GIS
PUTTING CUYAHOGA COUNTY ON THE MAP

INTRODUCED BY: ORDINANCE NO. 2019-32

AN ORDINANCE AUTHORIZING AND DIRECTING THE PAYMENT OF CERTAIN CLAIMS (BILLS) FOR PROFESSIONAL AND OTHER SERVICES; AND DECLARING THIS TO BE AN URGENT MEASURE

BE IT ORDAINED by the Council of the City of Beachwood, State of Ohio, that the Director of Finance is hereby authorized and directed to issue his respective warrants for the following claims, to wit:

Section 1:

For Supplies and Services	**March 4, 2019**	**$4,717.00**
GPD Group	Engineering Services	$3,255.03
Paul Kowalczyk	Plan Review Services	$1,001.97
Tactical Planning	Professional Services	$460.00

Section 2: It is found and determined that all formal actions and deliberation of Council and its committees relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105 of the Codified Ordinances of the City.

Section 3: This Ordinance is hereby declared an urgent measure immediately necessary for the public peace, health or safety or the efficient operation of the City; and for the further reason that it is necessary to approve said item and/or services available for use at the earliest possible time, to serve the City of Beachwood and its citizens.

WHEREFORE, this Ordinance shall be in full force and effect from and after the earliest date permitted by law.

Attest: I hereby certify that this legislation was duly adopted on the 4th day of March 2019 and presented to the Mayor.

_____
Clerk

Approval: I have approved this legislation this 5th day of March and filed it with the Clerk.

_____
Mayor

Summary of Engineering Invoices

March 4, 2019 Professional Service Ordinance

Invoice #	Invoice Date	Original Amount	Adjustment	Payment Amount	Fund	Billed Out	2019 2018 2017 ENCUMBRANCES
2018042.02-11	12/14/2018	$2,029.00	$0.00	$2,029.00	Capital		X
2018042.01-12	1/11/2019	$1,226.03	$0.00	$1,226.03	Capital		X

Total To Pay **$3,255.03**

Total Capital Fund	**$3,255.03**
Total General Fund	**$0.00**
Total Deposits	**$0.00**
Total Street Const. Mant.	**$0.00**
Less: Billable Charges	**$0.00**
Net Paid by City:	**$3,255.03**

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc

GPD Group
Architects - Engineers - Planners
520 South Main Street Suite 2531
Akron, Ohio 44311-1010
(330) 572-2100

Invoice

City of Beachwood
Attn: Dale Pekarek
23355 Mercantile Road
Beachwood, OH 44122

January 11, 2019
Invoice No: 2018042.01 - 12

Invoice Total $12,260.34

Project 2018042.01 Beachwood - CUY-271/422-7.80/10.77 Part 1

Agreement #30858
Agreement PID 102011
P.O. #2018-01043 - $59,111.11
Max Not to Exceed $502,337.00

City Portion 10% - City Portion this Invoice $1,226.03

Professional Services from December 1, 2018 to December 28, 2018

Task 151 Safety Study

Professional Personnel

		Hours	Rate	Amount	
Deibel, Curtis		11.50	32.70	376.05	
Ferrell, Brett		11.00	28.90	317.90	
	Totals	22.50		693.95	
	Total Labor				**693.95**

Reimbursable Expenses

Travel & Lodging

12/19/2018	Ferrell, Brett	Travel	28.00	
12/20/2018	Ferrell, Brett	Travel	32.00	
	Total Reimbursables		**60.00**	**60.00**

APPROVED FOR PAYMENT
BY: C. Arnold
DATE: 2-12-19
P.O. 2018-01043

Additional Fees

Overhead 1.9113	1,326.35	
Cost of Money .82%	5.69	
Net Fee (11% Based on 152.83% OH)	193.00	
Total Additional Fees	**1,525.04**	**1,525.04**
	Total this Task	**$2,278.99**

Task 159 Traffic Counts

Reimbursable Expenses

Overnight Mail/Courier Service

12/19/2018	FedEx	Overnight Mail	9.28	
	Total Reimbursables		**9.28**	**9.28**

Net 30 days.

Total this Task **$9.28**

Task 202 Roadway / Drainage

Professional Personnel

	Hours	Rate	Amount	
Becker, Erin	13.50	28.90	390.15	
Hobbs, Michael	7.00	63.50	444.50	
Martin, David	2.50	59.25	148.13	
Slaga, Joshua	9.00	35.55	319.95	
Westbrooks, Kevin	4.00	51.25	205.00	
Totals	36.00		1,507.73	
Total Labor				**1,507.73**

Additional Fees

Overhead 1.9113	2,881.72	
Cost of Money .82%	12.36	
Net Fee (11% Based on 152.83% OH)	419.32	
Total Additional Fees	**3,313.40**	**3,313.40**

Total this Task **$4,821.13**

Task 203 AER

Professional Personnel

	Hours	Rate	Amount	
Ford, Ashley	6.00	35.00	210.00	
Hobbs, Michael	6.00	63.50	381.00	
Martin, David	1.00	59.25	59.25	
Stimson, Diana	12.00	20.25	243.00	
Totals	25.00		893.25	
Total Labor				**893.25**

Additional Fees

Overhead 1.9113	1,707.27	
Cost of Money .82%	7.32	
Net Fee (11% Based on 152.83% OH)	248.42	
Total Additional Fees	**1,963.01**	**1,963.01**

Total this Task **$2,856.26**

Task 251 IOS

Professional Personnel

	Hours	Rate	Amount	
Ferrell, Brett	2.00	28.90	57.80	
Hobbs, Michael	7.00	63.50	444.50	
Totals	9.00		502.30	
Total Labor				**502.30**

Additional Fees

Overhead 1.9113	960.05	
Cost of Money .82%	4.12	

Net Fee (11% Based on 152.83% OH)	139.70	
Total Additional Fees	**1,103.87**	**1,103.87**
	Total this Task	**$1,606.17**

Task 252 Meetings & Oversight

Professional Personnel

		Hours	Rate	Amount	
Westbrooks, Kevin		4.00	51.25	205.00	
Totals		4.00		205.00	
Total Labor					**205.00**

Reimbursable Expenses

Travel & Lodging				
11/20/2018	Westbrooks, Kevin	Travel	33.00	
Total Reimbursables			**33.00**	**33.00**

Additional Fees

Overhead 1.9113	391.82	
Cost of Money .82%	1.68	
Net Fee (11% Based on 152.83% OH)	57.01	
Total Additional Fees	**450.51**	**450.51**
	Total this Task	**$688.51**

Billing Limits	**Current**	**Prior**	**To-Date**	
Total Billings	12,260.34	330,568.18	342,828.52	
Limit			502,337.00	
Remaining			159,508.48	
		Total this Invoice		**$12,260.34**

Outstanding Invoices

Number	Date	Balance
8	9/14/2018	35,979.97
9	10/12/2018	14,156.59
10	11/9/2018	18,602.13
11	12/14/2018	40,087.65
Total		**108,826.34**

Billing Backup

Wednesday, January 16, 2019

GPD Group Invoice 12 Dated 1/11/2019 10:57:49 AM

Project 2018042.01 Beachwood - CUY-271/422-7.80/10.77 Part 1

Task 151 Safety Study

Professional Personnel

			Hours	Rate	Amount	
01121	Deibel, Curtis	12/3/2018	2.00	32.70	65.40	
01121	Deibel, Curtis	12/6/2018	2.00	32.70	65.40	
01121	Deibel, Curtis	12/7/2018	2.00	32.70	65.40	
01121	Deibel, Curtis	12/27/2018	5.50	32.70	179.85	
01257	Ferrell, Brett	12/5/2018	.50	28.90	14.45	
01257	Ferrell, Brett	12/7/2018	2.00	28.90	57.80	
01257	Ferrell, Brett	12/19/2018	4.50	28.90	130.05	
01257	Ferrell, Brett	12/20/2018	4.00	28.90	115.60	
	Totals		22.50		693.95	
	Total Labor					**693.95**

Reimbursable Expenses

Travel & Lodging

EX	0075328	12/19/2018	Ferrell, Brett / Travel	28.00	
EX	0075328	12/20/2018	Ferrell, Brett / Travel	32.00	
		Total Reimbursables		**60.00**	**60.00**
			Total this Task		**$753.95**

Task 159 Traffic Counts

Reimbursable Expenses

Overnight Mail/Courier Service

AP	291579	12/19/2018	FedEx / Overnight Mail	9.28	
		Total Reimbursables		**9.28**	**9.28**
			Total this Task		**$9.28**

Task 202 Roadway / Drainage

Professional Personnel

			Hours	Rate	Amount
01204	Becker, Erin	12/3/2018	.50	28.90	14.45
01204	Becker, Erin	12/5/2018	3.50	28.90	101.15
01204	Becker, Erin	12/6/2018	8.00	28.90	231.20
01204	Becker, Erin	12/7/2018	1.50	28.90	43.35
00537	Hobbs, Michael	12/3/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/6/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/7/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/12/2018	1.00	63.50	63.50

AKRON / ATLANTA / CHARDON / CLEVELAND / COLUMBUS / DALLAS / HOUSTON
INDIANAPOLIS / LOUISVILLE / MARION / PHOENIX / SEATTLE / YOUNGSTOWN

Project	2018042.01	Beachwood - CUY-271/422-7.80/10.77			Invoice	12
00537	Hobbs, Michael	12/14/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/17/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/19/2018	1.00	63.50	63.50	
00024	Martin, David	12/4/2018	.50	59.25	29.62	
00024	Martin, David	12/5/2018	.50	59.25	29.63	
00024	Martin, David	12/6/2018	1.50	59.25	88.88	
00759	Slaga, Joshua	12/3/2018	5.00	35.55	177.75	
00759	Slaga, Joshua	12/6/2018	2.00	35.55	71.10	
00759	Slaga, Joshua	12/7/2018	2.00	35.55	71.10	
01647	Westbrooks, Kevin	12/4/2018	2.00	51.25	102.50	
01647	Westbrooks, Kevin	12/10/2018	1.00	51.25	51.25	
01647	Westbrooks, Kevin	12/11/2018	1.00	51.25	51.25	
	Totals		36.00		1,507.73	
	Total Labor					**1,507.73**
				Total this Task		**$1,507.73**

Task 203 AER

Professional Personnel

			Hours	**Rate**	**Amount**	
00791	Ford, Ashley	12/4/2018	3.00	35.00	105.00	
00791	Ford, Ashley	12/5/2018	1.00	35.00	35.00	
00791	Ford, Ashley	12/6/2018	2.00	35.00	70.00	
00537	Hobbs, Michael	12/4/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/7/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/11/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/13/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/18/2018	1.00	63.50	63.50	
00537	Hobbs, Michael	12/20/2018	1.00	63.50	63.50	
00024	Martin, David	12/13/2018	1.00	59.25	59.25	
00260	Stimson, Diana	12/4/2018	3.00	20.25	60.75	
00260	Stimson, Diana	12/5/2018	4.00	20.25	81.00	
00260	Stimson, Diana	12/6/2018	5.00	20.25	101.25	
	Totals		25.00		893.25	
	Total Labor					**893.25**
				Total this Task		**$893.25**

Task 251 IOS

Professional Personnel

			Hours	**Rate**	**Amount**
01257	Ferrell, Brett	12/7/2018	2.00	28.90	57.80
00537	Hobbs, Michael	12/5/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/6/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/7/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/10/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/14/2018	1.00	63.50	63.50
00537	Hobbs, Michael	12/19/2018	1.00	63.50	63.50

Project	2018042.01	Beachwood - CUY-271/422-7.80/10.77			Invoice	12
00537	Hobbs, Michael	12/21/2018	1.00	63.50	63.50	
	Totals		9.00		502.30	
	Total Labor					**502.30**
				Total this Task		**$502.30**

Task 252 Meetings & Oversight

Professional Personnel

			Hours	**Rate**	**Amount**	
01647	Westbrooks, Kevin	12/5/2018	2.00	51.25	102.50	
01647	Westbrooks, Kevin	12/7/2018	2.00	51.25	102.50	
	Totals		4.00		205.00	
	Total Labor					**205.00**

Reimbursable Expenses

Travel & Lodging

EX	0075350	11/20/2018	Westbrooks, Kevin / Travel	33.00	
	Total Reimbursables			**33.00**	**33.00**
			Total this Task		**$238.00**
			Total this Project		**$3,904.51**
			Total this Report		**$3,904.51**

Net 30 days.

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc

GPD Group
Architects - Engineers - Planners
520 South Main Street Suite 2531
Akron, Ohio 44311-1010
(330) 572-2100

Invoice

City of Beachwood
Attn: Michelle Kaplan
P.O. Box 22659
Beachwood, OH 44122

December 14, 2018
Invoice No: 2018042.02 - 11

Invoice Total $20,290.00

Project 2018042.02 Beachwood-CUY-271/422-780/10.77-Geotech Part 2

Agreement #30858
Agreement PID 102011
Max Not to Exceed $23,179.00

City Portion 10% - City Portion this Invoice $2,029.00

Professional Services from October 27, 2018 to November 30, 2018

Task 180 Geotechnical Services

Reimbursable Expenses

Other Reimbursable Exp.

11/30/2018	Professional Service Industries, Inc. (PSI) Prof. Services	20,290.00	
	Total Reimbursables	**20,290.00**	**20,290.00**
		Total this Task	**$20,290.00**

Billing Limits	**Current**	**Prior**	**To-Date**
Total Billings	20,290.00	0.00	20,290.00
Limit			23,179.00
Remaining			2,889.00

Total this Invoice $20,290.00

APPROVED FOR PAYMENT
BY: C Cunetto
DATE: 2-12-19
P/O: 2018-01043

Net 30 days.

Billing Backup

Friday, December 14, 2018

GPD Group Invoice 11 Dated 12/14/2018 10:06:01 AM

Project 2018042.02 Beachwood-CUY-271/422-780/10.77-Geotech Part 2

Task 180 Geotechnical Services

Reimbursable Expenses

Other Reimbursable Exp.

AP	290817	11/30/2018	Professional Service Industries, Inc. (PSI) / Prof. Services	20,290.00	
		Total Reimbursables		**20,290.00**	**20,290.00**
				Total this Task	**$20,290.00**
				Total this Project	**$20,290.00**
				Total this Report	**$20,290.00**

AKRON / ATLANTA / CHARDON / CLEVELAND / COLUMBUS / DALLAS / HOUSTON
INDIANAPOLIS / LOUISVILLE / MARION / PHOENIX / SEATTLE / YOUNGSTOWN

February 1, 2019

The City of Beachwood
Accounts Payable
P.O. Box 22659
Beachwood, OH 44122

RE: Building Department Plan Review

INVOICE FOR PROFESSIONAL SERVICES RENDERED:

Plan review for the month of January 2019 (See attached sheet for breakdown)	$1,001.97
Total amount due **One Thousand One Dollars and Ninety-Seven Cents**	**$1,001.97**

Please make check payable to **"Code Consultation & Plan Review Services, LLC."** Thank you.

Paul Kowalczyk, MPE #798

WC
2/8/19

City of Beachwood
Plan Examination Services
January 2019 Invoice

Beachwood Plan Review No.:	PK Plan Review No.:	Project:	Time:	Charge:
2018-31989	BW19-01 1/5/19	Surgical Theatre 3700 Park East, Suite 240 Interior Alterations	2 hours 30 min.	$208.75
2019-tbd	BW19-02 1/15/19	Beachwood Adult Daycare 23850 Commerce Park Change of Use / Interior Alterations	2 hours	$167.00
2019-32344	BW19-03 1/16/19	Point East Condominiums 27500 Cedar Road Fire Sprinkler System Alterations	1 hour 30 min.	$125.25
2019-32393	BW19-04 1/19/19	International Brotherhood of Electrical Workers 3609 Park East Drive, Suite 210 Interior Alterations	2 hours	$167.00
2018-31933	BW19-05 1/22/19	Lucent Dermatology 2000 Auburn Drive, Suite 130 Fire Sprinkler System Alterations	45 min.	$62.61
2019-32448	BW19-06 1/27/19	Veid Insurance 3401 Richmond Road, Suite 101 Interior Alterations	1 hour 30 min.	$125.25
2019-32466	BW19-07 1/29/19	Verizon – Orange 3690 Orange Place Antenna Change Out	1 hour	$83.50
2019-32491	BW19-08 1/29/19	Point East Condominium 27500 Cedar Road, Unit 304 Fire Sprinkler System alterations	45 min.	$62.61
Total:				**$1,001.97**

Paul Kowalczyk, MPE #798

Tactical Planning, LLC

P.O. Box 3163
Cuyahoga Falls, Ohio 44223
Ph: 440-725-1886
geosmerigan@gmail.com

INVOICE

City of Beachwood
Accounts Payable
P.O. Box 22659
Beachwood, Ohio 44122

February 3, 2019

FED ID # 46-3453684

P.O. # 2014-00196

INV # BW-1903

For professional services rendered with regard to plan reviews and report preparation for the **January 31, 2019 Planning and Zoning Commission Meeting** as follows:

Bill #193101 Enrico Pietro

P&Z 2019-01	**HCTI Beachwood, Inc. / 3800 Park East Drive**			
G. Smerigan	4.0 Hours	@	$115.00 / hour	$460.00

TOTAL DUE THIS INVOICE **$460.00**

APPROVED FOR PAYMENT
BY: WG
DATE: 2/6/19
P/O:

Thank you,

George Smerigan
Managing Member

INTRODUCED BY: ORDINANCE NO. 2019-35

AN ORDINANCE AMENDING APPROPRIATIONS FOR CURRENT EXPENDITURES AND OTHER EXPENSES OF THE CITY OF BEACHWOOD, STATE OF OHIO, FOR THE FISCAL YEAR 2019, JANUARY 1, 2019 TO DECEMBER 31, 2019, INCLUSIVE; AND DECLARING THIS TO BE AN URGENT MEASURE

WHEREAS, it is necessary to amend certain appropriations to provide for current expenditures of the City of Beachwood for the fiscal year ending December 31, 2019; and

WHEREAS, City Council approved Ordinance Number 2018-191 on December 17, 2018 authorizing the amendment of appropriations for current expenditures and other expenses of the City of Beachwood, State of Ohio, for the Fiscal Year 2019, January 1, 2019 to December 31, 2019, inclusive.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Beachwood, County of Cuyahoga and State of Ohio, that:

Section 1: Based upon the recommendation of the Finance Director the City's appropriations, as amended in Ordinance 2018-191, are hereby amended to reflect the increases and/or decreases outlined therein in the Spreadsheet that is attached hereto and incorporated herein as Exhibit "A".

Section 2: It is found and determined that all formal actions and deliberations of Council and its committees relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105 of the Codified Ordinances of the City.

Section 3: This Ordinance is declared to be an urgent measure immediately necessary for the public peace, health or safety or the efficient operation of the City; and for the further necessity existing because this is an appropriation of money for current expenses and other expenditures of the City of Beachwood for the fiscal year ending December 31, 2019; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

WHEREFORE, this Ordinance shall be in full force and effect from and after the earliest date permitted by law.

Attest: I hereby certify this legislation was duly adopted on the 4th day of March, 2019, and presented to the Mayor for approval or rejection in accordance with Article III, Section 8 of the Charter on the 5th day of March, 2019.

_____
Clerk

Approval: I have approved this legislation this 5th day of March, 2019 and filed it with the Clerk

_____
Mayor

City of Beachwood
2019 Appropriations

General Fund	Department	Wages & Benefits	Other	Total
	101 Council	$ 125,600	$ 31,500	$ 157,100
	121 Mayor	$ 491,800	$ 159,200	$ 651,000
	122 Economic Development	$ 154,500	$ 425,300	$ 579,800
	123 Human Resources	$ 200,900	$ 16,100	$ 217,000
	131 Finance Department	$ 1,405,000	$ 5,820,400	$ 7,225,400
	141 Law Department	$ 475,300	$ 170,700	$ 646,000
	221 Police	$ 10,514,500	$ 1,008,100	$ 11,522,600
	231 Fire	$ 7,838,600	$ 673,400	$ 8,512,000
	341 Service Administration	$ 6,775,400	$ 3,256,800	$ 10,032,200
	441 Human Services	$ 421,700	$ 291,300	$ 713,000
	511 Recreation Administration	$ 883,500	$ 575,000	$ 1,458,500
	512 Camps	$ 353,300	$ 196,000	$ 549,300
	514 Sports	$ 17,400	$ 64,400	$ 81,800
	519 Other Programs	$ 81,800	$ 92,100	$ 173,900
	531 Pools and Parks	$ 266,400	$ 316,500	$ 582,900
	611 Building	$ 1,248,000	$ 119,700	$ 1,367,700
	Total General Fund			$ 44,470,200
Special Revenue Fund	**Fund #**			
	211 Street Construction Maint. & Repair	$ -	$ 1,475,000	$ 1,475,000
	212 State Highway	$ -	$ 200,000	$ 200,000
	231 Mayor's Court Improvement	$ -	$ 50,000	$ 50,000
	241 Federal Equitable Sharing	$ -	$ 200,000	$ 200,000
	243 Drug Law Enforcement	$ -	$ 100,000	$ 100,000
	261 Blossom Lane Street Lights	$ -	$ 1,650	$ 1,650
	262 George Zieger Drive Street Lights	$ -	$ 18,900	$ 18,900
	291 Eaton TIF Fund	$ -	$ 4,500,000	$ 4,500,000
	292 Omnova TIF Fund	$ -	$ 370,000	$ 370,000
	Total Special Revenue Fund			$ 6,915,550
Debt Service Fund	**Fund #**			
	331 General Bond Retirement	$ -	$ 2,893,000	$ 2,893,000
	Total Debt Service Fund			$ 2,893,000
Capital Improvement Fund	**Fund #**			
	441 Capital Improvement	$ -	$ 2,107,000	$ 2,107,000
	Total Capital Improvement			$ 2,107,000
Internal Service Fund	**Fund #**			
	501 Workers' Compensation Self Insurance	$ -	$ 250,000	$ 250,000
	Total Internal Service Fund			$ 250,000
Trust and Agency Funds	**Fund #**			
	784 Police Pension Fund	$ -	$ 248,000	$ 248,000
	Total Trust and Agency Funds			$ 248,000
	TOTAL 2019 APPROPRIATIONS			$ 56,883,750

(Finance appropriation includes a $2,000,000 transfer to Debt Service Fund, and $2,000,000 transfer to the Capital Improvement Fund)

Passed Ordinance : 2018-191

Amended:

Increase Capital Projects Fund by $150,000 from $1,957,000 to $2,107,000

Prepared LAH 02 15 19

City of Beachwood
2019 Appropriations

		Wages & Benefits	Other	Total
General Fund	**Department**			
	101 Council	$ 125,600	$ 31,500	$ 157,100
	121 Mayor	$ 491,800	$ 159,200	$ 651,000
	122 Economic Development	$ 154,500	$ 425,300	$ 579,800
	123 Human Resources	$ 200,900	$ 16,100	$ 217,000
	131 Finance Department	$ 1,405,000	$ 5,820,400	$ 7,225,400
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	231 Fire	$ 7,838,600	$ 673,400	$ 8,512,000
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	611 Building	$ 1,248,000	$ 119,700	$ 1,367,700
	Total General Fund			$ 44,470,200
Special Revenue Fund	**Fund #**			
	211 Street Construction Maint. & Repair	$ -	$ 1,475,000	$ 1,475,000
	212 State Highway	$ -	$ 200,000	$ 200,000
	231 Mayor's Court Improvement	$ -	$ 50,000	$ 50,000
	241 Federal Equitable Sharing	$ -	$ 200,000	$ 200,000
	243 Drug Law Enforcement	$ -	$ 100,000	$ 100,000
	261 Blossom Lane Street Lights	$ -	$ 1,650	$ 1,650
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	291 Eaton TIF Fund	$ -	$ 4,500,000	$ 4,500,000
	292 Omnova TIF Fund	$ -	$ 370,000	$ 370,000
	Total Special Revenue Fund			$ 6,915,550
Debt Service Fund	**Fund #**			
	331 General Bond Retirement	$ -	$ 2,893,000	$ 2,893,000
	Total Debt Service Fund			$ 2,893,000
Capital Improvement Fund	**Fund #**			
	441 Capital Improvement	$ -	$ 2,107,000	$ 2,107,000
	Total Capital Improvement			$ 2,107,000
Internal Service Fund	**Fund #**			
	501 Workers' Compensation Self Insurance	$ -	$ 250,000	$ 250,000
	Total Internal Service Fund			$ 250,000
Trust and Agency Funds	**Fund #**			
	784 Police Pension Fund	$ -	$ 248,000	$ 248,000
	Total Trust and Agency Funds			$ 248,000
	TOTAL 2019 APPROPRIATIONS			$ 56,883,750

(Finance appropriation includes a $2,000,000 transfer to Debt Service Fund, and $2,000,000 transfer to the Capital Improvement Fund)

Passed Ordinance : 2018-191

Amended:

Increase Capital Projects Fund by $150,000 from $1,957,000 to $2,107,000

Prepared LAH 02 15 19

CITY OF BEACHWOOD
INTER-OFFICE COMMUNICATION

TO: Martin Horwitz, Mayor
FROM: Chris Arrietta, Public Works Director
DATE: 02/13/2019
SUBJECT: An Ordinance adopting the Solid Waste Management Plan Update for the Cuyahoga County Solid Waste Management District For Years 2019-2033; and declaring this to be an urgent measure

Mayor,

With your approval, I would like to place this item on the March 4th agenda (see attached). Please contact me with any questions or concerns.

Thank you.

INTRODUCED BY: ORDINANCE NO. 2019-36

AN ORDINANCE ADOPTING THE SOLID WASTE MANAGEMENT PLAN UPDATE FOR THE CUYAHOGA COUNTY SOLID WASTE MANAGEMENT DISTRICT FOR YEARS 2019-2033; AND DECLARING THIS TO BE AN URGENT MEASURE

WHEREAS, the City of Beachwood, Ohio is located within the jurisdiction of the Cuyahoga County Solid Waste Management District; and

WHEREAS, the Cuyahoga County Solid Waste Management District Policy Committee prepared and adopted a final draft of the Cuyahoga County Solid Waste Management Plan Update, for years 2019-2033, in accordance with Ohio Revised Code Sections 3734.53, 3734.54 and 3734.55; and

WHEREAS, the District provided a copy of the Cuyahoga County Solid Waste Management Plan Update for years 2019-2033 for ratification to each of the legislative authorities of the District; and

WHEREAS, the City of Beachwood, Ohio must decide whether it approves of said Solid Waste Management Plan Update no later than April 11, 2019.

NOW, THEREFORE, BE IT ORDAINED, by the Council of the City of Beachwood, County of Cuyahoga, and State of Ohio, that:

Section 1: The City of Beachwood, Ohio approves the Cuyahoga County Solid Waste Management Plan Update for years 2019-2033. Furthermore, the Clerk is hereby directed to send the District a copy of this Ordinance to the attention of Diane T. Bickett, Executive Director, Cuyahoga County Solid Waste Management District, 4750 East 131 Street, Garfield Heights, OH 44105

Section 2: It is found and determined that all formal actions and deliberations of Council and its committees, relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105, Codified Ordinances of the City.

Section 3: This Ordinance is hereby declared an urgent measure which is immediately necessary for the preservation of the public peace, health or safety or the efficient operation of the City, and for the further reason that it is necessary to approve the Cuyahoga County Solid Waste Management Plan Update, for years 2019-2033, no later than April 11, 2019; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

WHEREFORE, this Ordinance shall take effect and be in force from and after the earliest date permitted by law.

Attest: I hereby certify this legislation was duly adopted on the 4th day of March, 2019, and presented to the Mayor for approval or rejection in accordance with Article III, Section 8 of the Charter on the 5th day of March, 2019.

_____
Clerk

Approval: I have approved this legislation this 5th day of March, 2019, and filed it with the Clerk.

_____
Mayor

CITY OF Beachwood
MARTIN S. HORWITZ, MAYOR

PUBLIC WORKS DEPARTMENT
CHRIS ARRIETTA, DIRECTOR
PHONE (216) 292-1922
FAX (216) 595-3713

TO: Chris Arrietta, Public Works Director

FROM: Chris Vild, Environmental Manager

DATE: January 31, 2019

SUBJECT: Cuyahoga County Solid Waste Management Plan Recommendation

Due to increasing rubbish costs, outdated and incomplete solid waste regulations, the Ohio General Assembly passed House Bill 592 (H.B. 592) in 1988. As a result of the passage of H.B. 592, Ohio Counties were required to form solid waste management districts in an effort to establish comprehensive solid waste planning and implementation.

Cuyahoga County established its Solid Waste Management District in August of 1988. The initial Cuyahoga County Solid Waste Management Plan was approved by the Ohio EPA in 1994. The District is funded by a generation fee that is levied on each ton of waste produced in Cuyahoga County. The original generation fee of $1.00 per ton was established in 1994, it has been raised once to $1.50 in 2007. Presently Cuyahoga County has one of the lowest generation fees, the average fee State wide is $4.50 per ton. The proposed management plan calls for a $0 .50 per ton increase in 2023. The increase will be necessary to offset increasing operational expenses.

The Solid Waste District is tasked with implementing the solid waste management plan through programs and services offered to the communities and the general public within the county. The City of Beachwood participates in several programs offered by the Solid Waste District. Those programs are:

Scrap tire roundup – annually the Solid Waste District collects and properly disposes of the tires the City collects at no additional cost to the City. Last year the county collected 302 tires (3.51 tons) of tires from the City.

Hazardous household drop-off & disposal – The Solid Waste District accepts various hazardous household wastes from the City. In 2018 we took 2.22 tons of hazardous household waste to them for proper disposal.

Computer & e-waste recycling – The City through the Solid Waste District recycles computers and other electronic devices, in 2018 the City recycled 8.62 tons of e-waste.

Community Recycling Awareness Grant – This grant assists communities with recycling awareness promotion and community paper shredding events which we host twice a year. We shredded and recycled 13.79 tons of mixed paper in 2018.

Litter Collection Program – The service is provided by Court Community Service. In 2018 litter was collected nine times for a total of 230 man hours and 148 bags collected. We direct the collection activities to our main streets and retail shopping areas.

Municipal Contracting Consortiums – The District manages two municipal contracting consortiums – solid waste transfer and disposal (8 members) and recycling processing (11 members). The consortiums help communities who collect their own refuse and recyclables obtain favorable and competitive pricing. The City of Beachwood participates in both.

The District also provides technical assistance to the City in the form of educational outreach, presentations/workshops and a comprehensive resource guide. It is my opinion that the services and programs provided to the City of Beachwood by the Cuyahoga County Solid Waste District are a good value. If the City had to pay for all of those services it would far exceed what they are charging through the generation fee. I recommend ratification of the Cuyahoga County Solid Waste Management Plan Update.

Cuyahoga County Solid Waste Management Plan Update 2019 – 2033

Ratification Copy - December 2018

Cuyahoga County
SOLID WASTE DISTRICT
CuyahogaRecycles.org

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GLOSSARY

Access – The availability of waste reduction and recycling services to waste generators within a solid waste management district. In most cases, access is used to refer to the presence or absence of waste reduction and recycling opportunities for measuring compliance with Goal 1 of the 2009 State Solid Waste Management Plan.

Annual District Report – This is a report that Ohio Administrative Code Rule 3745-27-90, requires each solid waste management district to submit to Ohio EPA by June 1 each year in form prescribed by Ohio EPA. Information shall be based on the previous calendar year. This report will evaluate the solid waste management district's implementation of the strategies, programs, and activities listed in the implementation schedule of its approved solid waste management plan and the progress made toward the waste reduction and recycling requirements established in paragraphs (E)(1) and (E)(2) of this rule.

Annual District Report Review Form – A document published by Ohio EPA. The document combines the data reported by a solid waste management district in its annual district report, data reported to Ohio EPA by owners/operators of solid waste facilities in their facility annual reports, and data from adjacent states regarding imports of waste from Ohio. The document provides disposal, recycling, and generation data. Ohio EPA publishes a separate form for each of the 52 solid waste management districts.

Board of Directors – The governing body for a solid waste management district. For single or joint county solid waste districts the board consists of the county commissioners of each district. Since Cuyahoga County has a charter form of government, the District's board consists of the County Executive, a representative of County Council, and the County Public Works Director.

Broker/Recycling Broker – A business that accepts recyclable materials from collection or processing activities, may or may not pay a fee for the materials, and finds an end-user or another processor to purchase the materials. A broker can be a processor of recyclable materials that also finds end-users for the processed materials.

Captive Landfill Facility – refers to a privately-owned industrial or residual solid waste landfill that is used to dispose of solid waste generated exclusively by the owner of the landfill facility.

CCSWD – refers to the Cuyahoga County Solid Waste Management District

Commercial Solid Waste – refers to solid waste generated at non-residential buildings, non-industrial businesses, and institutions. This category includes businesses such as shopping centers, retail stores, grocery stores, theaters, gas stations, businesses offices, hotels, restaurants, and similar service establishments. Institutions include government and non-profit offices, schools, prisons, churches, parks, and similar organizations.

Composting – As defined in Ohio Administrative Code Rule 3745-27-01(C)(3), the process of biological decomposition of solid wastes under controlled conditions resulting in compost. Controlled conditions include but are not limited to grinding, shredding, piling, physical turning, aerating, adding moisture, or other processing of solid wastes.

Composting Facility – As defined in Ohio Administrative Code Rule 3734-27-01(C)(4), a site, location, tract of land, installation, or building used for composting of solid waste in accordance with Chapter 3734 of the Revised Code and rules adopted thereunder. There are four types of regulated compost facilities:

- **Class I Compost Facilities** – These facilities can be used to compost the greatest variety of solid wastes including mixed solid waste (glass, food, plastics, pesticides, household cleaners, etc.) food waste, yard waste and other industrial wastes. Class I facilities must have a permit, license and financial assurance.
- **Class II Compost Facilities** – These facilities can be used to compost only source-separated yard waste, food scraps, animal wastes, specified agricultural wastes, authorized bulking agents and additives, and other alternative materials. Alternative materials (feed stocks, bulking agents and additives) may be used in the compost process only if prior approval is obtained from the Director. Except in limited circumstances, Class II facilities must have a license, financial assurance and registration.
- **Class III Compost Facilities** – These facilities can be used to compost only source-separated yard waste, animal wastes, specified agricultural wastes, authorized building agents and additives. Class III facilities must be registered with Ohio EPA.
- **Class IV Compost Facilities** – These facilities can be used to compost only source-separated yard waste, authorized bulking agents, and the following additives: urea and bacteria or fungal inoculum. Class IV facilities must be registered with Ohio EPA.

Construction and Demolition Debris – is defined in Ohio Administrative Code Rule 3745-400-01(F) as those materials resulting from the altercation, construction, destruction, rehabilitation, or repair of any manmade physical structure, including, without limitation, houses, buildings, industrial or commercial facilities, or roadways. “Construction and demolition debris” does not include materials identified or listed as solid wastes, infectious wastes, or hazardous wastes pursuant to Chapter 3734 of the Ohio Revised Code and rules adopted under it; or materials from mining operations, non-toxic fly ash, spent non-toxic foundry sand, and slag; or reinforced or non-reinforced concrete, asphalt, building or paving brick, or building or paving stone that is stored for a period of less than two years for recycling into a usable construction material.

Current Approved Plan – Used when referring to a solid waste management district’s effective solid waste plan. The current approved plan has already been improved and is in effect.

Curbside Recycling Program – A type of recycling opportunity through which source-separated, residential recyclables are collected at the place of residence. Curbside collection typically involves collecting recyclables in designated containers. Curbside recycling programs are divided into two categories – “Subscription” and “Non-Subscription” services.

Cuyahoga County – for purposes of this Plan Update, Cuyahoga County refers to the geographic region of the Cuyahoga County Solid Waste District which includes the small portion of the Village of Hunting Valley that is located within Geauga County.

Direct Haul – Waste that is transported from the point of collection to a landfill facility (i.e. the waste is not delivered to a transfer facility).

District – Refers to an Ohio solid waste management district or when capitalized, District refers to the Cuyahoga County Solid Waste Management District (CCSWD) as an organizational entity.

Diversion – The term used in this document when referring to waste that is reused, recycled, or reduced instead of being disposed in a landfill. Ohio's waste reduction and recycling rates measure diversion from landfills, not just recycling and reuse. So, volume reduction due to composting or incinerating waste is included in the reduction and recycling rate.

Drop-Off Recycling – Refers to a type of recycling opportunity that serves as a collection location for recyclable materials. Drop-off recycling locations are typically used by the residential population but may also be used by businesses and institutions. People who use drop-offs voluntarily transport recyclable materials to the host site. A drop-off site typically consists of trailers, roll-off containers, or other types of collection containers where people place their recyclable materials. Drop-offs can be manned or unmanned, can collect recyclables as single or multiple streams, can be available on public or private property, can be available to the general public or serve a specific population, and can be provided by public entities, private companies, non-profit organizations or other providers. A drop-off is categorized by the number of hours the drop-off is available for use and the population of the jurisdiction in which the drop-off is located. Accordingly, drop-offs are defined as being located in either urban or rural areas and as being available either full-time or part-time. An urban area is a political jurisdiction with a residential population of 5,000 or more. A rural area is a political jurisdiction with a residential population of less than 5,000. Full-time refers to a drop-off that is available for at least 40 hours per week. Part-time refers to a drop-off that is available for use less than 40 hours per week but is available at regularly-scheduled time at least once a month.

Electronic Waste or E-Waste – Refers to discarded end-of-life and obsolete electrical devices or their parts. Televisions, computers, and cell phones are all common examples of electronic waste.

Excluded Waste – Refers to those wastes that the definition of solid waste [see Ohio Administrative Code Rule 3734-27-01(S)(23)] specifically calls out (i.e. excludes) as not being solid waste. These wastes include slag, uncontaminated earth, non-toxic fly ash, spent, non-toxic foundry sand, material from mining, and construction and demolition debris.

Facility Data Report – A report published by Ohio EPA annually. The report summarizes data reported to Ohio EPA by owners/operators of solid waste landfills and transfer facilities in facility annual reports.

Fee Exempt Waste refers to those wastes that Ohio Revised Code Section 3734.57 specifically excludes from being subject to solid waste fees. The fee exempt wastes are listed or ORC Section 3734.57 paragraphs (D)(1) through (D)(7).

Ferrous Metals – Metals that contain iron such as steel, stainless steel, cast iron, and wrought iron.

Household Hazardous Waste (HHW) – refers to hazardous waste that is generated in households. In Ohio, hazardous waste generated at a household is not regulated under the hazardous waste regulations. Thus, homeowners can dispose of HHW in their garbage. Ohio's regulations define households as including (1) single and multiple unit residences, (2) hotels and motels, (3) bunk houses, (4) ranger stations, (5) crew quarters, (6) dormitories, (7) campgrounds, (8) picnic grounds and (9) day-use recreation areas.

Incineration – Burning solid waste to ash.

Industrial Solid Waste – Is defined in Ohio Administrative Code Rule 3745-29-01 as a type of solid waste generated by manufacturing or industrial operations and includes, but is not limited to, solid waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and food-related products/by-products; inorganic chemicals; iron and steel manufacturing; leather and leather products; non-ferrous metals manufacturing; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; and transportation equipment.

Materials Recovery Facility (MRF) – A type of facility used for separating, sorting, or processing commingled recyclables in order to segregate materials with value (e.g. aluminum, glass, plastics). MRF's primarily sort and process curbside recyclables collected by communities to prepare them to be sold to end-users.

Municipal Solid Waste (also referred to as Residential/Commercial Waste) – is defined in Ohio Administrative Code Rule 3745-27-01(M)(5) as a type of solid waste generated from community, commercial, and agricultural operations, including, but not limited to, the following: (1) solid waste generated by community operations, i.e. wastes derived from households (including single and multiple household residences, hotels, motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas), (2) solid waste generated by commercial operations (including stores, offices, restaurants, warehouses, and other non-manufacturing activities), (3) solid waste generated from agricultural operations (including single-family and commercial farms, greenhouses, and nurseries), (4) sludge from municipal, commercial or industrial waste water treatment plants, water treatment plants, and air pollution control facilities that is co-disposed with wastes specified in (1), (2), (3), and (5) in a sanitary landfill, and (5) fly ash and bottom ash generated from the incineration of municipal solid waste provided the fly ash and bottom ash are not regulated as hazardous waste.

Non-Subscription Curbside Recycling Program – Refers to a type of curbside recycling program that is available to residents automatically within a defined area.

North American Industrial Classification System (NAICS) – NAICS was developed and adopted in 1997 to replace the Standard Industrial Classification (SIC) system. The NAICS is the standard used to classify business establishments in the United States, Canada, and Mexico to facilitate collecting, analyzing, and publishing data related to the business economy.

Non-Ferrous Metals – Metals that do not contain iron. Non-ferrous metals include aluminum, brass, copper, nickel, tin, lead, and zinc, as well as precious metals like gold and silver. Non-ferrous metals exhibit properties such as low weight, higher conductivity non-magnetic and resistance to corrosion.

Ohio Administrative Code (OAC) – The compilation of rules governing the actions of all state agencies. The OAC is based upon authorities granted in the Ohio Revised Code.

Ohio Revised Code (ORC) – Contains all current statutes of the Ohio General Assembly consolidated into provisions, titles, chapters, and sections.

Open Dumping – Depositing solid waste into a body of water or onto the ground at a site that is not licensed as a solid waste facility under section 3734.05 of the Ohio Revised Code. For the purpose of a

solid waste management plan, open dumps are considered as areas off the road or adjacent to the road or right-of-way on where solid waste is dumped. Road right-of-ways with occasional litter or debris are not considered to be open dumps.

Pay-As-You-Throw (PAYT) - A trash collection service where the amount a household pays for trash collection depends on the amount of trash the household disposes. The more waste the household throws away, the more the household pays for trash service. PAYT treats trash collection like a utility, such as electricity or natural gas. Also called variable rate pricing, volume based billing, and unit pricing.

Plan – A term used to refer to a solid waste management district's solid waste management plan.

PPD – pounds per person per day.

Policy Committee – The group that is responsible for preparing and ratifying a solid waste management plan for a solid waste management district as prescribed in Ohio Revised Code Section 3734.54(B).

Quarterly Fee Report – The report solid waste management districts submit to Ohio EPA to account for revenues and expenditures during the previous three months. A solid waste management district submits four reports annually using a form prescribed by Ohio EPA (see Ohio Revised Code Section 3734.575).

Recycling – The systematic process of converting solid waste that would otherwise be disposed and returning the converted material to commerce as a commodity for use or exchange in an established and legitimate market.

Reference Year – The calendar year selected by the District as the year for collecting data that will serve as baseline data for a solid waste management plan. The reference year for Cuyahoga County's Plan Update is 2016.

Residential Solid Waste – Solid wastes generated at residential dwellings, such as single-family homes, apartment complexes, condominiums, mobile homes. Domiciles such as nursing homes, campgrounds, and other types of group quarters and institutions are considered to generate commercial waste.

Residential/Commercial Solid Waste – Refers to the combination of waste generated by the residential and commercial sectors. Residential/commercial solid waste is the same as municipal solid waste.

Reuse – Taking an object or material that would otherwise be disposed and using it for its original purpose or a different purpose, without converting the object or material. Reuse differs from recycling which is the breaking down of the material into raw materials which are used to make a new item.

Salvage Dealer/Motor Vehicle Salvage Dealer – Any person whose primary business is selling recovered motor vehicle parts.

Scrap Dealer – The owner or operator of a business that purchases or receives scrap metal for the purpose of sorting, grading, and shipping metals to third parties for direct or indirect melting into new products.

Single Stream – Refers to a recycling system in which all recyclable materials are collected in one container (i.e. commingled) instead of separated into individual commodities (such as newspaper, corrugated cardboard, plastics, glass, etc.).

Source Separated Recyclables – Materials that have been separated from trash at either the point of generation or the point of collection for the purpose of recycling the materials.

Standard Industrial Classification (SIC) Codes – Refers to the system established by the U.S. government to classify a business establishment. In 1997, the SIC system was replaced with the NAICS system.

Subscription Curbside Recycling Program – Refers to a type of curbside recycling program through which residents must take a voluntary action to sign up for and agree to pay for the service.

Solid Waste Management District, SWMD, or District – One of two structures a county/counties can form for purposes of complying with Ohio Revised Code Section 3734.52. The other structure is a regional solid waste management authority. A solid waste management district is a county which has established a resolution, or joint counties which have entered into an agreement for the purposes of preparing, adopting, submitting, and implementing a solid waste management plan for the county or joint counties and for the purposes of providing for, or causing to be provided for, the safe and sanitary management of solid waste within all of the incorporated and unincorporated territory of the county or joint counties and in compliance with Chapters 343. and 3734. of the Revised Code. A solid waste management district is governed by two groups – a policy committee and a board of county commissioners/board of directors.

State Solid Waste Management Plan (State Plan) – Ohio Revised Code Section 3750 requires the Ohio Environmental Protection Agency with the advice of the solid waste management advisory council, to prepare the state solid waste management plan. The law prescribes eight purposes for the State Plan. The main purpose of the State Plan is to reduce Ohio's reliance on using solid waste landfill facilities to manage solid waste. To do this, the State Plan establishes the waste reduction and recycling goals for both the State and Ohio's 52 solid waste management districts (SWMDs).

Transfer Facility/Transfer Station – As defined in Ohio Administrative Code Rule 3745-27-01(T)(28), any site, location, tract of land, installation, or building that is used or intended to be used primarily for the purpose of transferring solid wastes that are generated off the premises of the facility from vehicles or containers into other vehicles or containers for transportation to a solid waste disposal facility. The term does not include any facility that consists solely of portable containers that have an aggregate volume of fifty cubic yards or less nor any facility where legitimate recycling activities are conducted. The term does not include any facility that accepts scrap tires other than scrap tires which are accepted incidental to a mixed solid waste shipment.

Volume-Based Billing – (see definition for Pay-As-You-Throw)

Waste Reduction – Refers to activities that decrease the quantities of waste disposed in landfills and includes recycling, volume reduction due to composting waste and volume reduction due to incinerating waste.

White Goods – Discarded large appliances (such as refrigerators, ovens, dishwashers, washing machines, clothes dryers, hot water heaters, etc.)

i: SOLID WASTE MANAGEMENT DISTRICT INFORMATION

Table i-1 Solid Waste Management District Information

SWMD	Cuyahoga County Solid Waste Management District
Member Counties	Cuyahoga County
District Coordinator	Diane T. Bickett
Job Title	Executive Director
Street Address	4750 East 131 Street
City, State, Zip Code	Garfield Heights, OH 44105
Phone	216-443-3749
E-mail	dbickett@cuyahogacounty.us
Web Site	www.CuyahogaRecycles.org

Table i-2 Members of the Solid Waste Policy Committee

Pamela Bobst	Mayor, City of Rocky River	Westshore Region Representative
Shontel Brown	Cuyahoga County Council District 9	County Representative
Michael Byrne	Mayor, City of Parma Heights	Southcentral Region Representative
Freddy Collier	Planning Director, City of Cleveland	Cleveland Region Representative
John DeMuth	Retired, County Planning Commission	Public Representative
Anthony DiCicco	Mayor, City of Mayfield Heights	Hillcrest Region Representative
Cyril Kleem	Mayor, City of Berea	Southwest Region Representative
Cary Mathias	ArcelorMittal	Business/Industry Representative
Michael Procuk	Mayor, City of Brooklyn Heights	Cuyahoga Region Representative
Bradley Sellers	Mayor, City of Warrensville Heights	Chagrin/Southeast Region Representative
Sunny Simon	Cuyahoga County Council District 11	County Representative
Kenneth Surratt	Deputy Director, Housing & Community Development	County Representative
Michael Dylan Brennan	Mayor, City of University Heights	Heights Region Representative

Table i-3 Chair of the Solid Waste Policy Committee

Name	Kenneth Surratt
Street Address	2079 East Ninth Street
City, State, Zip Code	Cleveland, Ohio 44115
Phone	216-698-2092
E-mail address	ksurratt@cuyahogacounty.us

Table i-4 District Board of Directors

Chair	Sunny Simon, Cuyahoga County Council
Vice Chair	Mike Foley, Cuyahoga County Office of Sustainability
Secretary	Michael Dever, Cuyahoga County Office of Public Works

Technical Advisory Committee
The District did not utilize a Technical Advisory Committee (TAC) for the development of this Plan Update.

Plan Consultants
GT Environmental, Inc.
635 Park Meadow Road, Suite 112
Westerville, OH 43081
Contact: James Skora (330) 689-1105 jskora@gtenvironmental.com

Economic Environmental Solutions International
Contact: Karen Luken (513) 417-8681 Kluken@ecosolutions.co

CHAPTER 1: INTRODUCTION

A. Brief Introduction to Solid Waste Planning in Ohio

In the 1980's, Ohio faced a combination of solid waste management problems. These included rapidly declining landfill capacity, increasing amounts of waste being produced, a lack of environmental controls at existing landfills and an influx of solid waste being brought 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 in 1988.

H.B 592 dramatically revised Ohio's solid waste regulatory program and established a comprehensive solid waste planning process intended to ensure that Ohio has adequate, protective capacity at landfills to dispose of its waste while reducing Ohio's overall reliance on landfill disposal by increasing waste reduction and recycling statewide.

B. Requirements of County and Joint Solid Waste Management Districts

1. Solid Waste District Formation

As a result of H.B. 592, Ohio's counties or groups of counties were required to form a solid waste management district for the purpose of preparing and implementing a solid waste management plan. Ohio currently has 52 solid waste districts. Of these, 37 are single-county districts and 15 are multi-county districts. The Cuyahoga County Solid Waste District was formed as a single county district on August 29, 1988 by the Board of Commissioners of Cuyahoga County.

2. Solid Waste District Governance

Solid waste districts are governed by two bodies – a board of directors and a policy committee. The policy committee is responsible for developing the solid waste management plan while the board of directors is responsible for implementing the plan. The Cuyahoga County Solid Waste District Board of Directors and Policy Committee are uniquely structured.

The Cuyahoga County Solid Waste Policy Committee consists of the 11-member Cuyahoga County Planning Commission plus two public representatives. This structure differs from that specified in Ohio Revised Code Section 3734.54 due to a waiver granted by Ohio EPA that provides more municipal input into the solid waste planning process.

The Cuyahoga County Solid Waste District Board of Directors differs from other districts that are governed by county commissioners. When Cuyahoga County became a charter county in 2011, its county commissioner governance structure was replaced with that of a county executive and county council. As a result the Solid Waste District Board was changed to include the county executive, a county council member and the county public works director.

3. Solid Waste Management Plans

Once solid waste management districts were formed, each was required to prepare an initial solid waste management plan and then update the plan every five years. Solid waste management plans must be prepared according to an Ohio EPA format and contain the

information and data prescribed in Ohio Revised Code (ORC) 3734.53 and Ohio Administrative Code (OAC) Rule 3745-27-90. Among other things, plans must demonstrate that the district will have access to at least 10 years of landfill capacity to manage all of its waste, how the district will meet the waste reduction and recycling goals established in the State of Ohio Solid Waste Management Plan and how it will fund the implementation of the plan.

Once the district and its policy committee prepares a draft of its solid waste management plan, it is sent to the Ohio EPA for its review and comments. After revising the draft to address Ohio EPA's comments, the district makes the plan available to the public for comment, holds a public hearing and revises the plan as necessary.

Next, the plan must be ratified which requires communities to vote to approve or disapprove. The plan is ratified when communities representing 60% of the population of the district including the largest city, vote to approve the plan. It is then sent to the Director of the Ohio EPA and the district receives its final findings and orders and can begin to implementation. If the plan is not approved, the Ohio EPA will prepare a plan for the district and order it to be implemented. From start to finish, preparing a solid waste management plan can take up to 33 months. An approved solid waste management plan covers a planning period of 15 years and must be updated every five years.

Cuyahoga County's initial Solid Waste Management Plan was approved by the Director of the Ohio Environmental Protection Agency on July 8, 1994. Subsequent Plan Updates were approved on October 6, 2000, November 8, 2006 and May 1, 2013. This plan update is the fourth.

C. Cuyahoga County Solid Waste District Overview

The Cuyahoga County Solid Waste District (CCSWD) is responsible for implementing the solid waste management plan through programs and services offered to the public. The District is funded by a "generation fee" which is a fee of $1.50 levied on each ton of waste produced in Cuyahoga County and landfilled in Ohio. The generation fee is approved by communities each time it ratifies the plan. Cuyahoga County's fee is one of the lowest in Ohio and was only increased one time since the district was created. That was in 2007 when the fee was increased from $1.00 per ton to $1.50 which is still $3.00 less than the state average of $4.50.

The CCSWD strives to operate efficiently so it may keep its fee low while still funding all plan elements. It benefits from having a large infrastructure of private solid waste management and recycling service providers. This means that the District can focus on providing technical assistance and educational services and only become a service provider in cases where there is no private sector company offering the service such as with its household hazardous waste collection.

The CCSWD employs a staff of six. Our vision is for Cuyahoga County to be a national leader in the movement toward a world without waste and our mission is to educate, empower and enable people across Cuyahoga County to reduce, reuse and recycle. We practice the following core values daily.

Responsibility	We advocate for policies and legislation that reduce waste and support best practices in solid waste management.
Integrity	We act in an honest, ethical, professional, and respectful manner with each other and our community, taking personal responsibility and being accountable for achieving results.

Financial Stewardship	We strive to be wise and responsible caretakers of the financial resources entrusted to us.
Collaboration	We work in partnership with individuals, communities, businesses and institutions to develop and implement effective waste management practices.
Education	We continually educate ourselves and our community regarding sustainability, recycling and best practices regarding sustainable waste management.

D. Waste Reduction and Recycling Goals

Solid waste districts must achieve the following nine goals established in the *2009 State Solid Waste Management Plan*. See **Chapter 5** and **Appendix I** for descriptions of the programs the District will use to achieve the goals.

Goal #1

•The SWMD shall ensure that there is adequate infrastructure to give residents and commercial businesses opportunities to recycle solid waste.

Goal #2

•The SWMD shall reduce and recycle at least 25 percent of the solid waste generated by the residential/commercial sector and at least 66 percent of the solid waste generated by the industrial sector.

Goal #3

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

Goal #4

•The SWMD shall provide education, outreach, marketing and technical assistance regarding reduction, recycling, composting, reuse and other alternative waste management methods to identified target audiences using best practices.

Goal #5

•The SWMD shall provide strategies for managing scrap tires, yard waste, lead-acid batteries, household hazardous waste and obsolete/end-of-life electronic devices.

Goal #6

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

Goal #7

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

Goal #8

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

Goal #9

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

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CHAPTER 2: DISTRICT PROFILE

Chapter Purpose

This chapter provides context for Cuyahoga County's solid waste management plan by providing an overview of general characteristics of the county including:

- its communities and political jurisdictions;
- its population and population trends;
- its commercial businesses and institutional entities;
- its industrial businesses; and
- any other unique characteristics that may affect waste management within the county.

Understanding these characteristics helps the District make decisions about the types of programs that will most effectively address the needs of its residents, businesses and other waste generators. For instance, population distribution, density and trends affect the types of recycling opportunities that make sense for a particular community and for the county as a whole.

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

Unique circumstances, such as having high numbers of multi-family properties or hosting a large university, sport venue or health care institution can impact waste generation and present opportunities or challenges for implementing waste reduction and recycling programs.

The District 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

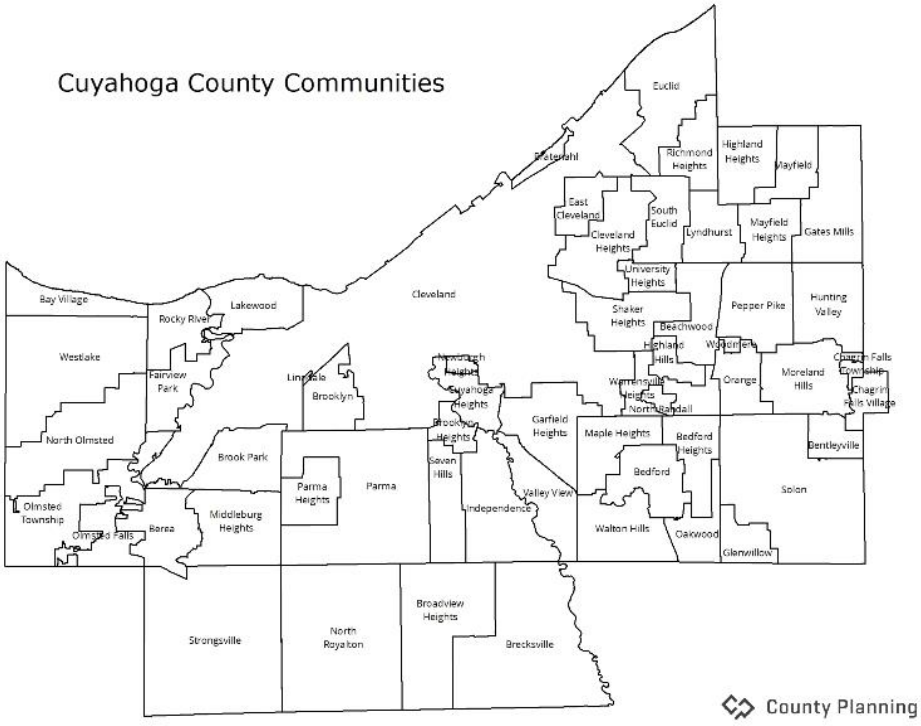
The Cuyahoga County Solid Waste District is a single-county district established on August 29, 1988 by the Board of Commissioners of Cuyahoga County. The Cuyahoga County Solid Waste Management District (referred to herein as the "District" or "Cuyahoga County") includes all incorporated and unincorporated territory in Cuyahoga County and a small portion of neighboring Geauga County (Village of Hunting Valley).

Cuyahoga County is an urban county in Northeast Ohio encompassing 458.3 square miles with 77.78% of its land area currently covered with high intensity and low intensity development according to the Ohio DSA, Office of Research.

2. County Overview

Cuyahoga County is divided into 59 communities - 38 municipalities, 19 villages and 2 townships. The largest (by population) is the City of Cleveland, followed by the cities of Parma, Lakewood, Euclid and Cleveland Heights. There a total of 619,000 housing units county-wide. 59.3% are owner occupied, 40% are renter occupied and 13.7% are vacant according to the Ohio DSA.

Figure 2-1: Cuyahoga County Communities



B. Population

1. Population (2016)

The population of Cuyahoga County in the Plan reference year of 2016 was 1,235,936 (after adjusting upwards to include the 122 residents in the Geauga County portion of Hunting Valley).

2. Population Distribution

Table 2-2 shows how Cuyahoga County's population is distributed, with 96% of the population located in its 38 cities, 3% located in its 19 villages and 1% located in its two townships.

Table 2-2: Population Distribution

County	Percent of Population in Cities	Percent of Population in Villages	Percent of Population in Unincorporated Township
Cuyahoga	96%	3%	1%

3. Population Change

Cuyahoga County's population is declining. It peaked around 1970 at 1.7 million residents. Recent population change shows that the county's population declined by approximately 30,770 residents or 2.4% between 2010 and 2016. It is projected to decrease by an additional 75,604 residents or 6.2% during the 2019-2033 planning period – ranging from approximately 3,486 - 6,566 residents annually or 0.4% per year.

4. Implications for Solid Waste Management

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

C. Profile of Commercial and Institutional Sector

There are approximately 47,000 commercial businesses and institutions in Cuyahoga County. The top employers include the health care, insurance and financial industries, along with universities and the public sector. **Table 2.3** lists the largest employers in the commercial and institutional sector.

Healthcare is the largest employer in Cuyahoga County with more than 120,000 healthcare professionals. Greater Cleveland is home to more than 60 hospitals including Cleveland Clinic, University Hospitals, MetroHealth Medical Center and Sisters of Charity Health System.

Table 2.3: Largest Commercial and Institutional employers

Company Name	Employees
Cleveland Clinic Health Care System	31,668
University Hospitals Health	16,595
Progressive Corp	8,765
Cleveland Metropolitan School District	7,558
Cuyahoga County	7,498
City of Cleveland	6,608
The Metro Health System	6,381
Key Corporation	4,612
Case Western Reserve University	4,455
US Postal Service	3,599

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20*

Table 2.4 shows the number of commercial/institutional establishments within each North American Industry Classification System (NAICS) category.

Table 2-4: Commercial/Institutional Establishments

NAICS Description	Number of Commercial/ Institutional Establishments
Wholesale Trade	1,723
Retail Trade	6,179
Transportation and Warehousing	848
Information	823
Finance and Insurance	3,470
Real Estate and Rental and Leasing	2,323
Professional, Scientific, and Technical Services	5,428
Management of Companies and Enterprises	52
Administrative and Support and Waste Management and Remediation Services	1,637
Educational Services	1,270
Health Care and Social Assistance	12,240
Arts, Entertainment, and Recreation	837
Accommodation/Food Service	3,365
Other Services	5,622
Public Administration	1,141

Source: U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20

D. Profile of Industrial (Manufacturing) Sector

Northeast Ohio is a leading center for steel and metals production and accounts for 10% of overall U.S. output, with integrated mills and mini-mills producing sheet, bar and tubing, as well as more than 3,000 fabricated metal product and machinery manufacturing companies.

There are approximately 2,900 industrial businesses operating in Cuyahoga County. 55% of these have a median employment of 10 or more individuals. Only a small percent of industrial businesses (7%) employ more than 100 employees. However, there are more than 200 such businesses. Some of the largest manufacturing businesses include American Greetings, ArcelorMittal USA, Eaton Corp, Ford Motor Co, General Motors, Lincoln Electric, Moen, Nestle USA, PPG, Parker-Hannifin Corp Rockwell Automation, Sherwin Williams Co. and Swagelok.

Table 2-5 shows the number of industrial business within each North American Industry Classification System (NAICS) code, as well as the median staff employed by each industrial business for each NAICS code.

Table 2-5: 2016 Cuyahoga County Industrial Statistics

NAICS Code	NAICS Description	Number of Industrial Businesses	Median Number of Employees per Establishment
311	Food	160	5
312	Beverage and Tobacco	28	62
313	Textile Mills	11	7
314	Textile Products	35	5
315	Apparel	14	10
316	Leather and Allied Products	4	9
321	Wood Products	26	13
322	Paper	44	28
323	Printing	209	5
324	Petroleum and Coal	13	8
325	Chemical Manufacturing	96	19
326	Plastic and Rubber	73	15
327	Non-Metallic Mineral Products	66	8
331	Primary Metals	87	22
332	Fabricated Metals	560	10
333	Machinery	313	12
334	Computer and Electronic Products	108	15
335	Electrical Equipment, Appliances and Components	641	8
336	Transportation Equipment	69	11
337	Furniture and Related Products	77	6
339	Miscellaneous Manufacturing	289	10

Source: U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20

E. Other Characteristics

Cuyahoga County is enjoying a resurgence in national attention with its new convention center, renowned arts and culture scene and its sports teams. It is home to many colleges and universities and is a center for healthcare services and innovation. It is also an advanced manufacturing hub and a center for transportation, distribution and logistics. This vital commercial activity results in a significant waste generation. This waste is managed by a complex and well established infrastructure of collection, transfer, disposal, recycling and composting services. This infrastructure is documented in Chapter 4 and further detailed in **Appendices B and H.**

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CHAPTER 3: WASTE GENERATION

Chapter Purpose

This chapter summarizes Cuyahoga County's historical and projected solid waste generation. Understanding waste generation is an important first step in making solid waste management decisions. Thus, the District analyzed the amounts and types of wastes that were generated within Cuyahoga County in the past and projected those that could be generated in the future.

The District calculated waste generation for two sectors: Residential/Commercial and Industrial. Residential/Commercial solid waste is municipal solid waste that is generated by and within a typical community. This includes waste generated by residents, schools, institutions and commercial establishments like restaurants, retail stores and offices. Industrial solid waste is generated by manufacturing operations.

The District calculated how much waste each sector generated by combining the quantities of solid waste disposed in landfills with the quantities of materials that were recycled or composted.

The District obtained recycling data by surveying communities, commercial and industrial businesses and recycling and composting facilities. Since responding to a survey is voluntary, the District relies on an entity's ability and willingness to provide recycling data. When entities do not respond to surveys, the District only sees a partial picture of recycling activity. The amount of survey data that is obtained each year has a direct effect on the District's recycling and waste generation rates.

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

The District analyzed historic quantities of waste generated in order to project future waste generation. The details of this analysis are presented in Appendix G. The District then used the projections to make decisions on how best to manage Cuyahoga County's waste and ensure there will be adequate waste management capacity through landfills, compost facilities and recycling facilities.

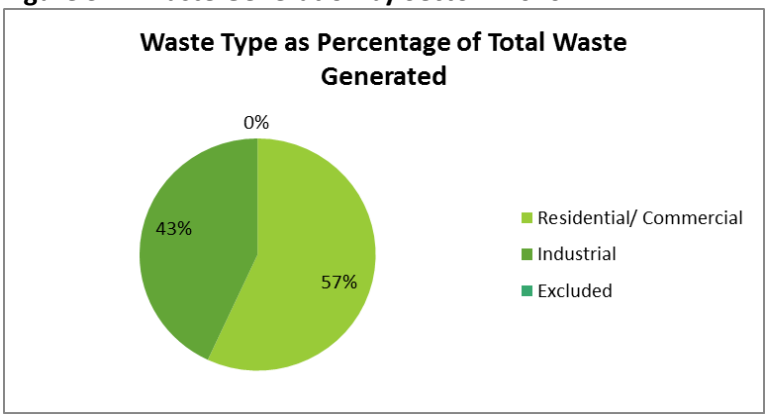
A. Solid Waste Generated in Reference Year (2016)

Table 3-1 and Figure 3-1 present Cuyahoga County's waste generation for the reference year.

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

Type of Waste	Tons Generated
Residential/ Commercial	1,528,229
Industrial	1,156,316
Excluded	0
Total	**2,684,545**

Figure 3-1: Waste Generation by Sector - 2016



1. Residential/Commercial (R/C) Waste Generated in Reference Year

In 2016, 1,528,229 total tons of solid waste was generated from residential and commercial sources in Cuyahoga County. Waste generation is the sum of tons landfilled, tons recycled, and tons composted. This amounts to a residential/commercial waste generation rate of 6.78 pounds per person per day which is slightly higher than the statewide average of 6.09 PPD. Solid waste generated from this sector accounts for 57% of all waste produced in Cuyahoga County.

2. Industrial Waste Generated in Reference Year

In 2016, 1,156,316 total tons of waste was generated from industrial sources in Cuyahoga County. Solid waste generated from this sector accounts for 43% of all waste produced in Cuyahoga County.

3. Excluded Waste Generated in Reference Year

Excluded waste includes materials that are excluded from the definition of solid waste in ORC 3734.01(E). This includes slag, uncontaminated earth, non-toxic fly ash, spent non-toxic foundry sand, and materials from mining operations. In 2016, excluded waste represented less than 10% of all waste generated therefore the District did not have to account for this in its solid waste plan according to Ohio EPA's Plan Format.

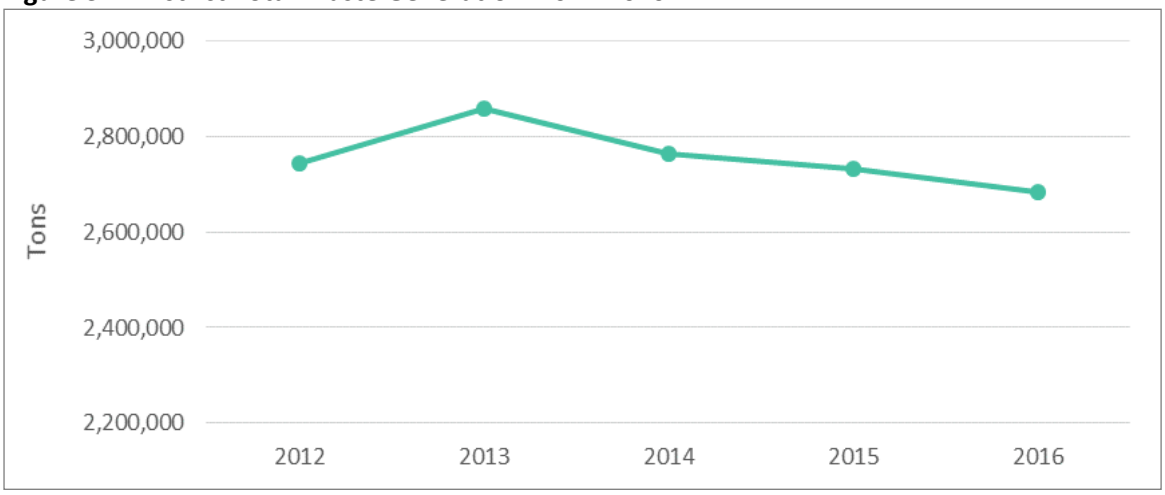
B. Historical Solid Waste Generated (2012-2016)

The overall waste generation for Cuyahoga County from all sectors from 2012 through 2016 is shown in **Table 3-1 and Figure 3-2.** These show an overall reduction in generation. The District attributes this downward trend to a population decline of 29,175 people during this period.

Table 3-2. Reference Year and Historical Waste Generated

Year	Pop.	Residential/Commercial (R/C) Waste				Industrial Waste			Total	Annual % Change	
		Disposed	Recycled	*Generated*	Per Capita (PPD)	Disposed	Recycled	*Generated*		R/C	Industrial
2012	1,265,111	1,115,280	476,201	*1,591,482*	6.89	260,749	892,702	*1,153,451*	**2,744,933**	-	
2013	1,263,154	1,076,361	454,865	*1,531,226*	6.64	272,487	1,054,040	*1,326,527*	**2,857,753**	-4%	15%
2014	1,259,828	1,093,975	473,625	*1,567,600*	6.82	232,735	963,341	*1,196,076*	**2,763,677**	2%	-10%
2015	1,255,921	1,093,450	444,793	*1,538,243*	6.71	291,142	902,351	*1,193,493*	**2,731,736**	-2%	0%
2016	1,235,936	1,064,234	463,995	*1,528,229*	6.78	300,704	855,612	*1,156,316*	**2,684,545**	-1%	-3%

Figure 3-2. District Total Waste Generation: 2012-2016



1. Historical Residential/Commercial Waste Generated

Overall, waste generation in the residential/commercial sector has remained fairly constant over the five year period from 2012 through 2016. **Figure 3-3** shows the breakout of waste recycled (including composted) and waste landfilled which combined, equal generation. **Figure 3-4** shows the per capita waste generation rate for the residential/commercial sector. While the figure shows some fluctuation, the average per capita waste generation in this period was 6.78 pounds per person per day and slightly higher than the state average of 6.09 per person per day. This may be attributable to a higher level of commercial activity in Cuyahoga County as compared to other parts of Ohio.

Figure 3-3: Residential/Commercial Waste Generation Breakout

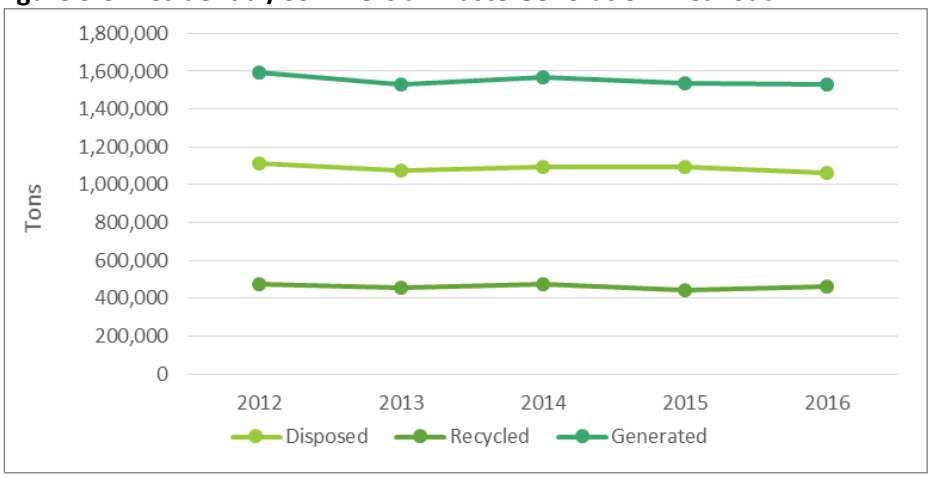
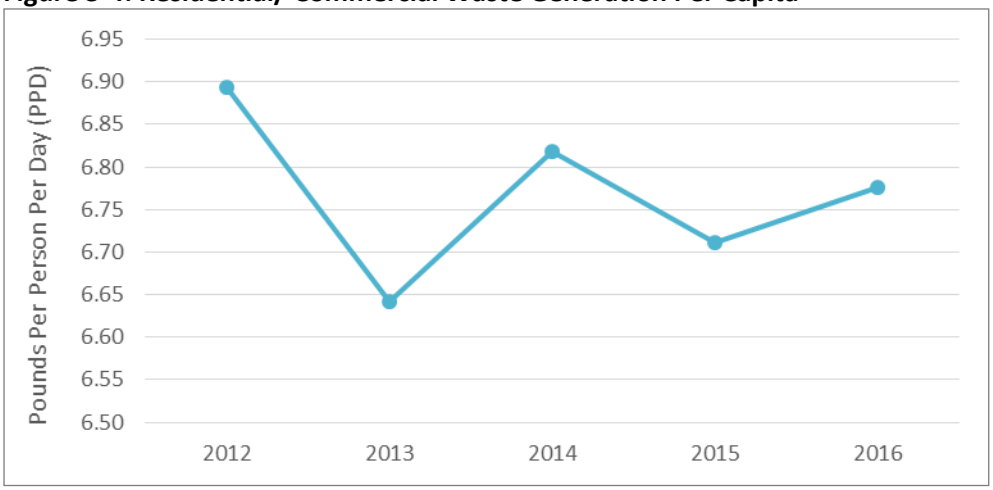


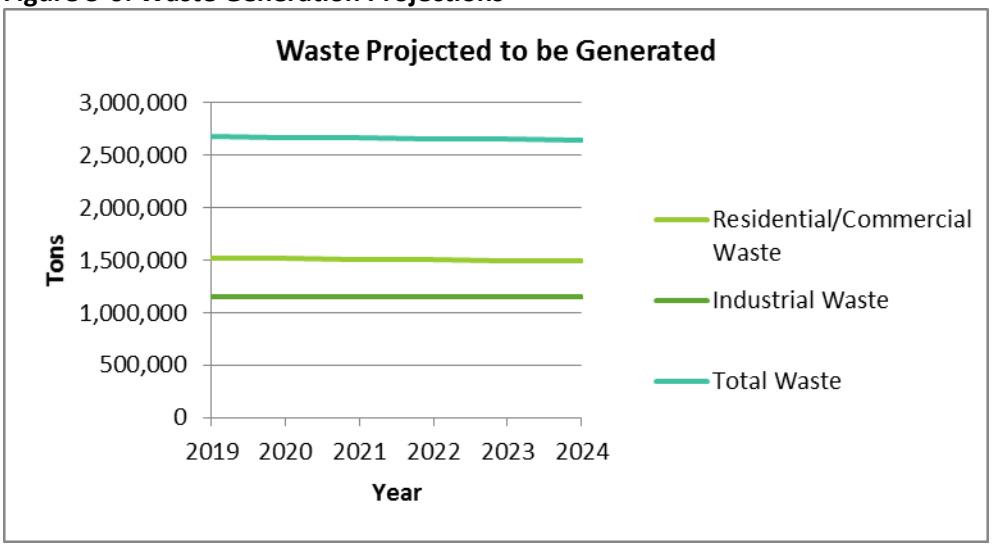
Figure 3-4: Residential/ Commercial Waste Generation Per Capita



2. Historical Industrial Waste Generated

Industrial waste generation overall did not see much change over the five-year period with the 2013 as an outlier (see **Appendix G**, **Figure G-1**). In 2013, the total amount disposed had increased along with increased recycling reported by industrial survey respondents for which there was also an increase in the number of industrial survey respondents. Both disposal and recycling tonnages had decreased significantly in 2014. Explanations for the drop were provided

Figure 3-6: Waste Generation Projections



1. Residential/Commercial Waste Projections

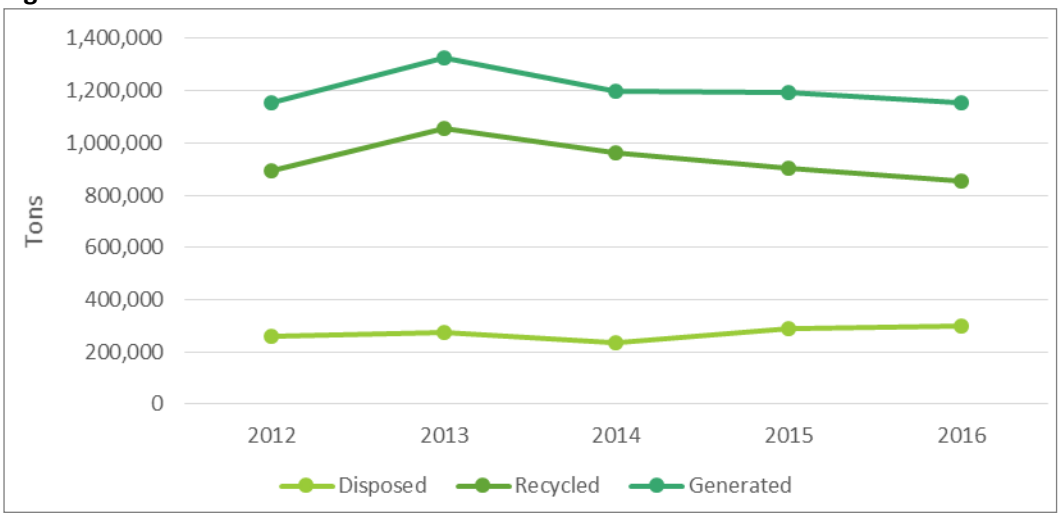
Residential/commercial sector disposal tonnages are projected to decline throughout the planning period based on the District's population projections, which are discussed in **Appendix C**. To project the total tons of residential/commercial sector disposal from 2017 to 2033, the average per capita disposal rate from 2012 to 2016 (4.75 PPD) was multiplied by 365 days/year and the annual estimated population from **Table C-2**, then divided by 2,000 to convert from pounds to tons. **Table D-6** in **Appendix D** presents the residential/commercial waste disposal projections.

Residential/commercial sector recycling is projected to decrease from 464,584 tons in 2019 to 457,810 tons in 2033, or 1.4% over the planning period. While overall tonnage is anticipated to decrease over the planning period, per capita recycling rates are anticipated to increase from 2.09 pounds per person per day (PPD) in 2019 to 2.20 PPD in 2033. **Figure E-3** in **Appendix E** presents the residential/commercial sector recycling statistics and projections from 2016 to 2033.

Multiple methodologies were used to project the District's residential/commercial sector recycling, which were based on the assumptions made after the completion of a historical analysis for different programs and data sources. With the exception of residential curbside and drop-off recycling programs, historical averages were used to determine the projected tonnages in 2017. The averages taken from past commercial recycling surveys and data from other recycling facilities were used to project that there will be a 1% decrease every five years throughout the planning period for commercial sector recycling. Averages were also used when projecting organics and scrap tire recycling, although tonnages for both remained flat since there were no identifiable trends or anticipated program changes that would impact tonnages for either. Electronics and household hazardous waste collection programs are projected to decrease throughout the planning period based on population projections. Despite the District's population decline, residential recycling has increased annually. It is assumed that through continuing the District's education campaign to help communities improve their recycling and

by the District to Ohio EPA in the 2014 Annual District Report. The decline in recycling was due mostly to an industrial survey respondent that had reported a business model change which significantly reduced its cardboard recycling. Another survey respondent was unable to explain a large drop in wood recycled and suspected that there may have been an error in 2013 reporting. When removing 2013 as the outlier, the trend over the period was that when the tons recycled increased, the tons disposed decreased and vice versa.

Figure 3-5: Industrial Waste Generation Breakout



C. Waste Generation Projections

Table 3-3 and **Figure 3-6**, present projections for the amount of waste to be generated for the first six years of the planning period 2019 – 2024. In general, residential/commercial sector generation is projected to decrease modestly and industrial sector generation is projected to remain flat. Generation projections were based on projections for disposal and recycling contained in **Appendices D, E and F.** An explanation of the methodologies can be found in those appendices.

Table 3-2: Waste Generation Projections

Year	Residential/ Commercial Waste	Industrial Waste	Total
2019	1,518,759	1,156,316	2,675,075
2020	1,512,595	1,156,316	2,668,911
2021	1,506,832	1,156,316	2,663,147
2022	1,501,055	1,156,316	2,657,371
2023	1,495,278	1,156,316	2,651,594
2024	1,489,501	1,156,316	2,645,817

implementing a curbside recycling program in the last of the District's 59 communities beginning in 2020, this would slightly boost the residential curbside and drop-off program tonnages which would have otherwise have been projected to remain flat throughout the planning period. It is also the only area that is anticipated to see an increase during the planning period.

2. Industrial Waste Projections

The Ohio Department of Job and Family Services' *2024 Job Outlook for the Cleveland-Elyria-Mentor Metropolitan Statistical Area* projects employment in the industrial sector will decrease 4.1% from 2014 to 2024. Employment projections from previous Job Outlook publications were compared to actual changes in disposal data, and a direct correlation could not be identified.

Industrial sector disposal was stable during the five-year period ranging from 2012 to 2016, with a low of 232,735 tons and a high of 300,704 tons. The District is not aware of any major changes to the industrial landscape, such as new industries beginning operations or existing industries ceasing operations. Therefore, disposal tonnage is projected as a constant rate for the remainder of the planning period based on 2016 tonnage.

According to Ohio EPA's Plan Format v4.0, if recycling tonnage identified through surveys in the reference year was similar to quantities identified historically, then the quantity attributed to surveys should be held constant at the reference year quantity. All of the District's industrial sector recycling data is derived from generator survey data.

With the exception of 2013, which was an outlier, industrial sector recycling tonnage remained stable over the five-year period from 2012 to 2016. Totals during this period, with the exception of 2013, ranged from a low of 892,702 to 963,341 tons. There were no significant changes to the quantities recycled on an annual basis. There have not been any announcements made about industries planning to begin operations in Cuyahoga County, nor is there any information available about industries planning to cease operations in the District that could impact recycling totals in the near future. Therefore, tonnage is projected as a constant rate for the remainder of the planning period based on 2016 tonnage. **Table F-7** in **Appendix F** presents the industrial sector recovery statistics and projections from 2016 to 2033.

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CHAPTER 4: WASTE MANAGEMENT

Chapter Purpose

This chapter summarizes the District's strategy for managing that solid waste that Cuyahoga County is estimated to generate during the planning period - approximately 2.6 million tons per year. This is based on current and estimated waste generation summarized in Chapter 3 and detailed in Appendix G.

This waste can be managed by various facilities including landfills, transfer facilities, compost facilities and recycling facilities. A solid waste management district is not required to own or operate these facilities. In fact, most solid waste facilities in Ohio are owned and operated by private companies. Furthermore, facilities can be located within and outside the District.

This solid waste management plan identifies the public and private facilities that are available to accept Cuyahoga County's trash, compostables and recyclables.

A solid waste management plan must ensure that the number and capacity of the facilities is adequate to manage all of the District's solid waste, particularly landfilled waste. The District must demonstrate that there will be access to enough landfill capacity for all of the waste that will need to be disposed.

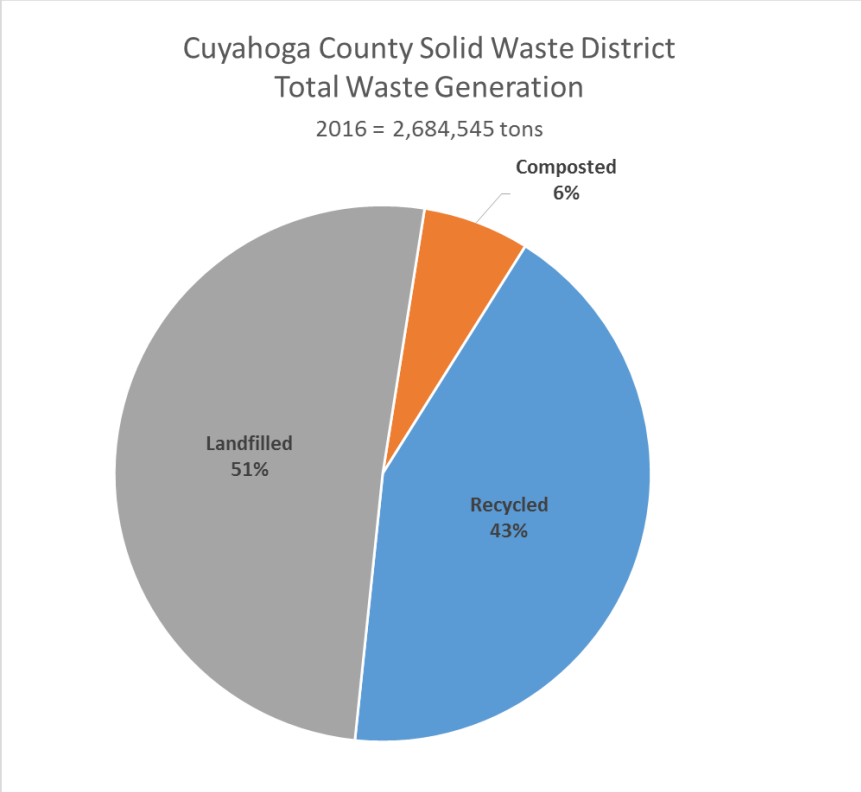
Ohio has more than 40 years of remaining landfill capacity. That is more than enough capacity to dispose of all of Ohio's waste. However, landfills are not distributed equally around the state. Therefore, there is still the potential for a regional shortage of available landfill capacity, particularly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

Finally, solid waste management districts have the ability to control which landfill and transfer facilities can and cannot accept waste generated. This is accomplished through designation and flow control explained in more detail later in this chapter.

A. Waste Management Overview

In 2016, Cuyahoga County generated 2,684,545 total tons of solid waste. Of this amount, nearly half of the waste (49%) was diverted from landfills through recycling and composting. **Figure 4-1** shows how Cuyahoga County's waste was managed during the reference year.

Figure 4-1: 2016 Waste Management Methods



B. Profile of Waste Management Infrastructure Including Reference Year Facilities

Cuyahoga County benefits from an ample solid waste management infrastructure that provides many opportunities to manage waste cost-effectively and efficiently including many opportunities to recycle and compost. The following describes this infrastructure, the facilities used and their role in the overall solid waste management system.

1. Facilities Used in the Reference Year

a. Landfill Facilities

Landfills are the last stop for any waste that is not diverted through waste reduction, recycling and composting. While Cuyahoga County's communities and businesses are effective at recycling, landfills still manage approximately one- half of all its waste – over 1.2 million tons annually. All this waste must be exported to other counties in Ohio for disposal because no operating solid waste landfills remain in Cuyahoga County.

In 2016, waste was exported to eleven landfills located in nine other Ohio counties for disposal. These landfills are identified **in Figure 4-2.**

Figure 4-2: Landfills Receiving Cuyahoga County Waste in the Reference Year

The top five landfills receiving Cuyahoga County's waste are identified in **Table 4-1.** These facilities disposed 99 percent of all landfilled waste and have ample disposal capacity – an average of 43 years based on current permitted capacity. All landfills used are owned and operated by private sector companies.

Table 4-1: Top 5 Landfills Receiving Cuyahoga County Waste (2016)

Facility	Location	% of Waste Disposed	Years of Remaining Capacity
Lorain County Landfill – Republic Services	Lorain County, Ohio	57%	10.5
Noble Road Landfill – Rumpke Waste	Richland County	20%	8.5
American Landfill - Waste Management	Stark County, Ohio	14%	85.6
Kimble Landfill – Kimble Companies	Tuscarawas County, Ohio	8%	32.05
Countywide Landfill – Republic Services	Stark County, Ohio	1%	77.2

b. Transfer Facilities

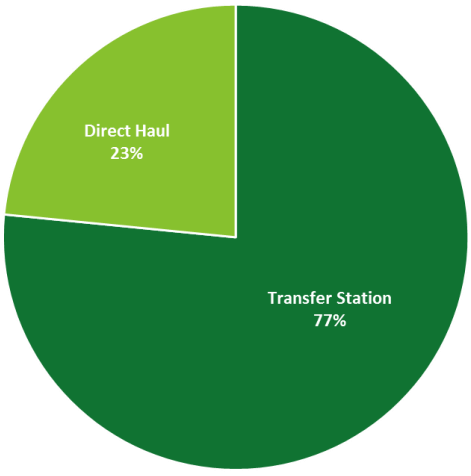
Solid waste transfer facilities are used to consolidate trash before being trucked to distant landfills for disposal to save money on trucking costs. Transfer stations are an important part of the solid waste management infrastructure in Cuyahoga County because there is only one landfill close enough to direct haul waste - the Lorain County Landfill in Oberlin. The other landfills are located at least 80 miles from Cleveland and are too far to directly haul trash. As a result, approximately 77% of Cuyahoga County's waste is taken to a transfer station before being taken to a landfill.

Table 4-2 identifies the thirteen transfer stations used in the reference year. These managed 952,852 tons of waste. Five are owned by municipalities, the remaining are privately-owned. **Figure 4-3** illustrates the percentage of waste that was shipped through transfer stations versus the percentage hauled directly to landfills.

Table 4-2: Transfer Facilities Receiving Cuyahoga County's Waste (2016)

Cuyahoga County Transfer Facilities	City	County
BFI Glenwillow Transfer Station (Republic Waste)	Glenwillow	Cuyahoga
Broadview Heights Recycling Center (Rumpke Waste)	Broadview Heights	Cuyahoga
Cleveland Heights Transfer Station (City of Cleveland Hts.)	Cleveland Heights	Cuyahoga
Cleveland - Ridge Rd Transfer Station (City of Cleveland)	Cleveland	Cuyahoga
Cleveland Transfer /Recycling (Waste Management Inc.)	Oakwood Village	Cuyahoga
Harvard Road Transfer Station (Rumpke Waste)	Newburgh Heights	Cuyahoga
Strongsville Transfer Station (City of Strongsville)	Strongsville	Cuyahoga
Shaker Heights Transfer Station (City of Shaker Heights)	Shaker Heights	Cuyahoga
Rocky River Transfer Station (City of Rocky River)	Rocky River	Cuyahoga
Outside County Transfer Facilities	**City**	**County**
Kimble Transfer & Recycling (Kimble Co.)	Twinsburg	Summit
Kimble Transfer & Recycling Facility (Kimble Co.)	Canton	Tuscarawas
Republic Waste Recovery (Republic Waste)	Akron	Summit
Universal Disposal Inc. (Universal Disposal)	Chardon	Geauga

Figure 4-3 Transfer versus Direct Haul



c. Compost Facilities

Composting facilities are used to manage organic waste such as leaves and brush from municipalities, tree trimmings and grass from landscapers and food waste from restaurants and institutions. Composting is the most cost-effective and environmentally beneficial way to manage organic waste because it eliminates landfill disposal fees and produces a soil amendment that benefits gardens and landscapes. It also reduces greenhouse gas emissions. Organic waste disposed in landfills produces methane a potent greenhouse gas. Especially promising is the opportunity to compost food waste as the local infrastructure to collect and compost this material expands.

Approximately 6% of Cuyahoga County's waste was managed through composting in the reference year. **Table 4-3** identifies the 26 Ohio EPA registered compost facilities that managed the material. Some facilities managed organic waste they generated themselves and some processed material for customers such as municipalities and landscapers.

Table 4-3: Compost Facilities Receiving Cuyahoga County's Waste (2016)

Cuyahoga County Compost Facilities	City	County
Cloverleaf Composting Facility	Independence	Cuyahoga
Cleveland Metroparks Compost	Cleveland	Cuyahoga
Solon Rd Midwest Recycled Landscape Materials	Bedford Heights	Cuyahoga
City of Westlake, Compost Facility	Westlake	Cuyahoga
City of Brooklyn Compost Facility	Brooklyn	Cuyahoga
Solon Compost Facility	Solon	Cuyahoga
Orange Village Compost	Orange Village	Cuyahoga
Mayfield Village Compost	Mayfield Village	Cuyahoga
Boyas Excavating Inc.	Valley View	Cuyahoga
Utilities Equipment & Supply Co	South Euclid	Cuyahoga
Kurtz Bros Inc.	Valley View	Cuyahoga
Full Cycle Organics LLC	Cleveland	Cuyahoga
Savarino Brothers	Oakwood Village	Cuyahoga
Rid-All Green Partnership	Cleveland	Cuyahoga
Outside County Compost facilities	**City**	**County**
Barnes Nursery	Huron	Erie
Abate Landscaping	Chesterland	Geauga
Green Vision Materials	Auburn	Lake
T&K Kuhnle Co	Auburn	Geauga
City of Lorain Composting Facility	Lorain	Lorain
City of Wickliffe Composting Facility	Wickliffe	Lake
Avon Miller Rd Compost Facility - Kurtz Bros Inc.	Avon Lake	Lorain
#1 Landscape	Medina	Medina
Smith Bros Inc.	Medina	Medina
Sagamore Soils	Hudson	Summit
Sagamore Soils Twinsburg Rd Compost Facility	Macedonia	Summit
Pro Tree & Landscape Co	Peninsula	Summit

d. Recycling Processing Facilities

Processing facilities refer to facilities that receive and process recyclables such as scrap metal, cans, paper, cardboard, glass, plastics, electronics, organics and more. These facilities typically sort and bale recyclable materials for shipment to various companies that recycle them into new products. **Table 4.4** identifies 66 processors that handled 449,299 tons of recyclable materials from Cuyahoga County residential, commercial and industrial generators during the reference year. More details can be found in **Appendix B**.

Table 4-4: Processing Facilities Receiving Cuyahoga County Recyclables (2016)

Processor Name	County
Able Alloy	Cuyahoga
Aetna Metal Recycling	Cuyahoga
All Ohio Secure Shred	Summit
All Scrap Salvage	Cuyahoga
Alloy Exchange	Kent
American Metal Recycling	Cuyahoga
American Scrap Mart	Cuyahoga
Associated Paper Stock	Mahoning
Bedford Metal Recycling	Cuyahoga
Berea Metals & Recycling	Cuyahoga
Blue Ocean Plastics, LLC	Cuyahoga
Broadway Scrap Metals, Inc.	Cuyahoga
Buckeye Industries, Cleveland	Cuyahoga
Bulldog Battery	Lake
Caraustar Recycling	Cuyahoga
Container Compliance Corporation	Cuyahoga
Crown & Kornell Corp.	Cuyahoga
Extreme Green Recycling	Lake
Ferrous Processing & Trading	Cuyahoga
Full Cycle Organics	Cuyahoga
Gateway Products Recycling, Inc.	Cuyahoga
Goodwill Industries of Greater Cleveland & East Central Ohio	Stark
Greater Cleveland Habitat for Humanity	Cuyahoga
Horwitz & Pintis Co.	Lucas
I. Schuman Co.	Cuyahoga
IFCO	Medina
Infoshred.net	Cuyahoga
JBI Scrap Processors	Cuyahoga
Keep It Green Recycling	Cuyahoga
Kimble Transfer & Recycling	Summit
KJ Plastics	Montgomery
Kurtz Bros. - Bridgeview Composting Facility	Cuyahoga
Lakeside Metals Inc.	Cuyahoga
Lakeside Scrap Metals, Inc.	Cuyahoga
Medina Paper Recycling, Inc.	Medina
Metallic Resources	Summit
Middlefield Pallet Inc.	Geauga
Mondo Polymer Technologies	Washington
Niles Iron & Metal	Trumbull

Processor Name	County
Northcoast Inc. Recycling Specialists	Lake
Painesville Recycling	Lake
PEL America	Cuyahoga
Planet Aid Cleveland	Cuyahoga
PSC Metals	Cuyahoga
Quasar Energy Group	Cuyahoga
Recycle-it LLC	Cuyahoga
Republic Services of Cleveland, Inc.	Cuyahoga
Republic Services - Lorain County Resource Recovery Complex	Lorain
River Valley Paper	Summit
Royal Oak Recycling	Cuyahoga
RSR Partners, LLC dba Regency Technology	Summit
Rust Belt Riders	Cuyahoga
S. Slesnick Co, Inc.	Stark
Salvation Army	Cuyahoga
Shipmasters Recycling	Cuyahoga
Simple Recycling	Cuyahoga
Southeast Metals	Cuyahoga
Strategic Materials	Cuyahoga
The City Mission	Cuyahoga
Tyroler Scrap Metals, Inc.	Cuyahoga
Victor Metals	Lake
Waste Parchment	Holmes
Waste Management- Akron MRF	Cuyahoga
Westside Metals	Cuyahoga
Wilkoff & Sons Co.	Cuyahoga

Among the processing facilities are Material Recovery Facilities known as MRF's that process commingled recyclables collected through community curbside and drop-off recycling programs. These privately owned and operated facilities contract with 58 communities to process cans, cartons, glass, paper and cardboard and plastic collected from residents.

Figure 4-4: Material Recovery Facilities Receiving Cuyahoga County's Recyclables

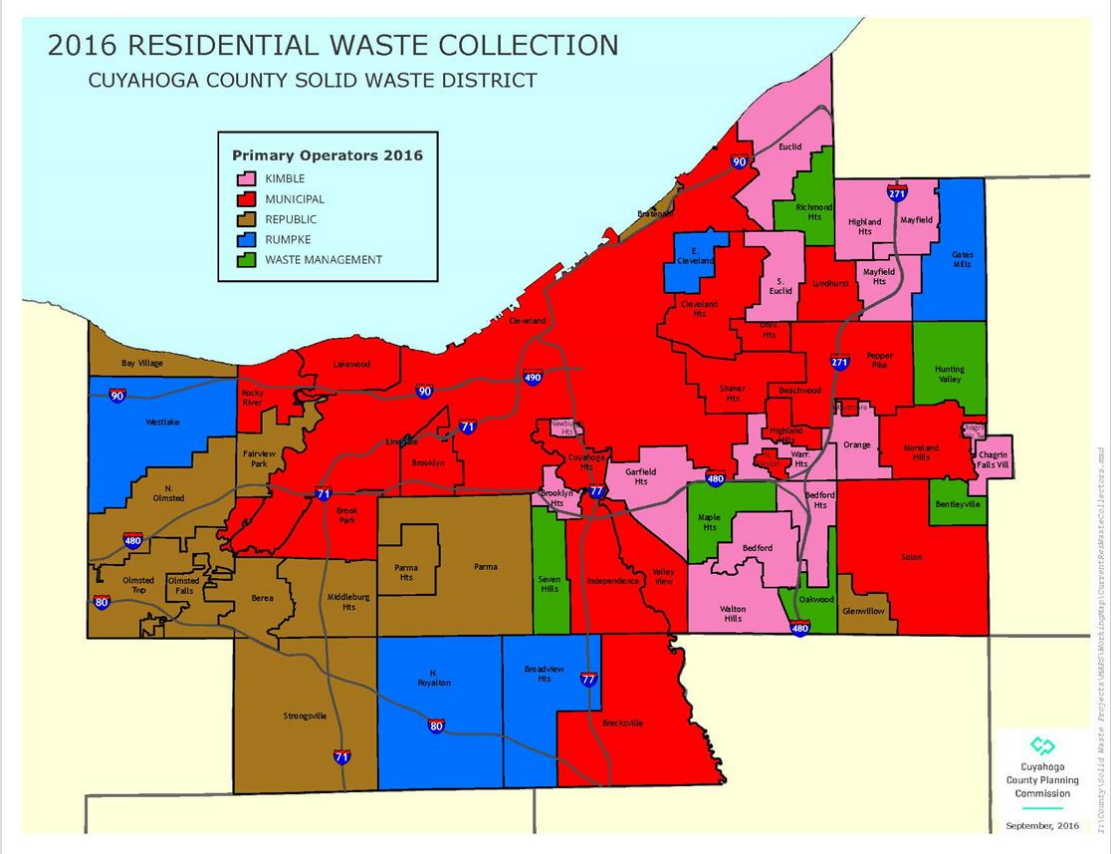
2. Waste Collection

Solid waste collection within Cuyahoga County is provided by municipal public haulers as well as private haulers. Service is widely available through Cuyahoga County and competitive.

Residential waste is either collected by the community itself or by one of four private haulers under contract with the community. The residential haulers included Kimble, Republic, Rumpke and Waste Management. **Figure 4-4** shows the waste collection provider for each community in 2016. In all, 21 communities operated their own waste collection program and 38 communities contracted with private haulers for waste collection services. There were no subscription-based waste collection programs. Most communities paid the entire cost of residential waste collection using general fund monies. However, some communities have begun charging residents a monthly fee to recover some or all of the cost of providing the service. Eighteen out of the 59 communities have some type of waste collection charge.

Commercial, institutional, and industrial waste is collected by numerous private haulers. These haulers contract with apartment owners, retail stores, hospitals and other commercial and industrial establishments. The District has identified fifteen commercial solid waste haulers operating within Cuyahoga County while dozens more are in the business of hauling construction and demolition debris, waste from house cleanouts, etc. The largest haulers, Kimble, Republic, Rumpke and Waste Management own their own systems of transfer stations and landfills.

Figure 4-4: Residential Waste Collection Providers



C Use of Solid Waste Facilities During the Planning Period

The District is not expecting and major changes in the management of waste through the planning period. Following historical trends, waste is expected to be managed as shown in **Figure 4-5** which shows the reference year and the first five years of the planning period.

Table 4-5: Waste Management Methods

Year	Generate	Recycle and Compost	Transfer	Landfill
2016	***2,703,121***	***1,319,607***	***952,892***	***430,622***
2019	2,675,075	1,320,196	927,430	427,449
2020	2,668,911	1,319,723	923,535	425,653
2021	2,663,147	1,319,250	919,913	423,984
2022	2,657,371	1,318,764	916,292	422,315
2023	2,651,594	1,318,278	912,670	420,646

1. Landfills

Landfills will continue to be the primary waste management method used to manage solid waste after recycling and composting. This amounts to approximately 1 million tons of residential and commercial waste and 300,000 tons of industrial waste during the planning period for a total of approximately 1.3 million tons annually. The District has determined that the primary landfills relied upon to manage Cuyahoga County's waste have ample disposal capacity – an average of 43 years under current permits and will adequately meet the District's needs, see **Table 4-1**.

2. Transfer Facilities

The thirteen transfer stations identified in **Table 4-2** are expected to continue to operate during the planning period to consolidate solid wastes before being trucked to distant landfills.

3. Composting Facilities

The twenty-six composting facilities identified in **Table 4-3** are expected to continue to operate during the planning period, offering a less expensive and beneficial alternative to landfill disposal. In addition, there is increasing private sector interest in expanding composting opportunities for organics including food waste will help to increase the level of composting within Cuyahoga County from the current 6%.

4. Recycling Processing Facilities

The recycling processors identified in **Table 4-4** are expected to continue to operate during the planning period, offering residents and businesses ample opportunities to recycle household recyclables, office paper, scrap metal, electronics and more. However, recent China restrictions on recyclable material imports may impact certain recyclers, particularly Material Recovery Facilities since the material they process is not source separated and tends to have high levels of contamination. The District is working to combat contamination through its county-wide public education program in order to provide clean materials to the four MRF's that serve Cuyahoga County. The District does not anticipate the closure of any MRF's but the market changes may have an impact on the pricing. Other recyclers including scrap metal recyclers and office paper recyclers may be impacted less by the China import restrictions due to the availability of domestic markets.

5. Other Waste Management Facilities

The District is not aware of any new waste management methods being proposed that may bring waste to energy or waste conversion technologies to Cuyahoga County during the planning period. The District is not proposing any such facility at this time but is open to reviewing the applicability of alternative technologies to recover more materials and reduce landfilling.

D Siting Strategy

The solid waste management plan must demonstrate that the District will have access to enough capacity at landfill facilities to accept all of the waste it will need to dispose during the planning period. If existing facilities cannot provide that capacity, then the District and its solid waste policy committee must develop a plan for obtaining additional disposal capacity. In the event that would require constructing a solid waste landfill facility to secure disposal capacity, Ohio law would require the policy committee to develop a siting strategy for identifying a suitable location per Ohio Revised Code Section 3734.53(A)(8).

Since the District has concluded that ample landfill disposal capacity exists, it has not developed a siting strategy for the construction of a new landfill within Cuyahoga County. Furthermore, the area of undeveloped land needed to develop a new landfill does not exist within Cuyahoga County any longer.

While no new landfills are expected to be constructed within Cuyahoga County, there is the potential for other solid waste facilities such as a waste to energy facility to be proposed or existing solid waste facilities to be modified. In these instances, there is the potential need for a siting strategy for projects that would negatively impact a community or the District.

The Board of Directors of the Cuyahoga County Solid Waste Management District is authorized by Revised Code section 343.01(G)(2) to adopt a rule requiring the submission of general plans and specifications to the Board for a determination by the Board that any proposed new solid waste facility or major existing facility modification complies with the District Plan. This Plan Update authorizes the Board to adopt the rule authorized Revised Code section 343.01(G)(2). In the event that the Board adopts a rule to implement the Siting Strategy, that strategy is presented in full in **Appendix S**.

E Designation

The Board of Directors of the Cuyahoga County Solid Waste Management District is authorized to establish facility designations in accordance with Section 343.014 of the Ohio Revised Code after its solid waste plan has been approved by the Ohio Environmental Protection Agency. This authority is referred to as flow control and is typically used to direct waste to public facilities in order to retire debt.

Since the District supports an open market for the collection, transport and disposal of solid waste and currently has no facilities with public debt, it does not currently designate facilities that are authorized to receive Cuyahoga County waste.

The District is not designating any facilities in this Plan Update and is therefore identifying all Ohio licensed and permitted solid waste landfill, transfer and resource recovery facilities as well as permitted out-of-state landfill, transfer and resource recovery facilities to receive solid waste generated within the District.

The District does reserve the right to designate one or more solid waste facilities to receive solid waste generated within the District in the future if deemed necessary by its Board of Directors. If designation were to occur, the facility designation will be established and governed by applicable District rules and the designation process outlined in Ohio Revised Code and **Appendix P** herein.

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CHAPTER 5: WASTE REDUCTION AND RECYCLING

Chapter Purpose

This chapter identifies the District's priorities for the upcoming planning period and the programs and it will offer. As was explained in Chapter 1, solid waste management districts must provide programs and services to achieve the waste reduction and recycling goals established in the state solid waste management plan and ensures that there are programs and services available to meet local needs. A solid waste district may provide some of these programs and services directly or rely on private sector and non-profit service providers.

Between achieving the goals of the state plan and meeting local needs, the Cuyahoga County Solid Waste District (District) must help ensure 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 District's strategy for furthering reduction and recycling.

Before deciding upon the programs and services to offer within this Plan Update, the District performed a strategic analysis of all its existing programs and services, operations and finances and an analysis of existing waste management and recycling infrastructure and recovery rates. This review consisted of a series of 14 analyses that allowed the District and the Policy Committee to obtain a holistic understanding of the District by answering questions such as:

- Is the District adequately serving all sectors – residential, commercial and industrial?
- Are high volume wastes like organic wastes and cardboard effectively being recycled?
- Are available recycling opportunities being fully used? Is recycling performing?
- What is the District's overall financial situation and ability to fund its programs?

Using what it learned, the District drew conclusions from the strengths, challenges and opportunities identified in its strategic analysis. It then compiled a list of actions it could take, programs it could implement and other things it could do address its conclusions. The District and the Policy Committee used that list to make decisions about the programs and services that will be available during the planning period, make recycling projections and prepare the plan budget.

A. Solid Waste Management District's Priorities

In order to determine its solid waste management priorities for the planning period, the District hired consultants to complete Appendix H which was a comprehensive analysis of the District's existing recycling infrastructure and all of its programs and services. The analysis covered fourteen topics and identified strengths, challenges and opportunities for each.

The analysis revealed that the District has a well-established and mature recycling infrastructure that is already serving the county well. This features county-wide curbside recycling and multiple drop-off opportunities, a robust network of recycling and reuse facilities, long standing and well utilized District programs for special wastes and model recycling education and outreach programs. Detailed findings can be found in **Appendix H**.

With this in mind, the District's priority for the planning period is to build on this recycling framework. The programs and services to be implemented by the District and/or available in the planning period are designed to improve efficiency, maximize staff resources, increase landfill diversion, address infrastructure gaps and reduce costs. They are organized into the following program areas and presented in this chapter. Additional details can be found in **Appendix I**.

- Residential Waste Reduction and Recycling Programs (curbside, drop-off and multi-family)
- Commercial, Institutional and Industrial Waste Reduction and Recycling Programs
- Restricted and Difficult to Manage Wastes (HHW, scrap tires, and e-waste)
- Programs for Organic Wastes and Hard to Recycle Wastes
- Economic Incentives (Grants and PAYT)
- Special Program Needs (health department funding, illegal dumping and litter collection)
- Market Development Programs and Actions
- Data Collection Programs and Actions
- Education and Outreach Programs and Actions

B. Program Descriptions

The descriptions that follow summarize the programs and services the District will offer during the planning period or that will be available during the planning period if offered by other service providers.

1. Residential Recycling Programs

<u>Curbside Recycling</u>

Curbside Recycling Services

Curbside recycling will continue to be offered by communities during the planning period and provide collection of cans, cartons, glass, paper and cardboard, and plastic containers. Curbside recycling is now available to residents in all but one community. The District plans to work with the remaining community to encourage the implementation of a program. See **Table 5-3** at the conclusion of this chapter for a list of programs.

Curbside Recycling Technical Assistance and Contracting Services

The District will continue to provide communities with technical assistance to help with contracting for solid waste and recycling services and to implement best practices for collection. The District has helped many communities contract for curbside recycling and switch to cart-based collection which has increased recycling and reduced costs. These services will continue with emphasis on

encouraging the switch from recycling collection using blue bags to recycling collection using carts as well as increasing recycling participation and reducing contamination.

Municipal Contracting Consortiums
The District will continue to manage two municipal contracting consortiums – solid waste transfer and disposal consortium (8 members) and recycling processing consortium (11 members). These consortiums have helped the participating cities, who collect their own waste and recyclables, obtain favorable and competitive pricing for solid waste services.

Special Assistance for Low Performing Communities
The District will provide special assistance to communities with curbside recycling rates lower than the national average of 300 pounds per household per year. The assistance may include conducting focus groups to identify reasons for the low recycling rate, focusing education in those communities and additional resources intended to help the community improve.

Drop-Off Recycling
Recycling Drop-offs
Drop-off recycling opportunities will continue to be offered by many communities during the planning period. Currently, multi-material drop-offs are offered by 15 communities and accept cans, glass, plastic containers, mixed paper and cardboard. In addition, limited-material drop-offs are offered by 23 communities and typically accept cans, paper and cardboard. See **Table 5-4** at the conclusion of this chapter for a list of multi-material, drop-off programs.

The District may obtain data on drop-off site users by surveying participants at certain community drop-off sites to ascertain why they use the site, how they learned about the site, how far they traveled and other recycling habits. This information could be used to help develop the fiber drop-off program described below or help with education to reduce contamination and illegal dumping.

Multi-Family Recycling
Technical Assistance to Support Multi-Family Housing Recycling Programs and Consortiums
The District will continue to offer technical assistance to property owners and managers to establish recycling in apartment buildings. Residents living in multi-family housing typically have limited recycling opportunities. The District's Business Recycling Specialist has assisted many properties identify recycling opportunity, potential cost savings, and assists with program implementation, troubleshooting and tenant education.

Multi-Family Housing Recycling Guide
Part of this assistance will be the development of a Multi-Family Housing Recycling Guide that offers instructions, best practices and case studies for multi-family housing recycling programs.

Investigate Public-Private Partnership to Establish Fiber Drop-Offs in High Multi-Family Communities
To increase recycling opportunities for residents living in apartment buildings, the District will investigate opportunities to partner with a local paper recycler to site recycling drop-offs for paper and cardboard. These could be placed in communities with limited or no drop-off recycling infrastructure or those with a high percent of multi-family housing. Collecting just paper and cardboard would reduce the illegal dumping problems associated with multi-material drop-offs but still capture the largest component of the residential waste stream. The containers would be staged at municipal locations.

Model Ordinance for Multi-Family Housing Recycling
The District will prepare a model ordinance that communites may adopt to require space to be dedicated for recycling in all new multi-family building projects.

2. Commercial/Institutional and Industrial Sector Reduction and Recycling Programs

Waste Audits
The District will continue to offer waste assessments for commercial businesses, institutions, schools and manufacturing facilities as requested to identify opportunities for waste reduction, recycling and education. This assistance will be provided by the Businesses Recycling Specialist.

Technical Assistance, Presentations and Zero Waste Planning Services
The District will provide technical assistance and offer presentations for commercial businesses, institutions, schools and manufacturing facilities to facilitate waste reduction and recycling program implementation, improvements and employee education. The District will also assist with contracting for recycling services and developing zero waste plans upon request.

Recycling Sense for Your Business Workshops
The District will host periodic workshops for business and industry to focus on program implementation, contracting for recycling services and employee education.

Targeted Assistance for High Waste Generators.
In addition, to help maximize its assistance efforts, the District will target companies with the greatest opportunity to recycle such as large companies, institutions or public venues or high fiber generators such as retail establishments.

Contracting Assistance
The District will help commercial businesses, institutions, schools and manufacturing facilities procure solid waste collection and recycling services as needed and will review existing solid waste contracts to identify opportunities for savings that could be used to help pay for recycling services.

Collaborations with Local Economic Development Partners
The District will work with local economic development directors and commercial trade associations to promote waste reduction and recycling and District Services.

The District will also partner with local industrial retention organizations to learn more about the industrial sector and its waste reduction and recycling needs. Support programs will be developed from that information. These organizations include WIRE-NET, MAGNET and CIRI (The Cleveland Industrial Retention Initiative)

Promote The Ohio Materials Marketplace
The District will work with Ohio EPA to promote the exchange of used materials through The Ohio Materials Marketplace. The District will promote the marketplace on its website, arrange speaking opportunities for Ohio EPA and distribute information to its businesses and manufacturers.

Target Small Industries
The District will focus on providing assistance to small manufacturing facilities such as creating green teams, developing waste stream recommendations and educating employees. Smaller industries are

more likely not to have an existing waste reduction program in place and may be more in need of the District's assistance.

3. Restricted/Difficult to Manage Wastes

Household Hazardous Waste

Year-Round HHW Collection Program

The District will continue to operate its year-round HHW collection program at its Special Waste Convenience Center that allows communities to dispose of the HHW they collect from their residents. The District will pay for all costs associated with HHW management once it is delivered by the communities. This program manages approximately 500,000 pounds of HHW annually and is the District's signature service.

Education to Promote HHW Reuse, Reduction and Green Alternatives

The District will work to educate residents about ways it can minimize the creation of HHW through an education campaign using social media and community outreach. The campaign will focus on green cleaning and buying and using household products smartly to reduce waste and save money.

Obtain HHW Participation Data

The District may work with communities to survey participants to better understand how and why they use the HHW program and to educate residents about HHW reuse and reduction.

Evaluate Feasibility of Offering a Conditionally Exempt Small Quantity Generator (CESQG) and Universal Waste Program

The District may conduct a market assessment to determine the regulatory and operational aspects of developing a CESQG and/or Universal Waste Collection program for small businesses, institutions, and governments generating hazardous waste and universal waste.

Scrap Tires

Education of Residents – Proper Tire Disposal

The District will promote the proper disposal of scrap tires to residents by encouraging them to dispose of scrap tires at the point of purchase. The goal is to reduce the number of tires that communities and the District must pay to manage.

Outreach to Scrap Tire Generators

The District will develop a list of tire retailers, dealers and repair shops that generate scrap tires for the purpose of communicating information about Ohio scrap tire laws and placing information in stores about tire disposal.

Scrap Tire Round Up and Scrap Tire Disposal Consortium

The District will conduct its annual Scrap Tire Round-Up while it works to reduce reliance on the program through the education initiatives described above. This program may be gradually phased out if the District determines it is no longer necessary to subsidize scrap tire disposal. If the program is phased out, the District will develop a municipal scrap tire disposal consortium among communities, if needed, for those communities that will still collect tires from residents.

Evaluate the Need for a Regional Scrap Tire Transfer Facility

The District may conduct a feasibility study to assess the need for a scrap tire transfer station to provide a local drop-off option for scrap tires.

Computers/E-Waste

Computer Round-Up Events

The District will continue to promote local Recycle Your Computer Round-Ups held by communities as well as other e-waste recycling opportunities offered by local e-waste recyclers and retail stores. Communities in the District currently conduct Recycle Your Computer Month events in April and August while many offer year-round collections.

Other Wastes

Promote Local Pharmaceutical Collections

The District will promote existing pharmaceutical collections offered by the Cuyahoga County Sheriff and the Northeast Ohio Regional Sewer District.

Promote Battery Recycling Locations

The District will continue to promote proper disposal of rechargeable batteries using the retail drop-offs participating in the Call 2 Recycle program. Lead-acid batteries will continue to be accepted in the District's HHW program.

4. Programs for Organic Wastes and Hard to Recycle Wastes

Organics - Yard Waste and Food Waste

Evaluate Feasibility of Municipal Yard Waste Contracting Consortium

Evaluate whether there is interest in establishing municipal yard waste contracting consortium to help communities manage leaves and brush and obtain longer contracts and stable pricing. If communities express interest, the District would facilitate the development of the consortium and handle the bid in the same way it developed its disposal and recycling consortiums. Part of the evaluation would include a capacity analysis of existing compost facilities to determine if there are gaps or threats to the composting infrastructure.

Compost Bin Sales and Composting Workshops

The District will continue to offer backyard composting bins and food waste digesters for sale to the public at its office and through composting seminars.

Engage Stakeholders to Expand Food Rescue Programs and Local Composting Infrastructure

The District will continue to engage stakeholders to increase food rescue and food waste composting infrastructure.

Hard to Recycle Wastes

Hard To Recycle Material Drop-Off

The District will continue to provide a public drop-off for hard to recycle materials at its Special Waste Convenience Center. Items currently accepted include election signs, small appliances, small electronics, and certain Terra Cycle programs for cereal bags and cosmetic containers. This list is subject to change due to market availability.

5. Economic Incentives - GRANTS

Community Recycling Awareness Grant

The District will continue to offer its annual Community Recycling Awareness Grant to assist communities with producing recycling awareness materials, conducting shredding events and purchasing public space recycling containers. The District may also offer additional funding for select communities with low curbside recycling rates to help those communities improve.

Recycling Container Grant

The District will continue to offer its annual Recycling Container Grant to help schools and not-for-profit organizations purchase recycling containers and expand its recycling efforts.

PAYT Opportunities

The District will identify communities that could benefit from a Pay As You Throw billing system for waste collection and provide assistance if any communities express interest.

6. Special Program Needs – Code Enforcement, Open Dumping and Litter Collection

Health Department Funding

The District will continue to provide an annual subsidy to the Cuyahoga County Board of Health and the Cleveland Department of Public Health to inspect solid waste facilities, inspect tire generators, respond to nuisance complaints and participate on the Environmental Crimes Task Force.

Facilitate Environmental Crimes Task Force

The District will continue to facilitate the Cleveland-Cuyahoga County Environmental Crimes Task Force which investigates and prosecutes open dumping and other environmental crimes cases. Partners include the Cuyahoga County Prosecutor, Sheriff, Cleveland Police and Law departments and local health departments. The Task Force investigates an average of 600 cases annually.

Evaluate Options to Establish Open Dump Remediation Fund

The District may evaluate options to establish an Open Dump Remediation Fund to be used to clean-up open dumps. Funding could come from the payment of illegal dumping fines resulting from the work of the Environmental Crimes Task Force and supplemented with grants, a portion of the District's cash reserve or liens on properties.

Pursue Legislative Changes to Open Dumping statutes and Create Local Environmental Court

The District will continue to work with its Environmental Crimes Task Force partners to seek legislative changes that would facilitate the creation a City of Cleveland environmental court, similar to Franklin County and change the open dumping penalty statute to give judges more leeway in sentencing.

Litter Collection Program

The District will expand its litter collection program provided through Court Community Service as part of this Plan Update. The program will include two full time litter crews to clean up roadways and public areas throughout Cuyahoga County. This program serves 55 participating communities and provides over 98,000 man hours of services annually.

7. Market Development Programs

Ohio EPA Market Development Support and Administration

The District will assist local recyclers by applying for grant funding through the Ohio EPA Market Development Grant to expand local processing capacity and markets for materials. Assist with the development of the application and the application process. Administer the grant upon award and track progress.

Recycling and Sustainable Business Assistance

The District will continue to work with local recycling and reuse companies to develop local markets, expand local recycling infrastructure and increase local manufacture of recycled products.

8. Education and Outreach Programs

Outreach - General Public and Residents

Web Site – CuyahogaRecycles.org

The District's will continue to use its new website as a key means of providing recycling information to the public. CuyahogaRecycles.org is a comprehensive resource for residents, businesses, communities, educators, elected officials and the general public. The website lists recycling information for each community in Cuyahoga County, contains a "What Do I Do With" search engine where people can learn how to recycle or dispose over 100 items, provides information about the District's programs and services and has numerous resources for educators.

Comprehensive Resource Guides

The District will continue to offer various ways that residents can find recycling locations and reuse opportunities in Cuyahoga County. This includes calling the District's office and speaking with staff or using the following resources:

- "What Do I Do With" search feature on CuyahogaRecycles.org
- Pass It On: A Resource-Full Guide To Donating Usable Stuff
- Business Recycling Directory (search feature on CuyahogaRecycles.org)

Speakers and Presenters

The District will continue to conduct recycling presentations for all audiences through its Education Specialist, Business Recycling Specialist and other staff as needed as described below.

- Youth presentations – classroom, library, camp, scouts and other group activities and lessons
- Adult presentations – public officials, trade and civic groups, clubs, colleges, community events
- Backyard composting seminars
- Business recycling seminars - and presentations, staff lunch and learns

Residential Recycling Outreach

The District will continue its comprehensive program to conduct outreach to its 1.2 million residents to help them understand how to recycle more and how to recycle better. This includes the elements listed below. All are components of an intensive marketing education campaign launched by the District in 2016 to help residents understand how to recycle properly. The campaign rebranded the District as Cuyahoga Recycles. Its Recycle More, Recycle Better campaign established the foundation for the District's expanded outreach efforts to teach people how to properly recycle across Cuyahoga County and to increase participation and reduce contamination. The District will use the

following tools conduct residential recycling outreach during the planning period: See **Appendix L** for detailed descriptions.

- Marketing, media relations and advertising
- Talking Trash e-newsletter
- Printed materials – brochures, etc.
- Presentations and tabling events
- Recycling hotline

Outreach - Children, Educators and Schools

Children's Education Program

The District will continue to have an education specialist dedicated to student outreach. Programs include classroom presentations and activities, contests, summer camp and scout programs. In addition, the District will continue to produce its *Mission Recycle* student newspaper for grades K-4.

Educator Resources and Workshops

The District will continue to provide various tools and resources for educators including lesson plans, creative ideas, activities and downloadable worksheets. It will also distribute a bi-monthly e-newsletter - Recycling Education Resources which has 900 subscribers.

School Administrators and Support Staff

The District will use LinkedIn to reach school administrators with programming about starting a recycling program at school and will offer waste audits and assistance with implementing a recycling or composting program. Schools can also apply for the District's Recycling Container Grant to purchase recycling containers.

Outreach - Commercial/Institutional Sector Outreach and Education

The District will continue to have a Business Recycling Specialist dedicated to providing waste reduction and recycling assistance to the commercial and institutional sectors. This includes nonprofit organizations, institutions and government offices; commercial business and multi-family property owners; non-residential quarters; special event/sports venues, and transportation centers. Programming includes presentations, workshops, marketing, LinkedIn page and blog.

Outreach – Public Officials and Municipalities

The District will continue its outreach to local officials and city service departments through its Annual Report, Residential Recycling Report Trash Talk Lunch seminars and Trash Heap newsletter. In addition, the District may conduct solid waste facility tours such as MRF's and landfill tours.

C. Waste Reduction and Recycling Rates

In this Plan Update, the District demonstrates compliance with Goal 2 of the State Solid Waste Management Plan, which states that the SWMD shall reduce and recycle at least 25% of the solid waste generated by the residential/commercial sector and at least 66% of the solid waste generated by the industrial sector.

Through the implementation of waste reduction and recycling programs and conducting annual surveying to gather waste generation data, the District has been able to demonstrate that it has consistently exceeded the 25% residential/commercial and 66% industrial waste reduction and recycling rates and will continue to achieve Goal 2 throughout the 2019-2033 planning period.

1. Residential/Commercial Recycling Rates

During the reference year (2016), approximately 30 percent of Cuyahoga County's residential and commercial sector waste stream was either recycled or composted. This exceeded the state goal of 25%.

Residential recycling consists of materials collected through curbside, drop-off and special waste programs and yard waste programs in Cuyahoga County. This recycling amounted to 36 percent of all residential waste generated in the reference year (2016) and approximately 57 percent of all residential/commercial recycling.

Commercial recycling consists of materials collected through recycling and composting programs in businesses, schools, hospitals and other commercial establishments in Cuyahoga County. This recycling amounted to 25 percent of all commercial waste generated in the reference year (2016) and 43 percent of all residential/commercial recycling.

Projections presented in **Table 5-1** show that the District anticipates continuing to exceed Ohio's 25% recycling goal throughout the planning period. The programs and activities presented in this Chapter and in **Appendix I** outline how the District will continue to achieve the state goal throughout the planning period.

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

Year	Projected Tons Recycled	Residential/ Commercial WRR[1]
2019	464,584	30.59%
2020	464,111	30.68%
2021	463,638	30.77%
2022	463,152	30.86%
2023	462,666	30.94%
2024	462,180	31.03%

[1]WRR = Waste Reduction and Recycling Rate

2. Industrial Recycling Rates

During the reference year (2016), 74% of Cuyahoga County's industrial sector waste stream was either recycled or composted. This exceeded the state goal of 66%.

Industrial recycling consist of materials collected through recycling and composting programs in Cuyahoga County's manufacturing facilities.

Projections presented in **Table 5-2** show that the District anticipates continuing to exceed Ohio's 66% industrial recycling goal throughout the planning period. The programs and activities presented in this Chapter and in **Appendix I** outline how the District will continue to achieve the industrial goal throughout the planning period. Note that the rate is projected as a constant rate for the first six years of the planning period. According to Ohio EPA's Plan Format v4.0, if a solid waste district met the industrial reduction/recycling goal of 66% during the reference year, it is acceptable to project a constant quantity of industrial material to be recovered at the reference year quantity throughout the planning period.

Table 5-2: Industrial Waste Reduction and Recycling Rate Projections

Year	Projected Tons Recycled	Industrial WRR[1]
2019	855,612	74%
2020	855,612	74%
2021	855,612	74%
2022	855,612	74%
2023	855,612	74%
2024	855,612	74%

[1]WRR = Waste Reduction and Recycling Rate

Table 5-3 Curbside Recycling Services

The following table lists the 58 existing curbside recycling programs within Cuyahoga County

ID #	Curbside Program	Current Service Provider	Ongoing Service
NSC1	City of Bay Village	Republic	Y
NSC2	City of Beachwood	City Service Department	Y
NSC3	City of Bedford	Kimble	Y
NSC4	City of Bedford Heights	Kimble	Y
NSC5	Village of Bentleyville	Waste Management	Y
NSC6	City of Berea	Republic	Y
NSC7	Village of Bratenahl	Republic	Y

ID #	Curbside Program	Current Service Provider	Ongoing Service
NSC8	City of Brecksville	City Service Department	Y
NSC9	City of Broadview Heights	Rumpke	Y
NSC10	City of Brook Park	City Service Department	Y
NSC11	City of Brooklyn	City Service Department	Y
NSC12	Village of Brooklyn Heights	Kimble	Y
NSC13	Chagrin Falls Township	Kimble	Y
NSC14	Village of Chagrin Falls	Kimble	Y
NSC15	City of Cleveland	City Service Department	Y
NSC16	City of Cleveland Heights	City Service Department	Y
NSC17	Village of Cuyahoga Heights	Village Service Department	Y
NSC18	City of East Cleveland	Rumpke	Y
NSC19	City of Euclid	Kimble	Y
NSC20	City of Fairview Park	Republic	Y
NSC21	City of Garfield Heights	Kimble	Y
NSC22	City of Gates Mills	Rumpke	Y
NSC23	Village of Glenwillow	Republic	Y
NSC24	City of Highland Heights	Kimble	Y
NSC25	Village of Highland Hills	Village Service Department	Y
NSC26	Village of Hunting Valley	Waste Management	Y
NSC27	City of Independence	City Service Department	Y
NSC28	City of Lakewood	City Service Department	Y
NSC29	Village of Linndale	Rumpke	Y
NSC30	City of Lyndhurst	City Service Department	Y
**	City of Maple Heights	Waste Management	Y
NSC31	Village of Mayfield	Kimble	Y
NSC32	City of Mayfield Heights	Kimble	Y
NSC33	City of Middleburg Heights	Republic	Y
NSC34	Village of Moreland Hills	Village Service Department	Y

ID #	Curbside Program	Current Service Provider	Ongoing Service
NSC35	Village of Newburgh Heights	Kimble	Y
NSC36	City of North Olmsted	Republic	Y
NSC37	City of North Royalton	Rumpke	Y
NSC38	Village of Oakwood	Waste Management	Y
NSC39	City of Olmsted Falls	Republic	Y
NSC40	Olmsted Township	Republic	Y
NSC41	Village of Orange	Kimble	Y
NSC42	City of Parma	Republic	Y
NSC43	City of Parma Heights	Republic	Y
NSC44	City of Pepper Pike	City Service Department	Y
NSC45	City of Richmond Heights	City Service Department	Y
NSC46	City of Rocky River	City Service Department	Y
NSC47	City of Seven Hills	Waste Management	Y
NSC48	City of Shaker Heights	City Service Department	Y
NSC49	City of Solon	City Service Department	Y
NSC50	City of South Euclid	Kimble	Y
NSC51	City of Strongsville	Republic	Y
NSC52	City of University Heights	City Service Department	Y
NSC53	Village of Valley View	Village Service Department	Y
NSC54	Village of Walton Hills	Kimble	Y
NSC55	City of Warrensville Heights	Kimble	Y
NSC56	City of Westlake	Rumpke	Y
NSC57	Village of Woodmere	Village Service Department	Y
****new program implemented after the reference year.**			

Table 5-3 Multi-Material Drop-off Recycling Locations

The following table lists existing multi-material drop-off locations in Cuyahoga County. The limited material drop-offs have not been included in this table but are listed in **Appendix B**.

ID#	Drop-off Site	Service Provider	Ongoing
FTU1	Beachwood Community Center 25225 Fairmount Blvd., Beachwood	City of Beachwood	Y
PTU1	Brecksville Service Garage 9023 Brecksville Rd., Brecksville	City of Brecksville	Y
FTU82	Cleveland Ridge Road Transfer Station 3727 Ridge Road Cleveland	City of Cleveland	Y
FTR1	Highland Hills Shaker House Complex 3700 Northfield Rd., Highland Hills	Kimble	Y
FTU90	Lakewood Service Department 12920 Berea Rd., Lakewood	City of Lakewood	Y
FTU91	Mayfield Heights Service Department 6154 Mayfield Rd. , Mayfield Heights	Kimble	Y
FTU92	North Olmsted Service Garage 5200 Dover Center Rd., North Olmsted	Republic	Y
PTU2	North Royalton Service Garage 10789 Royalton Rd., North Royalton	City of North Royalton	Y
FTU93	North Royalton Heasley Fields 5100 Wallings Rd., North Royalton	City of North Royalton	Y
FTU94	North Royalton Memorial Park 14600 State Rd., North Royalton	City of North Royalton	Y
PTU3	Olmsted Township Service Garage 7900 Fitch Rd., Olmsted Twp.	Republic	Y
FTR2	Orange Village Park Lander Rd., Orange	Orange Village	Y
FTU95	Pepper Pike City Hall 28000 Shaker Blvd., Pepper Pike	City of Pepper Pike	Y
FTU96	Richmond Heights Service Department 26260 Chardonview Dr., Richmond Heights	Waste Management	Y
PTU4	Rocky River Transfer Station 22401 Lake Rd., Rocky River	City of Rocky River	Y
PTU5	Shaker Heights Service Department 15600 Chagrin Blvd., Shaker Heights	City of Shaker Heights	Y
FTU97	Solon Service Department 6600 Cochran Rd., Solon	City of Solon	Y
FTU98	Strongsville Food Bank 13259 Pearl Rd., Strongsville	Republic	Y

ID#	Drop-off Site	Service Provider	Ongoing
FTU99	University Heights Service Department 2300 Warrensville Center Rd., University Hts.	City of University Heights	Y
FTU100	Westlake Police Station 27300 Hilliard Blvd., Westlake	Rumpke	Y
FTU101	Westlake Meadowood Golf Course 29800 Center Ridge Rd., Westlake	Rumpke	Y
FTU102	Westlake Crossings Village Apartments 1630 Crossings Parkway, Westlake	Rumpke	Y
FTU103	Westlake Clague Playhouse 1371 Clague Rd., Westlake	Rumpke	Y
FTU104	Westlake Sturbridge Square Apartments 1500 Westford Circle, Westlake	Rumpke	Y
FTU105	Westlake Village in the Park Apartments 27433 Detroit Rd., Westlake	Rumpke	Y

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CHAPTER 6: BUDGET

Chapter Purpose

This chapter provides an overview of the District's budget for implementing this solid waste management plan. Detailed information about the budget is provided in **Appendix O**.

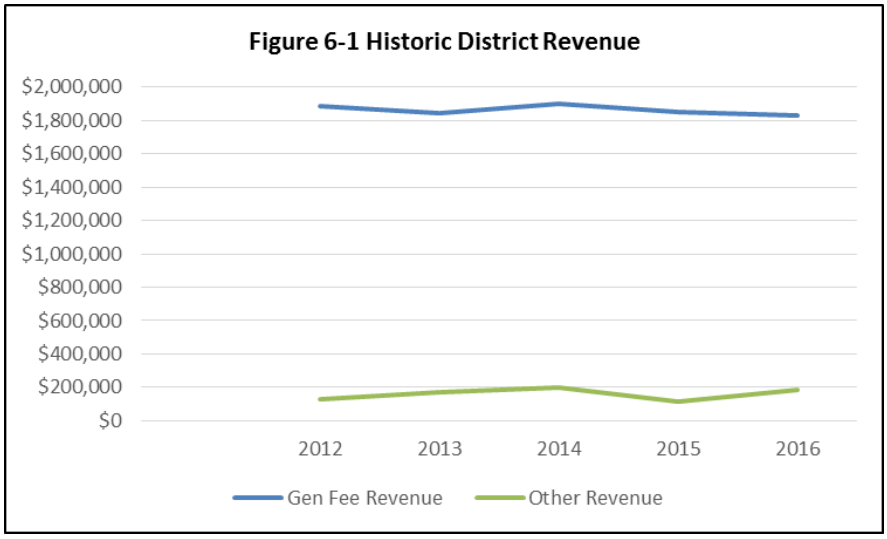
Background: Ohio Revised Code Section 3734.53(B) requires solid waste management plans to present a budget. This budget must account for how a solid waste district will obtain money to pay for its operations and programs and how it will spend that money. For revenue, the solid waste management plan identifies the sources of funding the solid waste district will use to implement its approved solid waste management plan. The plan also provides estimates of how much revenue the district expects to receive from each source. For expenses, the solid waste management plan identifies the programs the district intends to fund during the planning period and estimates how much will be spent on each program. The plan must also demonstrate that planned expenses will 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 district 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.

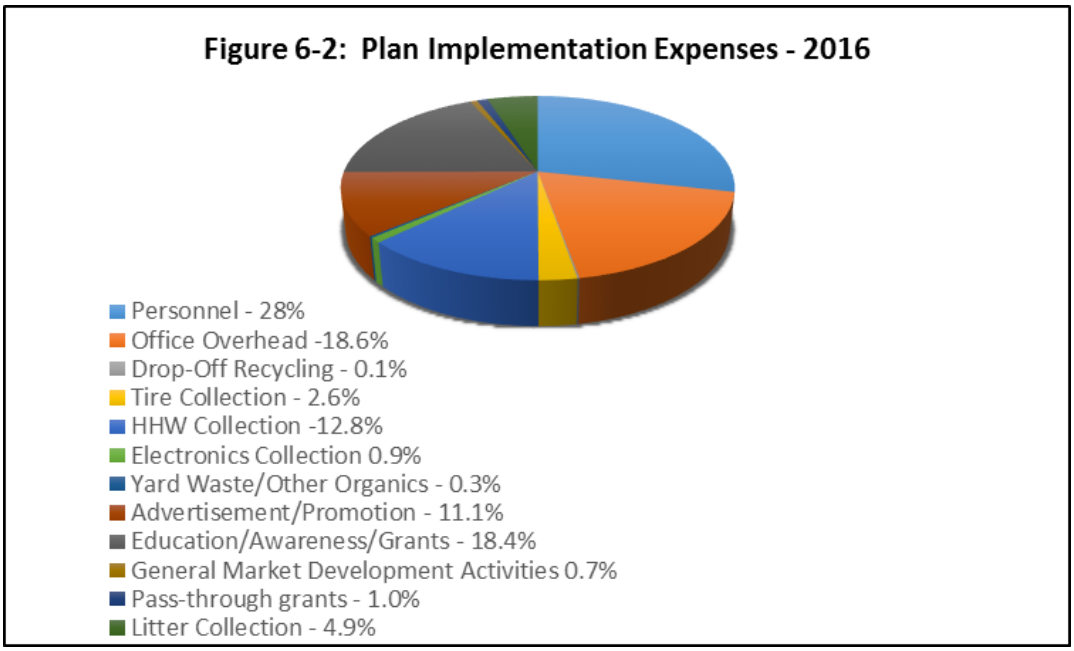
If projections show that the solid waste district will not have enough money to pay for all planned expenses or if the district has reason to believe that uncertain circumstances could change its future financial position, then the plan must demonstrate how the district will balance its budget. This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

A. Overview of the District's Budget

The Cuyahoga County Solid Waste District is self-funded primarily through its "generation fee". The District will continue to use this funding mechanism throughout the planning period. The fee is levied on each ton of solid waste generated within Cuyahoga County and disposed in a landfill located in Ohio. The District's generation fee is $1.50 per ton and is among the lowest in the State of Ohio where the average generation fee is $4.50 per ton. The District has not raised its fee since 2007 when it was increased from the original fee of $1.00 per ton ratified in 1995. Since its inception, the District has strived to impose the lowest fee possible while still funding all plan elements. **Figure 6-1** shows historic generation fee revenue from 2012 through 2016. Revenues typically fluctuate but are declining over time due to population loss and increasing recycling. Additional revenue from grants, compost bins sales and other sources is also shown.



The majority of the District's expenditures are devoted to implementing the solid waste plan through programs and services provided to the general public, communities and businesses. **Figure 6-2** shows the plan implementation expenditures for the reference year – 2016. Other District expenditures not shown include funding for other allowable uses including health department code enforcement and open dumping law enforcement.



B. Revenue

1. Background

There are several mechanisms that solid waste management districts can use to raise the revenue necessary to finance the implementation of their solid waste management plans. The most common are disposal fees and generation fees. Before a generation or disposal fee can be collected, it must first be approved by local communities through the plan ratification process which allows communities to vote on the plan and the fee mechanism. The types of funding mechanisms include the following:

Disposal Fees (See Ohio Revised Code Section 3734.57(B))
This funding mechanism is used by SWMD's that have solid waste landfills within their borders. Disposal fees are collected on each ton of solid waste that is disposed in landfills located within the levying SWMD.

Generation Fees (See Ohio Revised Code Section 3734.573)
Generation fees may be used by SWMD's that do not have solid waste landfills within their borders. 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.

Rates and Charges (see Ohio Revised Code Section 343.08)

Contract Fees (see Ohio Revised Code Sections 343.02 and 343.03)

Other Sources of Revenue

- *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);*
- *Interest earned on cash balances;*
- *Grants*

2. District Revenue for the Plan Period

The Cuyahoga County SWMD funds its operations and plan implementation using a generation fee. The generation fee is currently $1.50 per ton and currently provides approx. $1.8 million in annual revenue.

Supplemental revenue comes from five sources – grants, compost bin sales, illegal dumping fines, C&DD fees and other miscellaneous sources. Supplemental revenue will decline during the planning period because a major source of funding the District received from 2011 to 2017 will come to an end. This was $1 million in funding from the Northeast Ohio Regional Sewer District.

The District plans to maintain its generation fee at the current $1.50 per ton level until the end of 2022. Beginning in 2023, the generation fee will increase by $0.50 per ton, bringing the fee to $2.00 per ton. The District is able to maintain its generation fee at the current $1.50 per ton level for the first four years of the planning period even though annual expenditures will exceed revenues by approximately $300,000 - $400,000 annually. This is due to having an existing fund balance from which it can draw upon for a period of time but will need to maintain a minimum reserve of $1.5

million (180 days of operating expenses). The generation fee will increase in 2023 which is the year the fund balance is projected to fall below $1.5 million. The District intends to ratify this generation fee increase as part of its Plan ratification and not through a separate ratification process.

This conservative increase will cost households in Cuyahoga County just $0.44 more per household per year yet will allow the District to continue to provide all existing programs and services while providing additional resources for litter collection, grants and education which communities requested during the strategic planning process. **Table 6-1** provides a summary of projected generation fee and other revenue for the first seven years of the planning period.

Table 6-1 Summary of Projected Revenue

Year	Generation Fee Level	Generation Fee Revenue	Other Revenue	Projected Total Revenue
2019	$1.50	$1,836,519	$105,500	$1,942,019
2020	$1.50	$1,826,605	$105,500	$1,932,105
2021	$1.50	$1,817,388	$30,500	$1,847,888
2022	$1.50	$1,808,171	$30,500	$1,838,671
2023	$2.00	$2,398,605	$30,500	$2,429,105
2024	$2.00	$2,386,315	$30,500	$2,416,815
2025	$2.00	$2,374,026	$30,500	$2,404,526

C. Expenses

1. Allowable Expenditures for Solid Waste Management Districts

Ohio law authorizes solid waste management districts to spend revenue on ten allowable uses. All of the uses are directly related to managing solid waste or dealing with the effects of hosting a solid waste facility. The ten allowable uses are as follows:

1. Preparing, monitoring and reviewing implementation of a solid waste management plan.
2. Implementing the approved solid waste management plan (the majority of a district's budget).
3. Providing financial assistance to approved boards of health to enforce Ohio's solid waste laws and regulations.
4. Providing 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. Providing financial assistance to boards of health and local law enforcement agencies for enforcing Ohio's environmental laws and rules.
8. Providing financial assistance to approved boards of health for operator certification training.
9. Providing financial assistance to municipal corporations and townships for the added costs of hosting a solid waste facility that is not a landfill.
10. Providing 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.

2. District Expenses for the Plan Period

Throughout the planning period, the District projects expenses at approximately $2.2 million per year during the first seven years of the planning period. **Table 6-2** summarizes expenses by program type. The complete detailed budget and budget explanation can be found in **Appendix O**.

The budget will remain relatively constant throughout this period with the exception of 2019 when the budget includes a one-time cash outlay towards the anticipated purchase of the District's current building which will reduce long term space costs. Other notable variations include a personnel increase in 2020 for an additional position to assist with the implementation of new initiatives identified in this Plan Update and a litter collection increase in 2020 to expand litter collection services for communities. Also, while the amount of funds budgeted for District grants is held constant, the District will likely increase grant funding for communities but will be reviewed annually and subject to approval by the District's Board.

Table 6-2. Summary of Expenses by Program

Program Category	2019	2020	2021	2022	2023	2024	2025
Plan Monitoring /Prep	10,600	20,750	20,903	21,059	21,218	21,381	21,546
District Administration							
Personnel	612,762	710,657	734,184	758,505	783,647	809,638	836,509
Overhead	205,264	284,282	211,031	214,377	217,819	221,366	225,017
Loan Payment	99,785	99,785	99,785	99,785	99,785	99,785	99,785
Other-building purchase	576,000						
Legal		20,000			20,000		
Programs							
Household Hazardous Waste Program	375,000	350,000	350,000	350,000	350,000	350,000	350,000
Scrap Tire Round-Up	58,000	45,000	45,000	45,000	45,000	45,000	45,000
Litter Collection Program	102,000	112,724	114,978	117,278	119,624	122,016	124,456
Organics / Special Wastes	3,000	3,020	16,040	3,061	3,082	16,104	3,126
District Grants	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Advertising / Marketing	100,000	90,000	90,000	90,000	90,000	90,000	90,000
Recycling Ed. / Awareness	30,250	28,300	28,606	28,918	29,236	29,561	29,892
Other Allowable Uses							
Health Dept. Funding	230,000	230,000	230,000	230,000	230,000	230,000	230,000
Environmental Crimes TF	28,700	25,000	25,000	25,000	25,000	25,000	25,000
Total Expenses	2,631,361	2,219,518	2,165,528	2,182,983	2,234,412	2,259,851	2,280,332

D. Budget Summary

Table 6-3 provides the District's overall budget for the reference year and the first seven years of the planning period. As described in this chapter, the District will spend down its fund balance until it falls below $1.5 million (the minimum reserve needed to cover 180 days of operating expenses and contract encumbrances). The fund balance is predicted to fall below this level by the end of 2022. Therefore the District will increase revenue by raising its generation fee by $0.50 per ton at the start of 2023, making the new fee $2.00 per ton.

Table 6-3. Budget Summary

Year	Revenue	Expenses	Net Difference	Ending Balance
Reference Year				
2016	$2,012,463	$2,286,502	-$274,038	$3,117,495
Planning Period				
2019	$1,942,019	$2,631,361	($689,342)	$2,184,014
2020	$1,932,105	$2,219,518	($287,414)	$1,896,600
2021	$1,847,888	$2,165,528	($317,640)	$1,578,960
2022	$1,838,671	$2,182,983	($344,312)	$1,234,648
*2023	$2,429,105	$2,234,412	$194,693	$1,429,341
2024	$2,416,815	$2,259,851	$156,964	$1,586,305
2025	$2,404,526	$2,280,332	$124,194	$1,710,499

*Year of Generation Fee increase of $0.50 per ton (effective, January, 2023)

APPENDIX A: Miscellaneous Information

A. Reference Year

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

B. Planning Period

The planning period for this solid waste management plan is 2019 – 2033.

C. Goal Statement

Ohio solid waste management districts are required to meet one of the two following recycling goals:

1. Ensure there is adequate infrastructure to provide residents and commercial businesses opportunities to recycle solid waste.

2. Reduce and recycle at least 25 percent of waste generated by the residential/commercial sector and at least 66 percent of the waste generated by the industrial sector.

The Cuyahoga County Solid Waste District will achieve Goal 2.

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

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

There were no differences in the quantities recovered between the annual district reports and this *Plan Update*. The historical materials recovered that were used were reported in Ohio EPA Annual District Review Forms for years 2012 through 2015. The Annual District Review Form for 2016 was not yet available therefore the base year materials recovered that were use were those that were reported to Ohio EPA in the District's 2016 Annual District Report.

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

None.

E. Material Change in Circumstances/Contingencies

Section 3734.56(D) of the Revised Code states that the Plan Update must be revised if the Board has determined that "circumstances materially changed from those addressed in the approved initial or amended plan of the District." A material change in circumstances shall be defined as a change that significantly interferes with the ability of the Board to: (1) assure waste disposal capacity during the planning period; (2) maintain compliance with applicable waste reduction or access goals; or (3) adequately finance implementation of the Plan Update.

If the Board determines that a material change in circumstances has occurred (i.e., a change that materially and adversely affects the implementation of the District Plan), the Executive Director

shall notify the Director of Ohio EPA of the Board's conclusion that a material change in circumstances has occurred. The Board will direct the Policy Committee to revise, within ninety (90) days, all relevant sections of the Plan Update to address the cause and effect of the material change in circumstances.

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

1. Assurance of Waste Disposal Capacity

a. Change in facility designations/flow control

The District reserves the right to designate facilities and thereby direct all or a portion of the solid waste generated within the District to designated solid waste facilities, commonly referred to as flow control (see Section 6). If the Board implements or subsequently changes the designation of any public or private solid waste facility, any such designation or change does not constitute a material change in circumstances requiring an amendment to the Plan. Designation of private and public solid waste facilities is authorized in sections 343.013 and 343.014 of the Revised Code.

b. Change in capacity availability

The Board may determine that a material change in circumstances exists if there is a twenty-five percent (25%) decrease in the solid waste disposal capacity necessary for the disposal of solid waste generated within the District. District staff shall monitor the availability of solid waste disposal capacity and shall provide information to the Board and Policy Committee when closures and/or reductions (in any combination) of designated or Plan-identified solid waste facilities adversely affect the ability of the Board to assure sufficient capacity to process or dispose of District generated solid waste. A material change in circumstances has not occurred if the Board identifies alternate solid waste disposal capacity to meet the Plan-forecasted requirements for solid waste disposal.

2. Maintain Compliance with Waste Reduction Goals

The District's ADR and the Executive Director's annual report of District activities evaluates the District's progress in implementing the District Plan. In the event that circumstances change such that the District is no longer able to maintain compliance with the State's waste reduction goals for whatever reason, the Board will consider whether such changes constitutes a material change in circumstances (i.e., a change that materially and adversely affects the implementation of the District Plan). A material change in circumstances has not occurred, however, when changes do not affect the ability of the District to maintain compliance with Goal 2 or when the Board is able to implement new programs or modify existing programs to meet the current goal or utilize the alternate goal available to the District as provided in the State Solid Waste Management Plan.

3. Finance Implementation of Plan Update

District staff will monitor the total tons of solid waste accepted at facilities remitting generation fees to the District. On a monthly basis, the District's Executive Director will review the cumulative total revenue collected to determine whether revenues are adequate to finance implementation of the District Plan. The Executive Director will review operations and the cost of financing implementation of the District Plan and prepare reports to the Board and the Policy Committee that reflect the financial condition of the District and the ability of the Board to finance implementation of the District Plan.

The Board will evaluate whether a material change in circumstances (after line item adjustments considering prior year carryover, revenues and expenditures) has occurred when revenues are more than twenty-five percent (25%) below the projections in this Plan Update (See Section VIII). The Board may determine that no material change in circumstances has occurred if the Board is able to maintain funding for programs identified in the implementation schedule of this Plan Update through: (1) the re-allocation of District funds, (2) an increase in the District generation fee or (3) generating additional revenues by designating solid waste facilities and collecting a designation or contract fee as consideration for the designation of those facilities.

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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-1 identifies all curbside recycling programs available in the reference year and the total tonnage (including drop-off tonnages) collected in each community. The table does not include tonnages for yard waste or special waste. In all, there were 57 non-subscription curbside recycling programs available in 2016. These programs were either funded and operated by the community or operated by a private hauler under contract with the community. The City of Maple Heights did not have curbside recycling services during the reference year, however they did renegotiate their contract with their private waste hauler to include bi-weekly, automated curbside recycling collection, which began in 2017. There were no subscription curbside recycling services available during the reference year.

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

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[(1)]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
NSC1	City of Bay Village	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		2,124	Y
NSC2	City of Beachwood	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		825	Y
NSC3	City of Bedford	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,051	Y
NSC4	City of Bedford Heights	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		547	Y
NSC5	Village of Bentleyville	✓		Contract between the Village and the private hauler	Biweekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		116	Y

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[1]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
NSC6	City of Berea	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,687	Y
NSC7	Village of Bratenahl	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		163	Y
NSC8	City of Brecksville	✓		City Service Department	Biweekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Dual-stream, manual		1,208	Y
NSC9	City of Broadview Heights	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		1,201	Y
NSC10	City of Brook Park	✓		City Service Department	Biweekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,268	Y
NSC11	City of Brooklyn	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		678	Y
NSC12	Village of Brooklyn Heights	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		289	Y
NSC13	Chagrin Falls Township	✓		Contract between the Township and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		12	Y
NSC14	Village of Chagrin Falls	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		576	Y

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[1]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
NSC15	City of Cleveland	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		27,006	Y
NSC16	City of Cleveland Heights	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		2,975	Y
NSC17	Village of Cuyahoga Heights	✓		Village Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		36	Y
NSC18	City of East Cleveland	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		79	Y
NSC19	City of Euclid	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		2,878	Y
NSC20	City of Fairview Park	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,728	Y
NSC21	City of Garfield Heights	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		2,068	Y
NSC22	City of Gates Mills	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Dual-stream, manual		152	Y
NSC23	Village of Glenwillow	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		48	Y
NSC24	City of Highland Heights	✓		Contract between the City and	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		935	Y

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[1]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
				the private hauler						
NSC25	Village of Highland Hills	✓		Village Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		44	Y
NSC26	Village of Hunting Valley	✓		Contract between the Village and the private hauler	Biweekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		50	Y
NSC27	City of Independence	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		910	Y
NSC28	City of Lakewood	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		5,118	Y
NSC29	Village of Linndale	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		11	Y
NSC30	City of Lyndhurst	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,288	Y
NSC31	Village of Mayfield	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		385	Y
NSC32	City of Mayfield Heights	✓		Contract between the City and the private hauler	Biweekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		740	Y
NSC33	City of Middleburg Heights	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		774	Y

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[1]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
NSC34	Village of Moreland Hills	✓		Village Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		542	Y
NSC35	Village of Newburgh Heights	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		194	Y
NSC36	City of North Olmsted	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		3,221	Y
NSC37	City of North Royalton	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		1,851	Y
NSC38	Village of Oakwood	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Dual-stream, manual		90	Y
NSC39	City of Olmsted Falls	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		793	Y
NSC40	Olmsted Township	✓		Contract between the Township and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,051	Y
NSC41	Village of Orange	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		418	Y
NSC42	City of Parma	✓		Contract between the City and	Weekly	AC, SC, GL, PL, MxP,	Single-stream, automated		7,024	Y

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[1]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
				the private hauler		OCC, ONP, WG, Oth				
NSC43	City of Parma Heights	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,753	Y
NSC44	City of Pepper Pike	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		563	Y
NSC45	City of Richmond Heights	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		142	Y
NSC46	City of Rocky River	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		1,508	Y
NSC47	City of Seven Hills	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,317	Y
NSC48	City of Shaker Heights	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Dual-stream, manual		1,755	Y
NSC49	City of Solon	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		2,191	Y
NSC50	City of South Euclid	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		1,849	Y
NSC51	City of Strongsville	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Dual-stream, manual		2,747	Y
NSC52	City of University Heights	✓		City Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Dual-stream, manual		332	Y

Table B-1. Inventory of Curbside Recycling Services Available in Reference Year										
ID #	Name of Curbside Service	Type		How Service is Provided	Pick-Up	Materials Collected[1]	Type of Collection	PAYT	Tons	Ongoing 2019-2033
		NS	S					✓		
NSC53	Village of Valley View	✓		Village Service Department	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		140	Y
NSC54	Village of Walton Hills	✓		Contract between the Village and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		274	Y
NSC55	City of Warrensville Heights	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, automated		452	Y
NSC56	City of Westlake	✓		Contract between the City and the private hauler	Weekly	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		2,077	Y
NSC57	Village of Woodmere	✓		Village Service Department	Twice per week	AC, SC, GL, PL, MxP, OCC, ONP, WG, Oth	Single-stream, manual		22	Y
Total									**91,277**	

Source of Information: Cuyahoga County Solid Waste District 2016 Residential Recycling Report

Notes: AC = aluminum cans, SC = steel cans, GL = glass, PL = plastics, MxP = mixed paper, OCC = old corrugated cardboard, ONP = newspaper, TEX = textiles, WG = white goods, Oth = other, NS = non-subscription, S = subscription, PAYT = pay-as-you-throw

Drop-off tonnages are included in curbside tonnages. Tonnage does not include yard waste or special waste.

2. Drop-Off Recycling Locations

Table B-2a and **Table B-2b** identify the public recycling drop-off sites that were available during the reference year. Total tonnages for these locations are included in each community's curbside recycling tons listed in Table B-1.

Table B-2a provides the locations of 112 recycling drop-off sites available to the public in 2016, which met the general criteria for achieving Goal 1. The District anticipates service to continue at all of the locations, with the exception of 87 of the 88 sites which are located in and operated by the City of Cleveland. Due to implementation of a fully automated curbside recycling program and increased costs from contamination and illegal dumping at these locations, the City chose to remove all but the Ridge Road Transfer Station (ID# FTU82).

Table B-2b lists 35 other recycling drop-off sites which were available to the public but did not meet the general criteria for achieving Goal 1. In addition, there were 375 Paper Retriever locations that collected only paper but were not listed in either of the tables. However, the paper tonnages have been accounted for in each community's recycling totals in Table B-1.

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year (2016)

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU1	Beachwood Community Center 25225 Fairmount Blvd. Beachwood, OH 44122	✓				City of Beachwood	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
PTU1	Brecksville Service Garage 9023 Brecksville Rd. Brecksville, OH 44141		✓			City of Brecksville	Sat 8:00am-12:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU2	Arcelor Mittal Steel 3421 Independence Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU3	Beachland Ballroom 15711 Waterloo Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU4	Burton Bell Carr 7201 Kinsman Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU5	Camp Forbes 25440 Harvard Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU6	Carr Center 5600 Cedar Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU7	Central/Carl & Louis Stokes 4225 Central Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU8	Cleveland Central Catholic 6550 Baxter Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU9	Cleveland Medical Devices 4415 Euclid Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU10	Collinwood Arts Café 15605 Waterloo Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU11	Collinwood Library 856 East 152nd Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU12	CVS Drug Store Shaker Square Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU13	Daniel E. Morgan School 8912 Morris Court Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU14	Daves Supermarket Shaker Square Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU15	Earl B. Turner Rec Ctr 11300 Miles Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU16	Fire Restaurant 13220 Shaker Square Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU17	Fire Station #6 17300 Harvard Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU18	Glenville Recreation Center 680 East 113th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU19	Grovewood Tavern 17105 Grovewood Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU20	Helping Hands Day Care 798 East 185th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU21	Hope Academy Lincoln Park 3398 Eat 55th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU22	Humphrey Park East 161st & Grovewood Ave Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU23	John Adams High School 3817 Martin L. King/E. 116th Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU24	John Hay High School 2075 Stokes Boulevard Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU25	Juvenille Detention Center Quincy Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU26	Kindercare 1891 East 93rd Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU27	Lexington Bell Community Ctr 7724 Lexington Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU28	Martin L. King H.S. 1651 East 71st Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU29	Medical Center 2250 Circle Drive Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU30	Memorial/Nottingham Library 17109 Lakeshore Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU31	Minority Business Solution 16400 Miles Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU32	Ronald McDonald House 10415 Euclid Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU33	Saint Martin DePorres H.S. 6111 Lausche Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU34	St. Benedict High School 2900 Martin L. King Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU35	St. Paul United Methodist Church 4740 Lee Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU36	Stamps Building 4150 S. Marginal Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU37	Thurgood Marshall Rec Ctr 8611 Hough Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU38	University Circle Inc. 10831 Magnolia Drive Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU39	University Circle Inc. E. 101 & Chester Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU40	University Circle Inc. Ford & E. 115th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU41	Bingham Apartments 1278 West Ninth Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU42	City Hall West 3rd Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU43	Gotta Grove Records 3615 Superior Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU44	Hanna Building 1422 Euclid Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU45	Lola Restaurant Parking Lot East 4th & Prospect Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU46	Muni Lot 1501 S. Marginal Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU47	Ritz Carlton Tower City Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU48	Rose Management 3631 Perkins Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU49	Spice of Life Catering 3901 Lakeside Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU50	St. Ignatius High School Lorain Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU51	Streets Department East 65th Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU52	Sutton Hardware 3848 Prospect Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU53	Trinity Cathedral 2230 Euclid Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU54	West Side Market 1979 West 25th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU55	78th Street Studio 1305 West 80th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU56	Captains Grill 6102 Storer Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU57	Clark Metro Dev Corp 2511 Clark Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU58	Cudell Recreation Center 1910 West Boulevard Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU59	Detroit Shoreway 6516 Detroit Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU60	Detroit Shoreway 2nd location Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU61	Don's Lighthouse 8905 Lake Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU62	Garrett Morgan School 4016 Woodbine Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU63	Gunning Recreation Center 4391 West 168th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU64	Harp Restaurant 4408 Detroit Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU65	Ideal Mobile Home 2700 Brookpark Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU66	James Rhodes High School 5100 Biddulph Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU67	John Marshall High School 3952 West 140th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU68	Kamms Corner Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU69	Lorain Station 14550 Lorain Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU70	Luxe Kitchen 6695 Detroit Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU71	May Dugan Center 4115 Bridge Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU72	Murray Auto Parts 3750 W. 25th Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU73	Nautica Parking Lot Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU74	Nautica Queen 1151 Main Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU75	Neighborhood Family 3569 Ridge Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU76	Ohio City Burrito 1844 West 25th Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU77	Ohio City-Near West Dev. West 26th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU78	Old Brooklyn Community School 4430 State Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU79	Orchard Elementary School 7901 Halle Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU80	Patrolmens Association 1303 West 58th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU81	Planet Aide 13810 Enterprise Pkwy. Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU82	Ridge Road Transfer Station 3727 Ridge Road Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU83	Rock Bottom Restaurant 2000 Sycamore Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU84	St. Coleman's Church 2027 West 65th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU85	Stonebridge Apartment Detroit & West 24th Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU86	Tremont Montessori School 2409 West 10th Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU87	Universal Grinding Corp 1234 West 78th Street Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU88	Urban Community School 4909 Lorain Avenue Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTU89	Whisky Island Marina Cleveland	✓				City of Cleveland	24/7	AC, SC, GL, PL, MxP, OCC	✓	N
FTR1	Highland Hills Shaker House Complex 3700 Northfield Rd. Highland Hills, OH			✓		Kimble	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU90	Lakewood Service Department 12920 Berea Rd. Lakewood, OH 44111	✓				City of Lakewood	M-F 7:00am-3:30pm; Sat 8:00am-12:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU91	Mayfield Heights Service Department 6154 Mayfield Rd. Mayfield Heights, OH 44124	✓				Kimble	M & W 6:00am-9:00am; Sat 6:00am-11:00am	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU92	North Olmsted Service Garage 5200 Dover Center Rd. North Olmsted, OH 44070	✓				Private Hauler	24/7	AC, SC, MxP, OCC	✓	Y
PTU2	North Royalton Service Garage 10789 Royalton Rd. North Royalton, OH 44133		✓			Rumpke	Sat 8:00am-3:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU93	North Royalton Heasley Fields 5100 Wallings Rd. North Royalton, OH 44133	✓				City of North Royalton	24/7	AC, SC, GL, PL, MxP	✓	Y

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU94	North Royalton Memorial Park 14600 State Rd. North Royalton, OH 44133	✓				City of North Royalton	24/7	AC, SC, GL, PL, MxP	✓	Y
PTU3	Olmsted Township Service Garage 7900 Fitch Rd. Olmsted Twp., OH 44138		✓			Republic	1st Sat., 2nd & 4th Wed. of the month from 8:00am-12:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
FTR2	Orange Village Park Lander Rd. Orange, OH 44022			✓		Village of Orange	Dawn to dusk, everyday	AC, GL, PL, MxP	✓	Y
FTU95	Pepper Pike City Hall Complex 28000 Shaker Blvd. Pepper Pike, OH 44124	✓				City of Pepper Pike	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU96	Richmond Hts. Service Dept 26260 Chardonview Dr. Richmond Hts, OH 44143	✓				Private Hauler	M-F 7:30am-3:30pm; Sat 9:00am-1:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
PTU4	Rocky River Service Department 22401 Lake Rd. Rocky River, OH 44116		✓			City of Rocky River	M, T, Th 8:00am-2:30pm; Sat 8:00am-11:30pm	AC, SC, GL, PL, MxP, OCC	✓	Y
PTU5	Shaker Heights Service Department 15600 Chagrin Blvd. Shaker Heights, OH 44120		✓			City of Shaker Heights	Sat-Sun 8:00am-4:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU97	Solon Service Department 6600 Cochran Rd. Solon, OH 44139	✓				City of Solon	M-F 7:30am-4:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU98	Strongsville Food Bank 13259 Pearl Rd. Strongsville, OH 44136	✓				Republic	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU99	University Heights Service Department 2300 Warrensville Center University Heights, OH 44118	✓				City of University Heights	8:00am-4:00pm	AC, SC, GL, PL, MxP, OCC	✓	Y

Table B-2a. Inventory of Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
FTU100	Westlake Police Station 27300 Hilliard Blvd. Westlake, OH 44145	✓				Rumpke	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU101	Westlake Meadowood Golf Course 29800 Center Ridge Rd. Westlake, OH 44145	✓				Rumpke	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU102	Westlake Crossings Village Apartments 1630 Crossings Parkway Westlake, OH 44145	✓				Rumpke	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU103	Westlake Clague Playhouse 1371 Clague Rd. Westlake, OH 44145	✓				Rumpke	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU104	Westlake Sturbridge Square Apartments 1500 Westford Circle Westlake, OH 44145	✓				Rumpke	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
FTU105	Westlake Village in the Park Apartments 27433 Detroit Rd. Westlake, OH 44140	✓				Rumpke	24/7	AC, SC, GL, PL, MxP, OCC	✓	Y
Total		**105**	**5**	**2**	**0**					

Source of Information: Cuyahoga County Solid Waste District 2016 Residential Recycling Report

Note: AC = aluminum cans, SC = steel cans, GL = glass, PL = plastics, MxP = mixed paper, OCC = old corrugated cardboard, ONP = newspaper, TEX = textiles, WG = white goods, Oth = other, FTU = full time urban, FTR = full time rural, PTU = part time urban, PTR = part time rural

Tons collected from District for each drop-off are included in curbside tonnage (Table B-1) for the corresponding political subdivision.

Table B-2b. Inventory of Other Drop-Off Sites Available in Reference Year

Table B-2b. Inventory of Other Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
OFTU1	Bay Village Fire Department 28100 Wolf Rd. Bay Village, OH 44140	✓				Private Hauler	24/7	AC		Y
OFTU2	Beachwood Service Center 23355 Mercantile Rd. Beachwood, OH 44122	✓				Private Hauler	M-F 7:30am-3:30pm	AC, SC, PL		Y
OFTU3	Bedford Fire Department 165 Center Rd. Bedford, OH 44146	✓				Private Hauler	24/7	AC		Y
OFTU4	Bedford Heights Service Garage 25401 Solon Rd. Bedford Heights, OH 44146	✓				Private Hauler	M-F 8:00am-3:00pm	AC, SC		Y
OFTU5	Bedford Heights Community Center 5615 Perkins Rd. Bedford Heights, OH 44146	✓				Private Hauler	24/7	MxP, OCC		Y
OFTU6	Bedford Heights Fire Station at City Hall 5661 Perkins Rd. Bedford Heights, OH 44146	✓				City of Bedford Heights	24/7	AC		Y
OFTU7	Broadview Heights Sports Complex Broadview Heights, OH 44147	✓				Private Hauler	24/7	AC, PL, MxP		Y

Table B-2b. Inventory of Other Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
OFTU8	Broadview Heights Fire Station 1 3591 E. Wallings Rd. Broadview Heights, OH 44147	✓				Private Hauler	24/7	AC		Y
OFTU9	Broadview Heights Fire Station 2 9455 Broadview Rd. Broadview Hts, OH 44147	✓				Private Hauler	24/7	AC		Y
OFTU10	Brook Park Service Department 19065 Holland Rd. Brook Park, OH	✓				City of Brook Park	M-F 7:30am-3:30pm	AC, SC, GL, PL		Y
OFTR1	Brooklyn Heights Service Department 345 Tuxedo Blvd. Brooklyn Heights, OH 44131			✓		Village of Brooklyn Heights	M-F 7:00am-3:00pm	AC, SC		Y
OFTR2	Cuyahoga Heights Bacci Park 7201 Canal Rd. Cuyahoga Heights, OH 44125			✓		Private Hauler	7:00am-9:00pm	ONP, OCC		Y
OFTU11	Fairview Park Fire Department 20777 Lorain Rd. Fairview Park, OH 44126	✓				Private Hauler	24/7	AC		Y
OFTR3	Gates Mills Village Hall 1470 Chagrin River Rd. Gates Mills, OH 44040			✓		Private Hauler	M-F 8:00am-4:00pm	MxP, OCC		Y
OFTU12	Lyndhurst Fire Station 5301 Mayfield Rd. Lyndhurst, OH 44124	✓				Private Hauler	24/7	AC		Y

Table B-2b. Inventory of Other Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
OFTU13	Maple Heights Fire Department 5520 Warrensville Center Maple Heights, OH 44130	✓				Private Hauler	24/7	AC		Y
OFTU14	Middleburg Hts Service Department 7375 Engle Rd. Middleburg Hts, OH 44130	✓				Private Hauler	Fri 8:00am-3:00pm	AC, OCC		Y
OFTR4	North Randall Fire Department 21937 Miles Rd. North Randall, OH 44128			✓		Private Hauler	9:00am-5:00pm	AC		Y
OFTU15	North Royalton Fire Station #1 7000 Royalton Rd. North Royalton, OH 44133	✓				Private Hauler	24/7	AC		Y
OFTR5	Oakwood Fire Department 24800 Broadway Ave. Oakwood, OH 44146			✓		Village of Oakwood	24/7	AC		Y
OFTR6	Orange Municipal Center 4600 Lander Rd. Orange, OH 44022			✓		Private Hauler	24/7	AC		Y
OFTU16	Parma Ridgewood Golf Course W. 54th St. (1st drive north of Ridgewood Parma, OH 44129	✓				Private Hauler	24/7	AC		Y
OFTU17	Parma Parma Animal Shelter 6260 State Rd. Parma, OH 44134	✓				Private Hauler	24/7	AC		Y

Table B-2b. Inventory of Other Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
OFTU18	Parma Heights Service Garage 6184 Pearl Rd. Parma Heights, OH 44130	✓				Private Hauler	M-F 7:00am-3:00pm; Sat 9:00am-12:00pm	PL		N
OFTU19	Parma Heights Parma Heights Fire Department 6184 Pearl Rd. Parma Heights, OH 44130	✓				Private Hauler	24/7	AC		Y
OFTU20	Rocky River City Hall 21012 Hilliard Blvd. Rocky River, OH 44116	✓				Private Hauler	24/7	AC, MxP, OCC		Y
OFTU21	Strongsville Fire Station #1 11297 Webster Rd. Strongsville, OH 44136	✓				Private Hauler	24/7	AC, MxP, OCC		Y
OFTU22	Strongsville Fire Station #2 15939 Drake Rd. Strongsville, OH 44136	✓				Private Hauler	24/7	AC, MxP, OCC		Y
OFTU23	Strongsville Fire Station #3 22000 Albion Rd. Strongsville, OH 44136	✓				Private Hauler	24/7	AC, MxP, OCC		Y
OFTU24	Strongsville Fire Station #4 17000 Prospect Rd. Strongsville, OH 44136	✓				Private Hauler	24/7	AC, MxP, OCC		Y
OFTU25	Strongsville Service Center 16099 Foltz Pkwy. Strongsville, OH 44149	✓				Private Hauler	24/7	MxP, OCC		Y

Table B-2b. Inventory of Other Drop-Off Sites Available in Reference Year										
ID#	Name of Drop-off Site	Type				How Service is Provided	Open to Public	Materials Accepted	Access Credit	Ongoing 2019-2033
		Urban		Rural						
		FT	PT	FT	PT					
OFTU26	Strongsville Nichols Field 22707 W. Sprague Rd. Strongsville, OH 44149	✓				Private Hauler	24/7	MxP, OCC		Y
OFTU27	Strongsville Surrarer Park Webster Rd. Strongsville, OH 44136	✓				Private Hauler	24/7	MxP, OCC		Y
OFTR7	Valley View Fire Station 6895 Hathaway Rd. Valley View, OH 44125			✓		Private Hauler	24/7	AC		Y
OFTR8	Walton Hills Village Hall 7595 Walton Rd. Walton Hills, OH 44146			✓		Private Hauler	24/7	MxP, OCC		Y
Total		**27**	**0**	**8**	**0**					

Source of Information: Cuyahoga County Solid Waste District 2016 Residential Recycling Report

Note: AC = aluminum cans, SC = steel cans, GL = glass, PL = plastics, MxP = mixed paper, OCC = old corrugated cardboard, ONP = newspaper, Oth = other, OFTU = other full time urban, OFTR = other full time rural

Tons collected from District for each drop-off are included in curbside tonnage (Table B-1) for the corresponding political subdivision.

3. Mixed Solid Waste Material Recovery Facilities

There were no Mixed Solid Waste Material Recovery Facilities operating in the District in the reference year.

B. Curbside Recycling and Trash Collection Service Providers

Table B-4 identifies the municipal and commercial haulers that provided curbside recycling and trash collection services in the 2016.

Table B-4. Inventory of Trash Collection and Curbside Recycling Service Providers (2016)

Table B-4. Reference Year Inventory of Trash Collection and Curbside Recycling Service Providers								
Name of Provider	Counties Served	Trash Collection Services				Curbside Recycling Services		
		PAYT	R	C	I	R	C	I
City of Beachwood	Cuyahoga		✓			✓		
City of Brecksville	Cuyahoga		✓			✓		
City of Brook Park	Cuyahoga		✓			✓		
City of Brooklyn	Cuyahoga		✓			✓		
City of Cleveland	Cuyahoga		✓			✓		
City of Cleveland Heights	Cuyahoga		✓			✓		
Village of Cuyahoga Heights	Cuyahoga		✓			✓		
Village of Highland Hills	Cuyahoga		✓			✓		
City of Independence	Cuyahoga		✓			✓		
City of Lakewood	Cuyahoga		✓			✓		
City of Lyndhurst	Cuyahoga		✓			✓		
Village of Moreland Hills	Cuyahoga		✓			✓		
City of Pepper Pike	Cuyahoga		✓			✓		
City of Richmond Heights	Cuyahoga					✓		
City of Rocky River	Cuyahoga		✓			✓		
City of Shaker Heights	Cuyahoga		✓			✓		
City of Solon	Cuyahoga		✓			✓		
City of University Heights	Cuyahoga		✓			✓		
Village of Valley View	Cuyahoga		✓			✓		
Village of Woodmere	Cuyahoga		✓			✓		
1-2-3 Disposal	Cuyahoga			✓				
ACD Disposal	Cuyahoga			✓				
CMHA	Cuyahoga		✓					
Complete Waste Disposal	Cuyahoga				✓			
Cooper Disposal	Cuyahoga			✓				
Descenzo Rubbish	Cuyahoga			✓	✓			
Kimble Co.	Cuyahoga		✓	✓	✓	✓	✓	✓
Legacy Waste & Recycling	Cuyahoga			✓			✓	
Major Waste	Cuyahoga			✓				
Miles Waste Disposal	Cuyahoga			✓	✓			
Pete and Pete	Cuyahoga			✓	✓			
Republic Services	Cuyahoga		✓	✓	✓	✓	✓	✓
Rumpke	Cuyahoga		✓	✓	✓	✓	✓	✓
Universal Disposal	Cuyahoga		✓	✓		✓	✓	
Waste Management	Cuyahoga		✓	✓	✓	✓	✓	✓
Weingold Rubbish	Cuyahoga			✓				

Source of Information: Cuyahoga County Solid Waste District Generation Fee Submittal Form (2016)

Note: R = residential sector, C = commercial sector, I = industrial sector

C. Composting Facilities and Activities

Table B-5 identifies the yard waste management activities and facilities operating in the reference year. This includes the facilities and programs that managed food waste, leaves, brush, trees, grass clippings and logs. It also includes grass-cycling & backyard composting activities. "Other Food Waste Management Activities" includes tonnages recycled and/or donated by survey respondents that were not processed by compost facilities listed in Table B-5.

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

Table B-5. Reference Year Inventory of Composting/Yard Waste Management Activities Available						
ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from the SWMD	
					Food Waste	Yard Waste
Compost Facilities						
CF1	Cloverleaf Composting Facility	II		East of Old Brecksville Rd. Independence, 44131	127	0
CF2	Cleveland Metroparks Compost	III		3900 Brookside Rd. Cleveland 44109		497
CF3	Solon Rd Midwest Recycled Landscape Materials	III	✓	600 Solon Rd. Bedford Heights 44146		7,395
CF4	City of Westlake, Compost Facility	IV		741 Bassett Rd. Westlake 44145		17,704
CF5	City of Brooklyn Compost Facility	IV		9400 Memphis Ave. Brooklyn 44144		660
CF6	Solon Compost	IV		6600 Cochran Rd. Solon 44139		7,395
CF7	Orange Village Compost	IV		Pike Park Dr. Orange Village 44022		1,001
CF8	Mayfield Village Compost	IV		6621 Wilson Mills Rd. Mayfield Village 44143		2,083
CF9	Independence Compost Facility	IV		7423 Old Rockside Rd. Independence 44131		NA
CF10	Bedford Compost Facility	IV		Krick Rd. Bedford 44146		0
CF11	Boyas Excavating Inc	IV	✓	11311 Rockside Rd. Valley View 44125		631
CF12	Utilities Equipment & Supply Co	IV		645 South Green Rd. South Euclid 44121		981
CF13	Kurtz Bros Inc	IV	✓	5603 Canal Rd. Valley View 44125		14,596
CF14	Full Cycle Organics LLC	II		1252 E. 55th St. Cleveland 44103	7	2
CF15	Miracle Stone	IV		27265 Bagley Rd. Olmsted Twp 44138		NA

Table B-5. Reference Year Inventory of Composting/Yard Waste Management Activities Available						
ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from the SWMD	
					Food Waste	Yard Waste
CF16	Savarino Brothers	IV	✓	24670 Broadway Ave., Oakwood Village 44146		4,691
CF17	Rid-All Green Partnership	II		8129 Otter Rd. Cleveland 44104	120	120
CF18	Yard Waste Recovery-Barnes Nursery	II		1630 Camp Rd. Huron Twp	0	25
CF19	Abate Landscaping	IV		7080 Mulberry Rd. Chesterland		374
CF20	Green Vision Materials	IV	✓	1291 E. 289th St. Wickliffe		2,425
CF21	T&K Kuhnle Co	III		11220 Kinsman Rd. Newbury		2,219
CF22	City of Lorain Composting Facility	IV		3000 E. 28th St. Lorain		148
CF23	City of Wickliffe Composting Facility	IV		1291 E. 289th St. Wickliffe		19,662
CF24	Avon Miller Rd Compost Facility - Kurtz Bros Inc	IV	✓	1180 Miller Rd. Avon		8,920
CF25	#1 Landscape	IV		3775 Ridge Rd. Medina		44
CF26	Smith Bros Inc	IV	✓	3087 Marks Rd. Medina		4,055
CF27	Sagamore Soils	IV	✓	2001 E. Barlow Rd. Hudson		766
CF28	Sagamore Soils Twinsburg Rd. Compost Facility	IV	✓	1361 Twinsburg Rd. Macedonia		7,035
CF29	Pro Tree & Landscape Co.	IV		5255 Akron-Cleveland Rd. Cuyahoga Falls		173
				Total	**254**	**103,601**
Community Yard Waste Collection Programs						
CYW1	City of Bay Village					7,996
CYW2	City of Beachwood					1,738
CYW3	City of Bedford					783
CYW4	City of Bedford Heights					1,037
CYW5	Village of Bentleyville					103
CYW6	City of Berea					2,243
CYW7	Village of Bratenahl					467
CYW8	City of Brecksville					3,270

Table B-5. Reference Year Inventory of Composting/Yard Waste Management Activities Available						
ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from the SWMD	
					Food Waste	Yard Waste
CYW9	City of Broadview Heights					1,270
CYW10	City of Brook Park					523
CYW11	City of Brooklyn					1,696
CYW12	Village of Brooklyn Heights					160
CYW13	Village of Chagrin Falls					473
CYW14	City of Cleveland					366
CYW15	City of Cleveland Heights					46,132
CYW16	Village of Cuyahoga Heights					136
CYW17	City of Euclid					4,276
CYW18	City of Fairview Park					3,707
CYW19	City of Garfield Heights					2,013
CYW20	Village of Glenwillow					48
CYW21	City of Highland Heights					1,827
CYW22	Village of Highland Hills					359
CYW23	Village of Hunting Valley					26
CYW24	City of Independence					4,849
CYW25	City of Lakewood					11,160
CYW26	City of Lyndhurst					2,795
CYW27	City of Maple Heights					1
CYW28	Village of Mayfield					1,382
CYW29	City of Mayfield Heights					886
CYW30	City of Middleburg Heights					2,932
CYW31	Village of Moreland Hills					1,473
CYW32	Village of Newburgh Heights					1
CYW33	City of North Olmsted					5,763
CYW34	Village of North Randall					0
CYW35	City of North Royalton					8
CYW36	Village of Oakwood					882
CYW37	City of Olmsted Falls					1,300
CYW38	Olmsted Township					1,185

Table B-5. Reference Year Inventory of Composting/Yard Waste Management Activities Available						
ID#	Facility or Activity Name	Class	Open to Public	Location	Tons Received from the SWMD	
					Food Waste	Yard Waste
CYW39	Village of Orange					693
CYW40	City of Parma					5,010
CYW41	City of Parma Heights					3,631
CYW42	City of Pepper Pike					542
CYW43	City of Richmond Heights					928
CYW44	City of Rocky River					3,359
CYW45	City of Seven Hills					579
CYW46	City of Shaker Heights					10,090
CYW47	City of Solon					4,435
CYW48	City of South Euclid					7,947
CYW49	City of Strongsville					7,005
CYW50	City of University Heights					2,320
CYW51	Village of Valley View					418
CYW52	Village of Walton Hills					1,258
CYW53	City of Westlake					7,144
CYW54	Village of Woodmere					302
					Total	**170,926**
Business Survey Yard Waste Composting						
SYW1	Commercial Business Composting					1,458
SYW2	Industrial Business Composting					3
					Total	**1,461**
Other Food Waste Management Activities						
OFW1	OEPA Compost Facility Report - Food Waste Hauler Data				2,648	
OFW2	Commercial / Institutional Food Waste Composting/Recovery				2,871	
OFW3	Industrial Food Waste Recovery				9,417	
				Total	**14,935**	**0**
Anaerobic Digestion						
AD1	Quasar Energy - Collinwood Bio Energy			13550 Aspinwall Ave, Cleveland 44110	NA	
				Total	**0**	**0**
				Grand Total	**15,189**	**275,988**

Source of Information:

- *Compost Facilities = Facilities and tonnages as reported on OEPA Compost Facility Report.*

- *Community Yard Waste Programs tonnages include all yard waste activities reported by communities in 2016 Residential Recycling Report (leaves, brush, Christmas trees, grass clippings, logs, grasscycling & backyard composting).*
- *Business Survey Yard Waste Composting = Commercial and industrial businesses that reported yard waste composting tonnages in Commercial and Institutional Solid Waste Survey and Industrial Solid Waste Survey.*
- *Other Food Waste Management Activities include food waste tonnages recycled and/or donated by grocery stores, institutional facilities and industrial businesses that were not processed by compost facilities listed in Table B-5.*

Note: The District did not use yard waste tonnages provided in OEPA Compost Facility Report to calculate total yard waste diversion for the base year.

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

Table B-6 includes the known facilities that were available and/or handled the District's recyclables in the reference year. There were a total of 65 facilities identified, 3 of which are single-stream Material Recovery Facilities that were used to process the District's residential curbside recyclables.

Table B-6. Inventory of Material Handling Facilities Used in the Reference Year

Table B-6. Inventory of Material Handling Facilities Used in the Reference Year				
Facility Name	**County**	**State**	**Type of Facility**	**Tons Accepted from SWMD**
Able Alloy	Cuyahoga	OH	Scrap Yard, Processor	748
Aetna Metal Recycling	Cuyahoga	OH	Scrap Yard	NA
All Ohio Secure Shred	Summit	OH	Other - Recycling	NA
All Scrap Salvage	Cuyahoga	OH	Scrap Yard, Processor	1,454
Alloy Exchange	Kent	MI	Processor	468
American Metal Recycling	Cuyahoga	OH	Scrap Yard, Processor	NA
American Scrap Mart	Cuyahoga	OH	Scrap Yard	NA
Associated Paper Stock	Mahoning	OH	Broker	186
Bedford Metal Recycling	Cuyahoga	OH	Scrap Yard	NA
Berea Metals & Recycling	Cuyahoga	OH	Scrap Yard	NA
Blue Ocean Plastics, LLC	Cuyahoga	OH	Broker	NA
Broadway Scrap Metals, Inc.	Cuyahoga	OH	Scrap Yard	1,765
Buckeye Industries, Cleveland	Cuyahoga	OH	Processor	365
Bulldog Battery	Lake	OH	Buy-Back, Drop-Off	2,034
Caraustar Recycling	Cuyahoga	OH	Broker, Processor, Buy-Back, Drop-Off	16,051
Container Compliance Corporation	Cuyahoga	OH	Other - Reuse/Recondition (drums)	NA
Crown & Kornell Corp.	Cuyahoga	OH	Processor	NA
Extreme Green Recycling	Lake	OH	Processor	3,257
Ferrous Processing & Trading	Cuyahoga	OH	Broker, Processor	153,692

Table B-6. Inventory of Material Handling Facilities Used in the Reference Year				
Facility Name	**County**	**State**	**Type of Facility**	**Tons Accepted from SWMD**
Full Cycle Organics	Cuyahoga	OH	Other - Composting	8
Gateway Products Recycling, Inc.	Cuyahoga	OH	Broker, Processor	37,117
Goodwill Industries of Greater Cleveland & East Central Ohio	Stark	OH	Processor, Other - Reuse	1,382
Greater Cleveland Habitat for Humanity	Cuyahoga	OH	Other - Reuse	NA
Horwitz & Pintis Co.	Lucas	OH	Processor	NA
I. Schuman Co.	Cuyahoga	OH	Processor	NA
IFCO	Medina	OH	Processor	NA
Infoshred.net	Cuyahoga	OH	Drop-Off, Other - Recycling	1,101
JBI Scrap Processors	Cuyahoga	OH	Scrap Processor	NA
Keep It Green Recycling	Cuyahoga	OH	Broker	NA
Kimble Transfer & Recycling	Summit	OH	MRF	NA
KJ Plastics	Montgomery	PA	Broker	39
Kurtz Bros. - Bridgeview Composting Facility	Cuyahoga	OH	Processor	NA
Lakeside Metals Inc.	Cuyahoga	OH	Scrap Processor	NA
Lakeside Scrap Metals, Inc.	Cuyahoga	OH	Scrap Yard	NA
Medina Paper Recycling, Inc.	Medina	OH	Processor	2,850
Metallic Resources	Summit	OH	End-User, Processor	48
Middlefield Pallet Inc.	Geauga	OH	Processor	NA
Mondo Polymer Technologies	Washington	OH	End-User	150
Niles Iron & Metal	Trumbull	OH	Scrap Yard, Processor	227
Northcoast Inc. Recycling Specialists	Lake	OH	Processor	2,341
Painesville Recycling	Lake	OH	Processor, Scrap Yard, Buy-Back, Drop-Off	145
PEL America	Cuyahoga	OH	Broker	83
Planet Aid Cleveland	Cuyahoga	OH	Other - Reuse	NA
PSC Metals	Cuyahoga	OH	Broker, Scrap Yard, Processor	NA
Quasar Energy Group	Cuyahoga	OH	Other - Biomass	NA
Recycle-it LLC	Cuyahoga	OH	Broker, Processor	36,120
Republic Services of Cleveland, Inc.	Cuyahoga	OH	Other - Hauler	6,556
Republic Services - Lorain County Resource Recovery Complex	Lorain	OH	MRF	17,989
River Valley Paper	Summit	OH	Broker	25,627
Royal Oak Recycling	Cuyahoga	OH	Broker, Processor, Buy-Back, Drop-Off	NA

Table B-6. Inventory of Material Handling Facilities Used in the Reference Year				
Facility Name	**County**	**State**	**Type of Facility**	**Tons Accepted from SWMD**
RSR Partners, LLC dba Regency Technology	Summit	OH	Processor	NA
Rust Belt Riders	Cuyahoga	OH	Other - Hauler	275
S. Slesnick Co, Inc.	Stark	OH	Broker, Processor, Drop-Off	NA
Salvation Army	Cuyahoga	OH	Processor, Other - Reuse	NA
Shipmasters Recycling	Cuyahoga	OH	Other - Hauler	NA
Simple Recycling	Cuyahoga	OH	Broker, Other - Reuse / Recycling	253
Southeast Metals	Cuyahoga	OH	Scrap Yard	NA
Strategic Materials	Cuyahoga	OH	Processor, Drop-Off	74
The City Mission	Cuyahoga	OH	Other - Reuse	NA
Tyroler Scrap Metals, Inc.	Cuyahoga	OH	Processor	100,389
Victor Metals	Lake	OH	Broker, Processor, Scrap Yard	2,040
Waste Parchment	Holmes	OH	Processor	31
Waste Management- Akron MRF	Cuyahoga	OH	MRF	29,859
Westside Metals	Cuyahoga	OH	Scrap Yard	NA
Wilkoff & Sons Co.	Cuyahoga	OH	Processor	4,575
Total				**449,299**

Source of Information:

- Cuyahoga County Solid Waste District 2016 Recycling Activities Survey
- OEPA - Ohio Material Recovery Facilities and Commercial Recycling – 2016

Note: Tons accepted include totals reported by each facility for all sectors combined and includes double counting of materials.

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APPENDIX C: Population Data

A. Reference Year Population - 2016

Table C-1a: Reference Year Population Adjustments

Community	Population
Cuyahoga County (unadjusted)	1,235,814
Additions- Hunting Valley (Geauga County)	122
Cuyahoga County SWMD After Adjustment	**1,235,936**

Source of Information:
Ohio Development Services Agency Population Projections: County Totals 2015-2040
Ohio Development Services Agency 2015 Population Estimates by County, City, Village and Township

Calculations / Assumptions:
Table C-1a adjusts the District's population to include the Hunting Valley population that is located within Geauga County. According to the ODSA, the largest portion of Hunting Valley's population falls within Cuyahoga County and therefore the entire population has been included in the Cuyahoga County Solid Waste District's population totals.

Table C-1b: Total 2016 Reference Year District Population

Unadjusted Population	Adjusted Population
1,235,814	1,235,936

Source of Information:
Ohio Development Services Agency 2015 Population Estimates by County, City, Village and Township

Calculations / Assumptions:
The adjusted population for the reference year includes the addition of 122 residents of Hunting Valley that reside in Geauga County.

B. Population Projections

Table C-2: Population Projections

Year	Total District Population
2016	1,235,936
2017	1,229,370
2018	1,222,804
2019	1,216,238
2020	1,209,672
2021	1,203,568

Year	Total District Population
2022	1,197,464
2023	1,191,360
2024	1,185,256
2025	1,179,152
2026	1,174,188
2027	1,169,224
2028	1,164,260
2029	1,159,296
2030	1,154,332
2031	1,149,766
2032	1,145,200
2033	1,140,634

Source of Information:
Ohio Development Services Agency Population Projections: County Totals 2015-2040
Ohio Development Services Agency 2015 Population Estimates by County, City, Village and Township

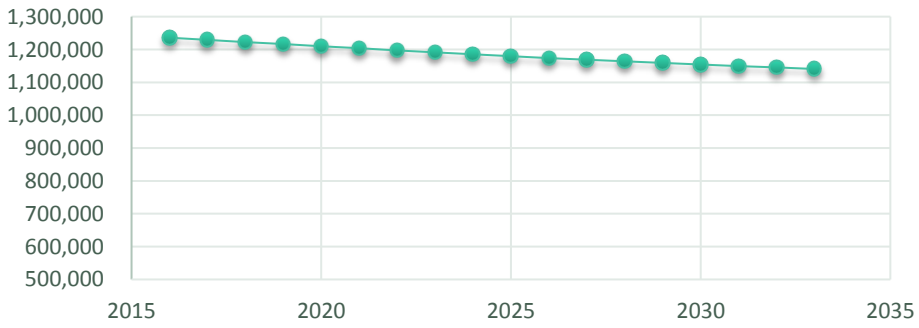
Calculations / Assumptions:
The District's population is estimated to decline by approximately 0.4% per year according to the Ohio Development Services Agency. This is based on the average annual rate of population change from 2010 to 2015. Since the ODSA provides county projections for populations in five-year increments, the District used a straight-line projection to calculate the annual population changes in between the published 5-year increments of 2015, 2020, 2025 and 2030.

Sample Calculation: 2016 population
2016 = (2015 population / 0.4%) + 2015 population

Sample Calculation: Annual population change (persons/year)
Projected population in 2020 = 1,209,672
Projected population in 2025 = 1,179,152
Total 5-Yr Population Change = -30,520 (-6,104 persons/year)

The following figure presents the District's actual and projected population from the reference year to the end of the planning period.

Figure C-1. 2016-2033 District Population



APPENDIX D: Disposal Data

A. Reference Year Waste Disposed

The District landfilled 1,364,938 tons of waste in the reference year. The amount of waste that was incinerated or burned for energy recovery plus excluded wastes represent less than 10 percent of total disposal and is not included in the District's total waste disposed for the reference year. Since there were no publicly available solid waste landfills operating in the District, 32 percent of the waste was direct hauled to 13 landfills located outside the District for disposal and 68 percent of the waste was sent to 13 transfer stations prior to disposal. Nine of these transfer stations were located in the district and 4 were located outside the district. There is 1 operating captive landfill in the district that only accepts industrial waste from ArcelorMittal Cleveland, Inc.

Note: the source of information in this section was the OEPA Solid Waste Management District Waste Flows for 2016

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

Facility Name	Location		Waste Accepted from the SWMD			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
In-District Facilities						
None						0
Out-of-District Facilities						
Port Clinton Landfill, Inc.	Ottawa	OH	151			151
Lake County Landfill	Lake	OH	3,261			3,261
Erie County Sanitary Landfill	Erie	OH			2	2
Lorain County Landfill LLC	Lorain	OH	130,530	88,302	9,540	228,372
Mahoning Landfill, Inc.	Mahoning	OH		10		10
Noble Rd. Landfill	Richland	OH	3,842	1,021	671	5,534
American Landfill, Inc.	Stark	OH	139	35,379	17,407	52,925
Countywide Landfill	Stark	OH	1,578	9,770	416	11,763
Kimble Sanitary Landfill	Tuscarawas	OH	417	11,338	809	12,564
Evergreen Recycling & Disposal	Wood	OH	1			1
Suburban Landfill, Inc.	Perry	OH		4		4
Geneva Landfill	Ashtabula	OH	26	420	72	519
Carbon Limestone Landfill LLC	Mahoning	OH	13	4		17
Out-of-State Facilities						
Indiana Facility				1,161		1,161
Total Direct Haul Waste Disposed in Landfills			**139,959**	**147,410**	**28,917**	**316,286**

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

Note: The total tonnage of excluded waste in Table D-1a represents less than 10 percent of total disposal and is not included in the District's total waste disposed for the reference year.

Table D-1b. Waste Disposed in Reference Year – Captive Landfills[1]					
Facility Name	Location		Waste Accepted from the District		
	County	State	Industrial	Excluded	Total
ArcelorMittal Cleveland, Inc.	Cuyahoga	OH	143,253		143,253
Total			**143,253**	**0**	**143,253**

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

Table D-1c. Total Waste Disposed in Landfills (Direct Haul)			
Residential/Commercial	Industrial	Excluded	Total
139,959	290,663	28,917	459,539

Note: The tonnage of excluded waste in Table D-1c represents less than 10 percent of total disposal. It is included in the total tons of waste disposed in Table D-1c, but not included in the District's total waste disposed for the reference year.

Table D-2: Waste Transferred in the Reference Year[1]						
Facility Name	Location		Waste Received from the SWMD			
	County	State	Residential/ Commercial	Industrial	Excluded	Total
In-District Facilities						
Harvard Road Transfer Station	Cuyahoga	OH	142,459	5,269	15,300	163,027
City of Strongsville Transfer Station	Cuyahoga	OH	72,407		1,580	73,987
City of Shaker Heights Transfer Station	Cuyahoga	OH	8,230			8,230
City of Rocky River Transfer Station	Cuyahoga	OH	1,578			1,578
Cleveland Transfer/Recycling Station	Cuyahoga	OH	132,062	1,661		133,723
Cleveland Heights Transfer Station	Cuyahoga	OH	16,019			16,019
BFI Glenwillow Transfer Station	Cuyahoga	OH	162,043	1,478		163,521
City of Cleveland - Ridge Rd Transfer Station	Cuyahoga	OH	233,331			233,331
Broadview Heights Recycling Center	Cuyahoga	OH	71,297	764	538	72,599
Out-of-District Facilities						
Universal Disposal Inc.	Geauga	OH	267			267
Republic Waste Recovery (Akron Recyclery)	Summit	OH	2			2
PennOhio Coal Co., dba Kimble Transfer & Recycling	Summit	OH	84,388	869	1,153	86,411
Kimble Transfer & Recycling Facility - Canton	Tuscarawas	OH	192		4	196
Out-of-State Facilities						
None						0
Total			**924,275**	**10,040**	**18,576**	**952,892**

[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).*

Note: The total tonnage of excluded waste in Table D-2 represents less than 10 percent of total disposal and is not included in the District's total waste disposed for the reference year.

Table D-3. Waste Incinerated/Burned for Energy Recovery in Reference Year							
Facility Name	Facility Type	Location		Waste Accepted from the SWMD			
		County	State	Residential/ Commercial	Industrial	Excluded	Total
Stericycle, Inc.	Incinerator	Geauga	OH	51			51
Total				**51**	**0**	**0**	**51**

Note: The total tonnage of waste incinerated/burned for energy recovery in Table D-3 represents less than 10 percent of total disposal and is not included in the District's total waste disposed for the reference year.

Table D-4. Total Waste Disposed in Reference Year				
Method of Management	Residential/ Commercial (tons)	Industrial (tons)	Total (tons)	% of Total Waste Disposed
Direct Hauled	139,959	290,663	430,622	32%
Transferred	924,275	10,040	934,316	68%
Incinerated	0	0	0	0%
Total	1,064,234	300,704	1,364,938	100%
Percent of Total	**78%**	**22%**	**100%**	

Note: Incinerated waste was less than 10 percent of the total disposal and is not included.

Supplement to Table D-4 (Incinerated and Excluded Wastes as Percentages of Total Waste Disposed)					
Waste Management Method	Residential/ Commercial (tons)	Industrial (tons)	Excluded (tons)	Total (tons)	% of Total Waste Disposed
Direct Hauled	139,959	290,663	28,917	459,539	33%
Transferred	924,275	10,040	18,576	952,892	67%
Incinerated	51	0	0	51	0%
Total	1,064,285	300,704	47,493	1,412,481	100%
Percent of Total	75%	21%	3%	100%	

B. Historical Waste Analysis

Table D-5. Historical Disposal Data						
Year	Population	Residential/Commercial Solid Waste		Industrial Solid Waste	Excluded Waste	Total Waste
		Rate (PPD)	Tons	Tons	Tons	Tons
2012	1,265,111	4.83	1,115,280	260,749	0	1,376,029
2013	1,263,154	4.67	1,076,361	272,487	0	1,348,848
2014	1,259,828	4.76	1,093,975	232,735	0	1,326,710
2015	1,255,921	4.77	1,093,450	291,142	0	1,384,592
2016	1,235,936	4.72	1,064,234	300,704	0	1,364,938

Source of Information:
OEPA Annual District Review Form for 2012 - 2015
OEPA Solid Waste Management District Waste Flows for 2016

Assumptions:

1. Residential/Commercial Waste

Population projections indicated that there would be an annual increase in population through 2020 in the current Plan Update. However, the actual population steadily declined from 2012-2016. The reference year population was 5% (57,359 people) less than what was projected for 2016 in the current Plan Update.

The actual tons disposed in the reference year was 45,210 tons less than projected in the current approved plan update. Residential/commercial waste disposed was expected to decrease between 2012 and 2016. While the largest actual decrease happened from 2012 to 2013, the overall waste disposed decreased by 51,046 tons (5%) from 2012-2016. This may be due to several factors including, population decline, increased residential recycling, and possible mischaracterization of waste.

2. Industrial Waste

In the current Plan Update, the District projected that there would be an annual decline in the amount of industrial waste disposed from 206,403 tons in 2012 to 191,467 tons in 2016. The actual amount reported in 2016 was 300,704 tons which is a 36% increase from the projections. Industrial waste disposed in the captive landfill owned by ArcelorMittal Cleveland, Inc. makes up 47% of the total industrial waste disposed in the reference year. Most of the variation in tonnages from 2012 to 2016 were attributed to changes in the amount disposed in their captive landfill, which likely has to do with changes in the company's production levels. There were no other obvious trends.

3. Excluded Waste

Excluded Waste was less than 10 percent of the total disposal and is not included.

C. Disposal Projections

Table D-6 presents the actual tons disposed in 2016 and the projected tons of waste disposed by sector from 2017 to 2033.

Table D-6. Waste Disposal Projections				
First Year of Planning Period → x	Year	Residential/Commercial Solid Waste	Industrial Solid Waste	Total Waste
		Tons	Tons	Tons
	2016	1,064,234	300,704	1,364,938
	2017	1,065,557	300,704	1,366,261
	2018	1,059,866	300,704	1,360,570
	2019	1,054,175	300,704	1,354,879
	2020	1,048,484	300,704	1,349,188
	2021	1,043,193	300,704	1,343,897
	2022	1,037,903	300,704	1,338,606
	2023	1,032,612	300,704	1,333,316
	2024	1,027,321	300,704	1,328,025
	2025	1,022,031	300,704	1,322,734
	2026	1,017,728	300,704	1,318,432
	2027	1,013,426	300,704	1,314,129
	2028	1,009,123	300,704	1,309,827
	2029	1,004,820	300,704	1,305,524
	2030	1,000,518	300,704	1,301,222
	2031	996,560	300,704	1,297,264
	2032	992,603	300,704	1,293,307
	2033	988,645	300,704	1,289,349

Residential/Commercial

The daily per capita disposal rate for the residential/commercial sector ranged from 4.67 pounds per person per day (PPD) to 4.83 PPD from 2012 to 2016. To project the total tons of residential/commercial sector disposal from 2017 to 2033, the average per capita disposal rate from 2012 to 2016 (4.75 PPD) was multiplied by 365 days/year and the annual estimated population from Appendix C Table C-2, then divided by 2,000 to convert from pounds to tons.

Industrial

The Ohio Department of Job and Family Services' *2024 Job Outlook for the Cleveland-Elyria-Mentor Metropolitan Statistical Area* projects employment in the industrial sector will decrease 4.1% from 2014 to 2024. Employment projections from previous Job Outlook publications were compared to actual changes in disposal data, and a direct correlation could not be identified.

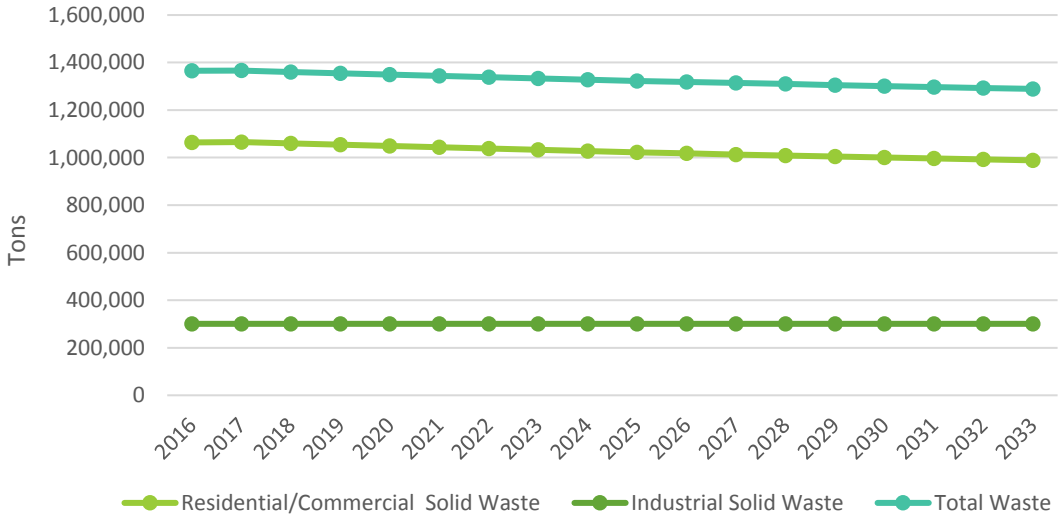
Industrial sector disposal was stable during the five-year period ranging from 2012 to 2016, with a low of 232,735 tons and a high of 300,704 tons. The District is not aware of any major changes to the industrial landscape, such as new industries beginning operations or existing industries ceasing operations. Therefore, disposal tonnage is projected as a constant rate for the remainder of the planning period based on 2016 tonnage.

Exempt

According to Ohio EPA's Plan Format v4.0, if the quantity of excluded waste disposed in the reference year was less than 10 percent of the total waste disposed in that year, then the solid waste management plan does not need to account for excluded waste. In 2016, excluded waste only represented 6 percent of the total waste disposed. Therefore, exempt waste is excluded from **Table D-6**.

Overall, disposal is projected to decrease from 1,354,879 tons in 2019 to 1,289,349 tons in 2033, or 4.8 percent over the course of the planning period. **Figure D-1** presents the waste disposal projections by sector.

Figure D-1. Waste Disposal Projections by Sector



APPENDIX E: Residential/Commercial Reduction & Recycling Data

Appendix E presents the reduction and recycling data for the residential and commercial sectors in the 2016 reference year. To avoid double-counting, adjustments made to tonnage reported by different types of entities, such as programs, brokers, and scrap yards, will be demonstrated. A historic analysis of residential/commercial sector recycling is included in this Appendix. Information in this section as well as information from other sources was used to calculate the recycling projections from 2019 to the end of the planning period (2033) which are included at the end of this Appendix.

A. Reference Year Recovery Data

The District used a blend of data from multiple sources to provide a complete picture of residential and commercial recycling and waste reduction activities in the reference year. The following tables include data from Ohio EPA and completed recycling surveys from the 59 municipalities, 184 commercial businesses, and 34 brokers, processors and scrap dealers. Of the 184 completed commercial business surveys, 119 had completed the District's 2016 survey, 57 were carried over from the 2015 survey if they did not complete the 2016 survey, and 8 were provided by Ohio EPA. Methods recommended by Ohio EPA were used to verify the origin of materials and to eliminate double counting for both the generators and the brokers, processors and scrap dealers. This includes follow up phone calls, e-mails, online research, and site visits. The District continues to work closely with FPT Cleveland, LLC (the largest scrap metal processor in Cuyahoga County), to verify that correct methods are being used when reporting tons for ferrous and non-ferrous metals. Since we continue to rely on their data each year, they have created a special database to assist them in accurately identifying creditable, Cuyahoga County generated metals processed at their facility.

Table E-1 shows the aggregated quantities of materials recycled by NAICS code for the commercial sector in the reference year. The District conducts annual surveys utilizing a web-based survey system to collect recycling and waste reduction data. Data from commercial businesses that responded to surveys in 2015 was eliminated from the totals if they responded to the survey in 2016. Methods recommended by Ohio EPA were used to eliminate double counting. Adjustments were made in **Table E-1** to subtract out tonnages for materials where broker/processor data was used and was counted for in **Table E-2**.

Table E-1. Commercial Survey Results (tons)

NAICS	EW	LAB	FW	GL	FM	NFM	OCC	MxP	PL	TX	W	CoM	YW	FRN	INK	Oth
42	6	2	8	99	304	91	1,440	454	166	0	806	18	0	0	1	0
44	6	32	3,198	9	214	101	17,791	3,273	3,431	0	3,396	688	0	0	0	552
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	212	6	157	538	117	0	5	368	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
51	3	0	0	0	7	80	261	3,025	1	0	94	0	1	0	0	0
52	0	0	6	0	159	0	32	520	3	0	54	0	0	0	1	0
53	0	0	0	0	125	0	38	348	2	0	0	92	0	0	0	0
54	55	5	15	1	589	143	10	166	7	0	41	36	116	9	0	0
55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
61	116	3	486	1	121	19	716	2,186	8	7	8	2,362	590	20	1	0
62	85	2	42	0	107	2	1,303	6,590	145	110	1	3,690	146	78	9	0

Table E-1. Commercial Survey Results (tons)																	
NAICS	EW	LAB	FW	GL	FM	NFM	OCC	MxP	PL	TX	W	CoM	YW	FRN	INK	Oth	
71	6	1	933	26	316	26	310	627	24	1	88	1,869	604	14	1	0	
72	0	0	3	1	0	37	727	1,371	50	0	0	55	0	0	0	0	
81	22	8	2	0	171	197	11,372	1,975	206	8	1,556	308	1	0	3	0	
92	6	14	19	1	13	78	412	385	1	0	0	263	0	0	0	0	
Total	307	67	4,711	137	2,337	780	34,570	21,460	4,161	126	6,050	9,748	1,458	121	17	552	86,602
Adj.	307	67	1,840	137	2,337	780				126							-5,593
Adj. Total	**0**	**0**	**2,871**	**0**	**0**	**0**	**34,570**	**21,460**	**4,161**	**0**	**6,050**	**9,748**	**1,458**	**121**	**17**	**552**	**81,009**

Source of Information: Cuyahoga County Solid Waste District Commercial and Institutional Solid Waste Survey (calendar years 2016 and 2015)

Key:
WG = white goods, **EW** = electronic waste, **LAB** = lead-acid batteries, **FW** = food waste, **GL** = glass, **FM** = ferrous metals, **NFM** = non-ferrous metals, **OCC** = old corrugated cardboard, **MxP** = mixed paper, **PL** = plastics, **TX** = textiles, **W** = wood, **R** = rubber, **CoM** = commingled, **YW** = yard waste, **FRN** = furniture, **INK** = ink cartridges, **Oth** = Walmart "Other," **Adj.** = adjustments/adjusted

Assumptions: "Other" includes food donations that were not included in OEPA Compost Facility Report.

The District surveys commercial businesses within the following North American Industry Classification System (NAICS). The table below identifies the NAICS categories surveyed, along with the number that responded in each category for the reference year. The majority of respondents were classified as Retail Trade or Wholesale Trade and institutions that provided Education Services and Healthcare and Social Assistance Services. Retail Trade was the NAICS category that had the most responses and also had the largest amount of materials recycled which was made up of mostly cardboard.

NAICS	# of Responses
42 Wholesale Trade	15
44 Retail Trade	30
48 Transportation and Warehousing	3
51 Information	3
52 Finance and Insurance	5
53 Real Estate and Rental and Leasing	9
54 Professional, Scientific, and Technical Services	10
55 Management of Companies and Enterprises	0
56 Administrative and Support and Waste Management and Remediation Services	2
61 Educational Services	20
62 Health Care and Social Assistance	28
71 Arts, Entertainment, and Recreation	13
72 Accommodation and Food Services	15
81 Other Services (except Public Administration)	24
92 Public Administration	6

Table E-2 includes only commercial tonnages reported by brokers, processors and scrap dealers. Methods recommended by Ohio EPA were used to verify the origin of materials and eliminate double counting. Data was eliminated if they reported receiving Cuyahoga County generated recyclables from another facility that completed the same survey. The District used broker, processor, or scrap dealer data only for the commercial sector and only when the total for a specific material reported was higher than the same material reported by the generators on the commercial business surveys. Adjustments were made in **Table E-2** to subtract out tonnages for materials where generator data was used and was counted for in **Table E-1.**

Table E-2. Data from Other Recycling Facilities

Source	WG	LAB	FW	GL	FM	NFM	OCC	MxP	PL	TX	W	CoM	Oth	Totals
Scrap Yards														
SY1						68								
SY2	23,538				66,577	10,545			7					
SY3					1		222		4					
SY4		5			70,282	58								
Brokers														
BR1			275											
Processors/MRF's														
P1							186							
P2							275	1	72			17		
P3							3,586	1,423						
P4				2	4	2	2,000	12	237		1,000			
P5			7				0							
P6						56								
P7							1			1,306	17			
P8								1,029						
P9							16	63	1					
P10									100					
P11								64						
P12				83										
P13							2,280	800	240					
P14				95	32	32	2,481	318	159			29	34	
P15						2	12,040	13,479	106		0			
P16				74										
P17								31						
Total	23,538	5	282	254	136,896	10,762	23,087	17,220	927	1,306	1,017	46	34	**215,372**
Adj.		5	282	83	70,282	58	23,087	17,220	927		1,017	46	34	**113,039**
Adj. Totals	**23,538**	**0**	**0**	**171**	**66,614**	**10,704**	**0**	**0**	**0**	**1,306**	**0**	**0**	**0**	**102,333**

Source of Information: Cuyahoga County Solid Waste District Recycling Activities Survey (Calendar Year 2016)

Key:
WG = white goods, **LAB** = lead-acid batteries, **FW** = food waste, **GL** = glass, **FM** = ferrous metals, **NFM** = non-ferrous metals, **OCC** = old corrugated cardboard, **MxP** = mixed paper, **PL** = plastics, **TX** = textiles, **W** = wood, **Oth** = other (includes various materials reported by the processor that were not creditable).

Table E-3. Data Reported to Ohio EPA by Commercial Businesses										
Ohio EPA Data Source	PL	OCC	MxP	NF	FM	W	Food: Other	CoM	Other	
Walmart	127	5,007	35	1	3				552	
Lowe's	1	421			75	387				
Home Depot	5	704			90	1,174				
Target	37	2,070	7		44			11		
Dollar General		774	1							
Big Lots		205								
Aldi	15	1,695					89			
Kohls	40	427						0		
Waste Management - Akron MRF		256								
Unadjusted Total	224	11,559	44	1	212	1,561	89	11	552	14,252
Adjustments	224	11,559	44	1	212	1,561	89	11	552	14,252
Adjusted Total	0	0	0	0	0	0	0	0	0	0

Source of Information: 2016 Ohio EPA Material Recovery Facility and Commercial Recycling Data report

Key:
PL = plastics, **OCC** = old corrugated cardboard, **MxP** = mixed paper, **NF** = non-ferrous metals, **FM** = ferrous metals, **W** = wood, **CoM** = commingled

Assumptions:
Data that was reported to Ohio EPA by commercial businesses listed in **Table E-3** was included in Commercial Recycling Survey results in **Table E-1**. Adjustments were made that subtract out tonnages to eliminated double counting.

Table E-4. Other Recycling Programs/Other Sources of Data																				
Sources	WG	HHW	UO	EW	ST	DCB	LAB	FW	GL	FM	NFM	OCC	MxP	PL	TX	YW	FRN	*Total*	*Adj.*	*Adj. Total*
Curbside Recycling Services	4,129	30	294	33	870	6	84		18,105	5,665	1,829	6,249	49,466	8,904	831	170,926	6	267,424	172,626	94,797
Drop-off Recycling Locations																				0
Composting Facilities								2,902								103,601		106,503	103,601	2,902
Other Food and Yard Waste Activities																170,926		170,926		170,926
Ohio EPA Scrap Tire Data					11,445													11,445		11,445
Electronics Collection Program				329														330		330
Household Hazardous Waste Program		253																253		253
Misc. District Collection Programs	1										1							2	1	2
Total	4,130	283	294	362	12,315	6	84	2,902	18,105	5,666	1,829	6,249	49,466	8,904	831	445,453	6	556,882	276,228	280,654
Adj.					870						1				831	274,527		276,228		
Adj.Total	4,130	283	294	362	11,445	6	84	2,902	18,105	5,666	1,829	6,249	49,466	8,904	0	170,926	6	280,654		

Notes: Tonnage for Drop-off Recycling Locations is included in the tonnages for Curbside Recycling Services. The District used data provided by Ohio EPA for Scrap Tires and Processor data was used for Textiles and Non-Ferrous metals. Yard Waste tonnages under Curbside Recycling Services was used but was counted as Other Food and Yard Waste Mgmt Activities. Adjustments were made that subtract out other tonnages listed in these material categories to eliminated double counting. Misc. District Collection Programs reflects special materials collected for recycling at the District office such as holiday lights and election signs.

Table E-5 summarizes all data sources by commodity after double counting adjustments were made. Assumptions: The data in **Table E-5** provides adjusted quantities of materials recovered from the residential/commercial sector in the reference year. These totals match the material totals that were reported by the District in the 2016 Ohio EPA Annual District Report.

Table E-5. Residential/Commercial Material Recovered in Reference Year	
Material	Tons
Appliances/ "White Goods"	27,667
Household Hazardous Waste	283
Used Motor Oil	294
Electronics	362
Scrap Tires	11,445

Table E-5. Residential/Commercial Material Recovered in Reference Year	
Material	**Tons**
Dry Cell Batteries	6
Lead-Acid Batteries	84
Food	5,773
Glass	18,276
Ferrous Metals	72,280
Non-Ferrous Metals	12,533
Corrugated Cardboard	40,819
All Other Paper	70,926
Plastics	13,065
Textiles	1,306
Wood	6,050
Rubber	0
Commingled Recyclables (Mixed)	9,748
Yard Waste	172,384
Other (Aggregated)	696
Total	**463,995**

Table E-6, "Quantities Recovered by Program/Source," presents a summary of the sources of residential/commercial sector recycling tonnage. Tonnage listed in this table reflects quantities that were adjusted to avoid double-counting, so this table does not reflect the true tonnage from each source. For example, a total of 267,424 tons were collected from Curbside Recycling Services; however, **Table E-6** only credits Curbside Recycling Services with 94,797 tons.

Table E-6. Quantities Recovered by Program/Source	
Source of R/C Data	**Tons**
Commercial Survey	81,009
Data from Other Recycling Facilities	102,333
Ohio EPA Commercial Retail Data	0
Curbside Recycling Services	94,797
Drop-off Recycling Locations	0
Composting Facilities	2,902
Other Food and Yard Waste Management Activities	170,926
Ohio EPA Scrap Tire Data	11,445
Electronics Collection Program	330
Household Hazardous Waste Collection Program	253
Misc. District Collection Programs	2
Total	**463,995**

B. Historical Recovery

Table E-7a. Historical Residential/Commercial Recovery by Program/Source												
Year	Residential/Commercial											
	1	2	3	4	5	6	7	8	9	Total	Annual Percentage Change	Annual Tonnage Change
2012	7,313	225,419	77,254	6,722	149,219	9,522	449	215	88	476,201		
2013	78,560	121,460	76,887	5,092	157,765	14,462	335	249	54	454,865	-4%	-21,337
2014	82,344	120,535	84,183	4,157	170,429	11,366	363	243	5	473,625	4%	18,761
2015	58,435	128,375	86,950	3,481	157,205	9,820	295	231	1	444,793	-6%	-28,832
2016	81,009	102,333	94,797	2,902	170,926	11,445	330	253	2	463,995	4%	19,203
2012-2016 Average												
Average Annual Percent Change										-1%		
Average Tons over 5 Year Period										462,696		
Average Annual Tonnage Change										-3,052		

Key:
1 – Commercial Survey
2 – Data from Other Recycling Facilities
3 – Curbside/Drop-Off Recycling Services
4 – Compost Facilities
5 – Other Food and Yard Waste
6 – Ohio EPA Scrap Tire Data
7 – Electronics Collection Program
8 – Household Hazardous Waste Collection
9 – Misc. District Programs

Table E-7b. Historical Residential/Commercial Recovery by Material Category						
Year	Residential/Commercial					
	Yard Waste	Tires	Recycling	Total	Annual Percentage Change	Annual Tonnage Change
2012	150,800	9,522	315,879	476,201	--	--
2013	158,039	14,462	282,363	454,865	-4%	-21,337
2014	180,429	11,366	281,830	473,625	4%	18,761
2015	158,430	9,820	276,543	444,793	-6%	-28,832
2016	172,384	11,445	280,167	463,995	4%	19,203
2012-2016 Average						
Average Annual Percent Change					-1%	
Average Tons over 5 Year Period					462,696	
Average Annual Tonnage Change					-3,052	

When analyzing specific materials recycled in the residential/commercial sector from 2012 to 2016, the data showed that most fluctuations in tonnages seem to be within a normal range of change, with the only exception being Commingled Recyclables. This category has steadily increased as more communities and businesses have shifted towards single stream material collection. Specific materials such as glass, paper, and cardboard recycled by the commercial sector have seen constant declines over the years, however, it is likely that some of these materials could be counted within the commingled tonnages as business recycling programs have changed.

Scrap Tires – The District uses Ohio EPA Scrap Tire data as displayed in **Table E-7a** to account for the total amount of scrap tires that were recovered. These totals are always higher than what the District collects through its Scrap Tire Collection program. The current Plan Update projection for scrap tires collected through the District program in 2016 was 190 tons vs. 232 tons that was actually collected in the reference year.

Computer/Electronics – Plan projections were significantly higher for 2016 at 685 tons because it took into account computers recycled by Cuyahoga County businesses that were processed by RET3 Job Corps. This total is only slightly lower than the actual tons of combined residential and business electronics collected by RET3 in 2016. The actual amount recycled by RET3 in the reference year from businesses was 280 tons and 232 tons by Cuyahoga County municipalities through the District's program.

HHW – The Plan projected that in 2016 the District would recycle 679 tons of HHW. The actual amount was 253 tons. The District anticipated that it would see a large increase in amounts collected by municipalities after the year-round HHW collections began at the Special Waste Convenience Center.

Curbside/Drop-Off Recycling – The actual recycling increased by more than 20,000 tons versus what was projected in the Plan. The majority of the increase can be attributed to more communities switching to automated collection programs. When the District was preparing projections during the last planning process, there were only 11 automated communities compared to 38 communities in 2016. In 2017, that total increased to 40 as two additional communities began implementing their automated collection programs.

Composting/Other Yard Waste Activities – Yard waste composting activities that took place in 2016 were higher than projected. The increase was mainly due to a microburst that took place on August 10, 2016, which took down approximately 400 trees in the City of Cleveland Heights. This required the City to bring in a tub grinder to process more than 14,000 additional tons of tree debris. If not for the microburst, the actual tonnage would have been in line with the 155,702 tons projected.

Commercial Surveys – 2016 tonnages were significantly lower than the Plan projections. The tonnage for commercial recycling during the 2009 base year of the current Plan Update which those projections were based, were already 100,000 tons higher than what was captured from surveys in 2016. Since the District has a large number of commercial sector businesses and responding to the survey is voluntary, fluctuations in commercial sector data reported are most often due to changes in the type of businesses that respond and how many respond from one year to the next.

An examination of the overall recovery patterns from 2012 to 2016 reveals that in 2015, a low of 444,793 tons were recovered and in 2012, a high of 476,201 tons were recovered. While the tonnage

fluctuations in each individual category were within normal range, the low in 2015 can be attributed to simultaneous decreases in yard waste, scrap tires and recycling from the previous year. Over the five-year period, recovery decreased by an average of 3,052 tons, or 1%, annually. The District's recovery of 463,995 tons in 2016 was approximately 0.2% greater than the 2012-2016 average of 462,696 tons. The following figure presents the District's historical residential/commercial recovery totals from 2012 to 2016.

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

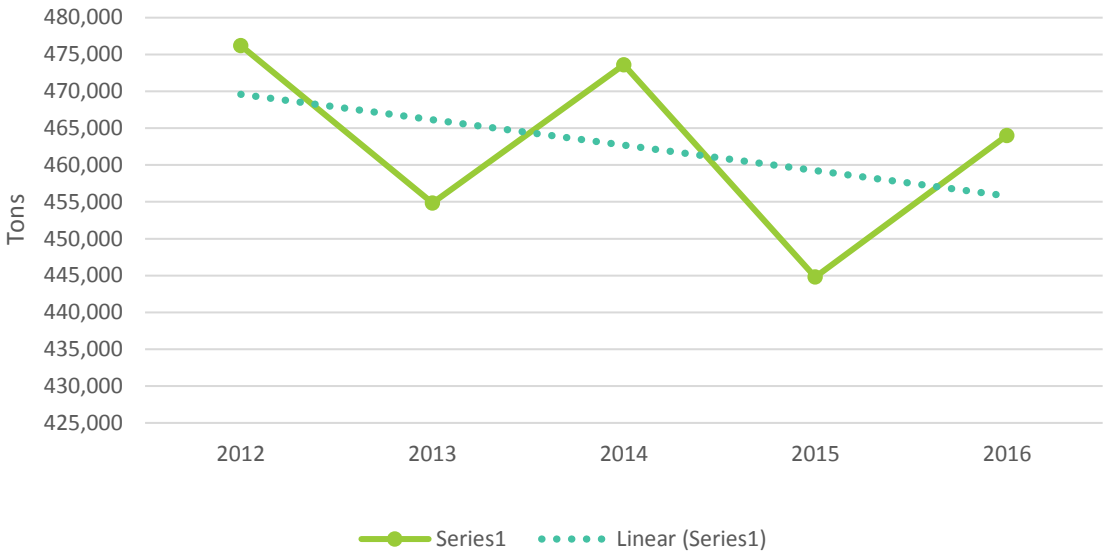
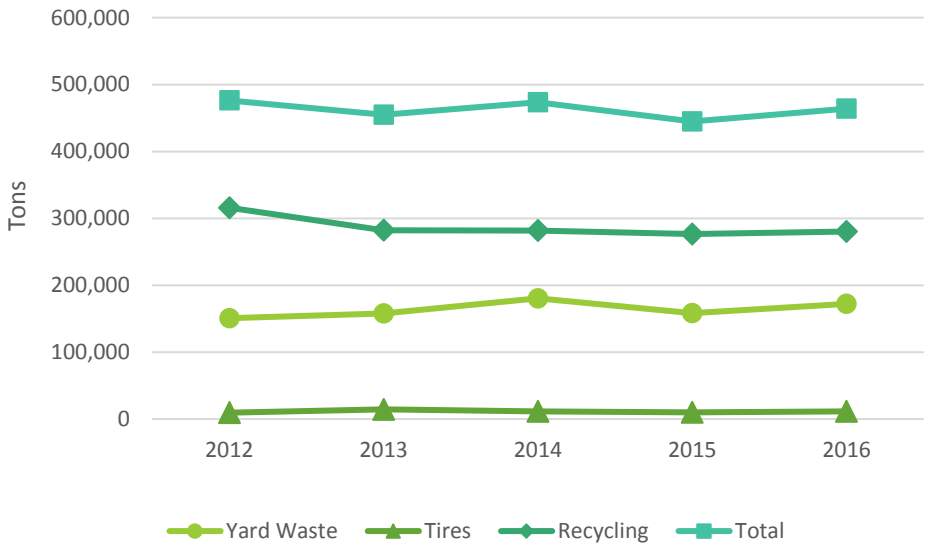


Figure E-2 shows District recycling from 2012 to 2016, and separates recyclables into yard waste, tires, and all other recycling.

Figure E-2. Historical Recycling: 2012-2016



C. Residential/Commercial Recovery Projections

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

First Year of Planning Period ? x	Year	Commercial Survey	Data from Other Recycling Facilities	Curbside Recycling Services	Organics Recycling (Yard and Food Waste)	Ohio EPA Scrap Tire Data	Electronics Collection Program	Household Hazardous Waste Collection Program	Misc. District Collection Programs	Totals
	2016	***81,009***	***102,333***	***94,797***	***173,827***	***11,445***	***330***	***253***	***2***	***463,995***
	2017	75,087	118,175	94,797	165,579	11,323	354	238	2	**465,557**
	2018	74,899	117,880	94,797	165,579	11,323	353	237	2	**465,070**
	2019	74,712	117,585	94,797	165,579	11,323	351	236	2	**464,584**
	2020	74,524	117,289	94,811	165,579	11,323	349	234	2	**464,111**
	2021	74,336	116,994	94,824	165,579	11,323	347	233	2	**463,638**
	2022	74,148	116,698	94,824	165,579	11,323	345	232	2	**463,152**
	2023	73,961	116,403	94,824	165,579	11,323	343	231	2	**462,666**
	2024	73,773	116,107	94,824	165,579	11,323	342	230	2	**462,180**
	2025	73,585	115,812	94,824	165,579	11,323	340	228	2	**461,694**
	2026	73,398	115,517	94,824	165,579	11,323	338	227	2	**461,208**
	2027	73,210	115,221	94,824	165,579	11,323	337	227	2	**460,723**
	2028	73,022	114,926	94,824	165,579	11,323	335	226	2	**460,237**
	2029	72,834	114,630	94,824	165,579	11,323	334	225	2	**459,751**
	2030	72,647	114,335	94,824	165,579	11,323	332	224	2	**459,266**
	2031	72,459	114,039	94,824	165,579	11,323	331	223	2	**458,780**
	2032	72,271	113,744	94,824	165,579	11,323	330	222	2	**458,295**
	2033	72,084	113,448	94,824	165,579	11,323	328	221	2	**457,810**

Projections for **Table E-8** were developed using the following methodology:

ADR Survey and **Data from Other Recycling Facilities** were calculated for 2017 by averaging the tons recycled from 2013 to 2016. A clear trend was not identified in either category; tonnage for 2012 was a statistical outlier and was excluded from projection calculations. Based on results from **Table E-7b** which identified that residential/commercial recycling totals decreased 1% on average over the 5-year period from 2012 to 2016, these categories are projected to decrease 1% every 5 years (in 2021, 2025, 2029, and 2033). Intermediate years were calculated using a straight-line projection.

Curbside/Drop-Off Recycling Services have increased annually from 2013 to 2016 despite the overall population decline and the reduction in drop-off locations in the City of Cleveland. The District's recently launched education campaign and ongoing collaboration with communities to improve residential recycling rates may be responsible for this trend. Tonnage is projected to remain flat based on 2016 totals until 2020. Only one new curbside recycling program is expected to be implemented during the planning period. At this time, it is not known when the Village of North Randall may implement a curbside recycling program, but the District anticipates that 2020 is a reasonable estimate for when the program could be implemented. Based on the average pounds of curbside recyclables collected per household per year in Cuyahoga County (385 lbs/household/year) and the total number of households in the Village of North Randall (140 households), the mature program is estimated to collect a total of 27 tons annually. Programs typically take a year or more

to mature from the time they are implemented. The total tons for 2020 were calculated by taking the total tons projected for 2019 and adding half of the projected tonnage that the Village of North Randall's mature program could collect. Only half of the total possible tons (13.5 tons out of 27 total possible tons) for North Randall's program is projected to be collected during 2020 to account for the possibility that the program may not be implemented early in the year and that there will likely be a learning curve amongst residents. The total tons projected for 2021 were calculated by taking the total tons projected for 2019 (94,797 tons) and adding the total tons projected for the Village of North Randall's mature curbside program (27 tons). Tonnage is projected to remain constant from 2021 to 2033.

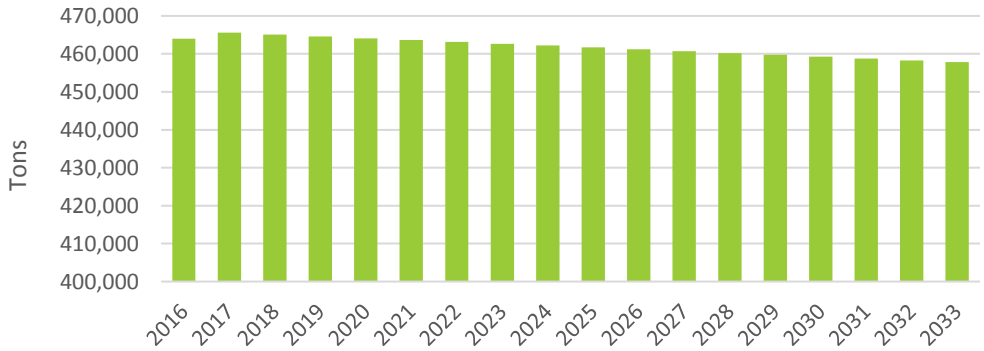
Organics and **Ohio EPA Scrap Tire Data** do not directly correlate with the population or other identifiable trends. Organics, which includes food waste and yard waste, can fluctuate unpredictably based on weather-related events. The 2017 totals were calculated by averaging the tons recycled from 2012 to 2016. There are no programs planned that will significantly impact the organics or scrap tire tonnage throughout the planning period; therefore, tonnage is projected to remain constant from 2017 to 2033.

Electronics Collection Program and **Household Hazardous Waste Collection** are projected in 2017 as the average tonnage collected from 2012 to 2016. Tonnage is projected to change at the same rate as population from 2018 to 2033. Population projections are presented in **Table C-2**. Population is projected to decrease 0.5% from 2016 to 2025; population is expected to continue decreasing at a rate of 0.4% annually from 2025 to 2033.

Miscellaneous District Programs is projected to remain flat based on the total tonnage collected in 2016. Miscellaneous District Programs represents special collections conducted at the District office for materials such as election signs and holiday lights.

Residential/commercial sector recycling is projected to decrease from 464,584 tons in 2019 to 457,810 tons in 2033, or 1.4% over the planning period. While overall tonnage is anticipated to decrease over the planning period, per capita recycling rates are anticipated to increase from 2.09 pounds per person per day (PPD) in 2019 to 2.20 PPD in 2033. **Figure E-3** presents the residential/commercial sector recycling statistics and projections from 2016 to 2033.

Figure E-3. Residential/Commercial Recycling Projections



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APPENDIX F: Industrial Waste Reduction and Recycling Data

This Appendix presents the reduction and recycling data for the industrial sector in the 2016 reference year. To avoid double-counting tonnage, adjustments made to tonnage reported by generators will be demonstrated. A historic analysis of the industrial sector's recycling and recycling projections for the planning period are included in this Appendix.

A. Reference Year Recovery Data

The District used generator data only provided by industrial businesses to account for recycling and waste reduction activities in the reference year. The following tables include reference year recycling and waste reduction data from 276 industrial businesses located in Cuyahoga County that completed the District's recycling survey. Of the 276 completed industrial surveys, 219 completed the 2016 industrial survey and 57 were carried over from the 2015 survey if they did not complete the 2016 survey.

Table F-1 shows the aggregated quantities of materials recycled by NAICS code for the industrial sector in the reference year. The District conducts annual surveys utilizing a web-based survey system to collect recycling and waste reduction data. Data from industrial businesses that responded to surveys in 2015 was eliminated from the totals if they responded to the survey in 2016. Methods recommended by Ohio EPA were used to verify the origin of materials and eliminate double counting for the generators. This includes follow up phone calls, e-mails, online research, and site visits.

Table F-1. Industrial Survey Results

NAICS	FW	GL	FM	NFM	OCC	MxP	PL	TX	W	CoM	INK	FRN	SMS	YW	Total
311	9,347		294		1,544	32	170		214						
312			2		15	1	4								
314						34									
321															
322	21			2	709	4,003	12		257						
323			72	32	370	4,993	48		1	33		172			
324			182		70	73	23		42						
325			722	33	96	149	392		644	73		4			
326			8	17	118	102	631		464						
327			50	2	17	24			84	63					
331		1	630,964	57	166	396	10		96	149			53,565		
332	1	4	35,912	7,230	2,090	2,696	133	3	1,825	45	1			3	
333			74,567	1,129	431	54	142		1,281	51	1				
334			16	11	20	24	1		553	347					
335			61	568	161	36	80		90						
336			235	211	165	98	2		89	19	2				
337			158		73		2								
339	48		4,680	1,726	1,467	1,076	2,428		1,568	148	1				
Total	9,417	4	747,923	11,019	7,514	13,792	4,078	3	7,209	927	5	176	53,565	3	855,635
Adj.							23								23
Adj. Total	**9,417**	**4**	**747,923**	**11,019**	**7,514**	**13,792**	**4,055**	**3**	**7,209**	**927**	**5**	**176**	**53,565**	**3**	**855,612**

Source: Cuyahoga County Solid Waste District Industrial Solid Waste Survey (calendar years 2016 and 2015)

Key:
FW = food waste, **GL** = glass, **FM** = ferrous metals, **NFM** = non-ferrous metals, **OCC** = old corrugated cardboard, **MxP** = mixed paper, **PL** = plastics, **TX** = textiles, **W** = wood, **CoM** = commingled, **INK** = ink cartridges, **FRN** = furniture, **SMS** = steel mill scale, **YW** = yard waste, **Adj.** = adjustments/adjusted

The District surveys industrial businesses using the North American Industry Classification System (NAICS). The table below identifies the NAICS categories surveyed, along with the number that responded in each category for the reference year. The majority of respondents were metal manufacturers with Fabricated Metals as the largest NAICS category. The Primary Metals category had the largest amount of materials recycled for which the majority was ferrous metals and most of it was recycled by one manufacturer.

NAICS	# of Responses
311 Food	9
312 Beverage and Tobacco	1
313 Textile Mills	0
314 Textile Products	2
315 Apparel	2
316 Leather and Allied Products	0
321 Wood Products	1
322 Paper	3
323 Printing and Related Support	12
324 Petroleum and Coal Products	4
325 Chemical Manufacturing	18
326 Plastics and Rubber	10
327 Nonmetallic Mineral Products	5
331 Primary Metals	15
332 Fabricated Metals	90
333 Machinery	18
334 Computer and Electronic Products	5
335 Electrical Equipment, Appliance, and Components	12
336 Transportation Equipment	10
337 Furniture and Related Products	4
339 Miscellaneous Manufacturing	55

Note: The District only used data reported by industrial sector generators. Therefore, Table F-2, "Data from Other Recycling Facilities," and Table F-3, "Other Recycling Programs/Other Sources of Data" from the Format Book were omitted.

Table F-4. Industrial Material Recovered in Reference Year	
Material	**Tons**
Food	9,417
Glass	4
Ferrous Metals	747,923
Non-Ferrous Metals	11,019
Corrugated Cardboard	7,514
All Other Paper	13,792
Plastics	4,055
Textiles	3
Wood	7,209
Rubber	0
Commingled Recyclables (Mixed)	927
Ash	0
Non-Excluded Foundry Sand	0
Flue Gas Desulfurization	0
Other (Aggregated)	53,750
Total	**855,612**

Source: Cuyahoga County Solid Waste District Industrial Solid Waste Survey (calendar years 2015 and 2016)

Table F-5. Quantities Recovered by Program/Source	
Program/Source of Industrial Recycling Data	**Tons**
Industrial survey	855,612
Data from other recycling facilities	0
Other Recycling Programs/Other Sources of Data	0
Total	**855,612**

B. Historical Recovery

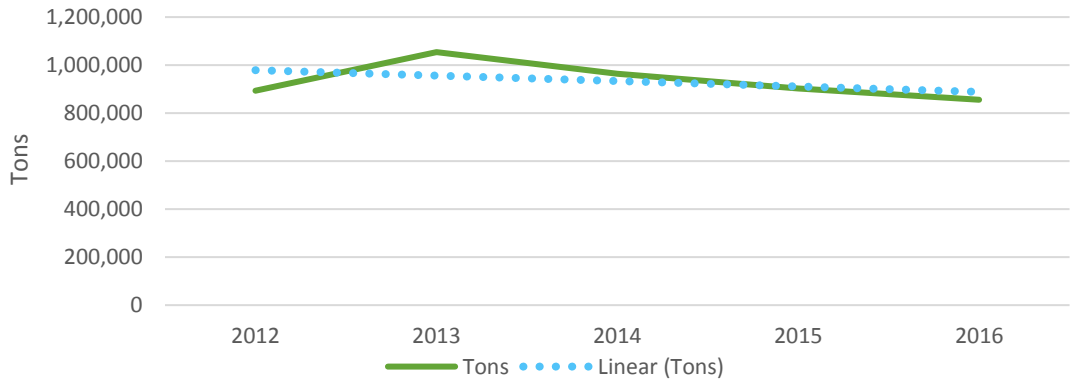
Table F-6. Historical Industrial Recovery by Program/Source			
Year	Industrial Sector		
	Tons	Annual Percentage Change	Annual Tonnage Change
2012	892,702	----	----
2013	1,054,040	18.1%	161,338
2014	963,341	-8.6%	-90,698
2015	902,351	-6.3%	-60,990
2016	855,612	-5.2%	-46,739
2012-2016 Average			
Average Annual Percentage Change			-0.5%
Average Tons Over 5 Year Period			933,609
Average Annual Tonnage Change			-9,273

Since 2012, the District's actual industrial sector recycling has remained significantly higher each year than what was projected in the current Plan Update. This is primarily due to improved economic conditions in specific local manufacturing markets, such as steel production.

Figure F-1 presents the District's historical industrial recovery from 2012 to 2016. An examination of the recovery patterns reveals that a low of 855,612 tons were recovered in 2016 and a high of 1,054,040 tons were recovered in 2013. Waste recovery fluctuations were the greatest between 2012 and 2013. Since then, the annual percentage change has been stabilizing. Over the five-year period, recovery decreased by an average of 9,273 tons, or 0.5%, annually. During this time period, most of the fluctuations in material tonnages remained within a normal range.

The District's recovery of 855,612 tons in 2016 was approximately 8.3% less than the 2012-2016 average of 933,609 tons. One contributing factor was that one manufacturer accounted for 67% of all industrial sector cardboard recycling and 17% of all sector paper recycling in 2015 but moved out of the county by 2016. Glass recycling which was steadily increasing through 2015 had sharply declined in 2016. In addition, the local glass processor confirmed that there has been a decrease in the amount of glass accepted at its facility.

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



C. Industrial Recovery Projections

According to Ohio EPA's Plan Format v4.0, if recycling tonnage identified through surveys in the reference year was similar to quantities identified historically, then the quantity attributed to surveys should be held constant at the reference year quantity. All of the District's industrial sector recycling data is derived from generator survey data.

With the exception of 2013, which was an outlier, industrial sector recycling tonnage remained stable over the five-year period from 2012 to 2016. Totals during this period, with the exception of 2013, ranged from a low of 892,702 to 963,341 tons. There were no significant changes to the quantities recycled on an annual basis. There have not been any announcements made about industries planning to begin operations in Cuyahoga County, nor is there any information available about industries planning to cease operations in the District that could impact recycling totals in the near future. Therefore, tonnage is projected as a constant rate for the remainder of the planning period based on 2016 tonnage. **Table F-7** presents the industrial sector recovery statistics and projections from 2016 to 2033.

Table F-7. Industrial Recovery Projections

Year	Total
2016	855,612
2017	855,612
2018	855,612
2019	855,612
2020	855,612
2021	855,612
2022	855,612
2023	855,612
2024	855,612
2025	855,612
2026	855,612
2027	855,612
2028	855,612
2029	855,612
2030	855,612
2031	855,612
2032	855,612
2033	855,612

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APPENDIX G: Waste Generation

A. Historical Year Waste Generated

The historical waste generation for the District (2012 through 2016) is shown in **Table G-1.** When looking at total waste generation during this period, there appears to be a correlation between the District's decreases in population and decreases in total waste generation. A closer look reveals that as the population decreased, the total amount of recycling also decreased but the total amounts disposed appeared to increase. The District's total waste disposed had been steadily declining prior to 2012 with 1,326,762 tons in 2014 recorded as the lowest amount landfilled. This trend came to an end in 2015 when total disposal increased by nearly 58,000 tons from the previous year before slightly decreasing again in 2016.

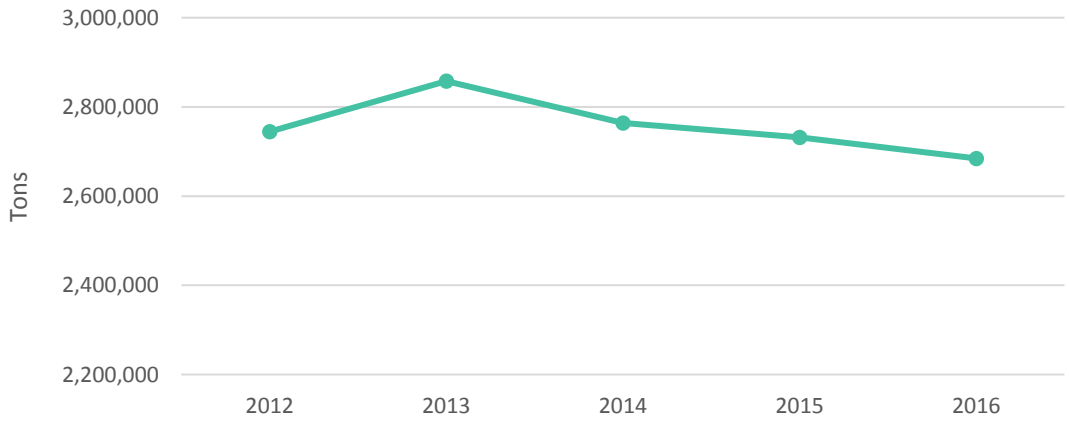
Table G-1. Reference Year and Historical Waste Generated

Year	Pop.	Residential/Commercial (R/C)				Industrial			Total	Annual % Change	
		Disposed	Recycled	Generated	Per Capita Gen. (PPD)	Disposed	Recycled	Generated		R/C	Industrial
2012	1,265,111	1,115,280	476,201	1,591,482	6.89	260,749	892,702	1,153,451	2,744,933	-	
2013	1,263,154	1,076,361	454,865	1,531,226	6.64	272,487	1,054,040	1,326,527	2,857,753	-4%	15%
2014	1,259,828	1,093,975	473,625	1,567,600	6.82	232,735	963,341	1,196,076	2,763,677	2%	-10%
2015	1,255,921	1,093,450	444,793	1,538,243	6.71	291,142	902,351	1,193,493	2,731,736	-2%	0%
2016	**1,235,936**	**1,064,234**	**463,995**	**1,528,229**	**6.78**	**300,704**	**855,612**	**1,156,316**	**2,684,545**	**-1%**	**-3%**

Sample Calculations (2013):
Per capita generation rate = (tons generated x 2000) ÷ (365 x population)
6.64 = (1,531,226 tons x 2,000) ÷ (365 x 1,263,154 residents)

Annual percentage change = ((New year – old year) ÷ old year) x 100
((1,531,226 tons – 1,591,482 tons) ÷ 1,591,482 tons) x 100

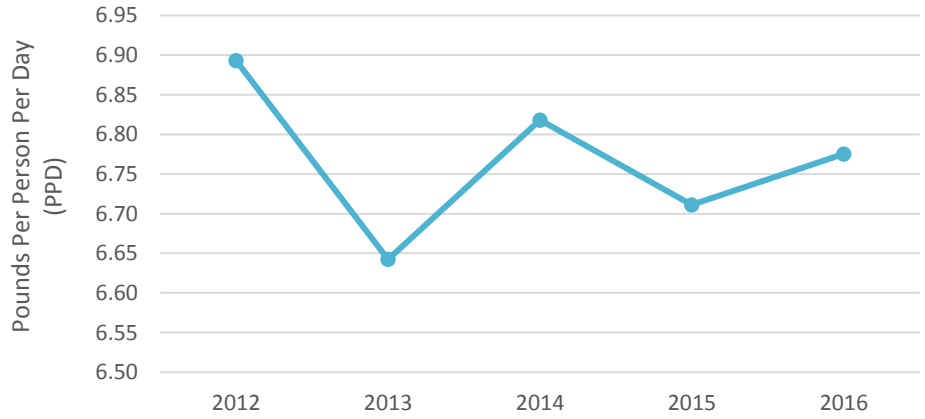
Figure G-1. District Total Waste Generation: 2012-2016



1. Residential/Commercial Waste

The District's residential/commercial (R/C) per capita waste generation of 6.78 pounds per person per day (PPD) is slightly higher than the statewide average of 6.09 PPD and approximately one third higher than the national average of 4.4 PPD. The same holds true for the District's per capita disposal rate of 4.72 PPD which was only slightly higher than the statewide average of 4.33 yet still much higher than the national average of 2.89 PPD. The District's R/C sector recycling rate of 2.06 PPD was higher than both the statewide and national averages which indicates that this sector is performing above average when it comes to recycling. However, the residential disposal rate was approximately 1.76 PPD versus the commercial disposal rate of 2.96 PPD and suggests that the District will need to focus on commercial waste reduction programs. **Figure G-2** presents the District's R/C sector per capita total generation rates from 2012 to 2016.

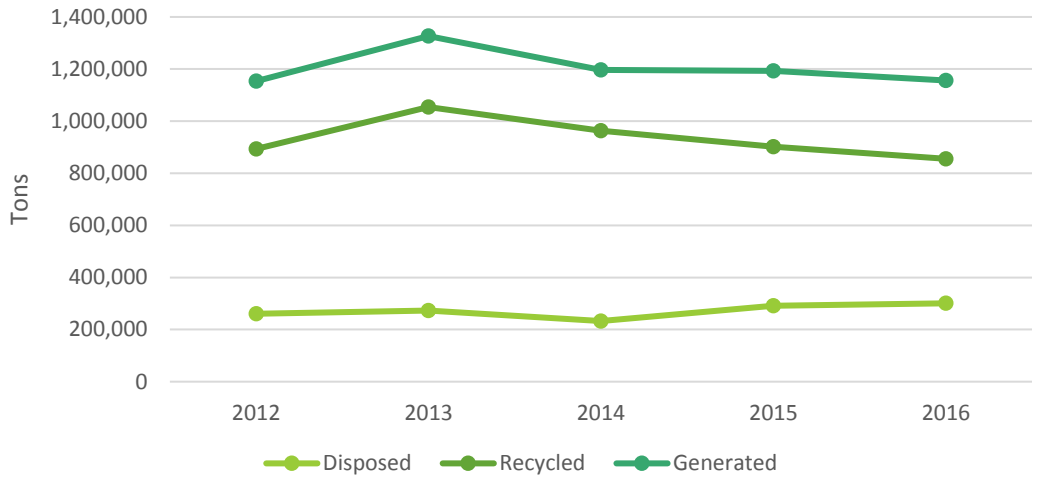
Figure G-2. District Res/Com Per Capita Generation: 2012-2016



2. Industrial Waste

Industrial waste generation overall did not see much change over the five-year period with 2013 as an outlier (see **Figure G-1**). In 2013, the total amount disposed had increased along with increased recycling tonnages reported by industrial survey respondents for which there was also an increase in the number of industrial survey respondents. Both disposal and recycling tonnages had decreased significantly in 2014. Explanations for the drop were provided by the District to Ohio EPA in the 2014 Annual District Report. The decline in recycling was due mostly to an industrial survey respondent had reported a business model change which significantly reduced their cardboard recycling totals and another survey respondent that was unable to explain a large drop in wood recycled and suspected that there may have been an error in 2013 reporting. When removing 2013 as the outlier, the trend over the period was that when the tons recycled increased, the tons disposed decreased and vice versa.

Figure G-3. District Industrial Waste Generation



3. Excluded Waste

Excluded Waste was less than 10 percent of the total disposal and is not included.

B. Generation Projections

Generation projections for the District have been developed in Appendices D, E and F for disposal and recycling for the residential/commercial and the industrial sectors. These projections are presented in detail in Appendices D, E and F and summarized below in **Table G-2**.

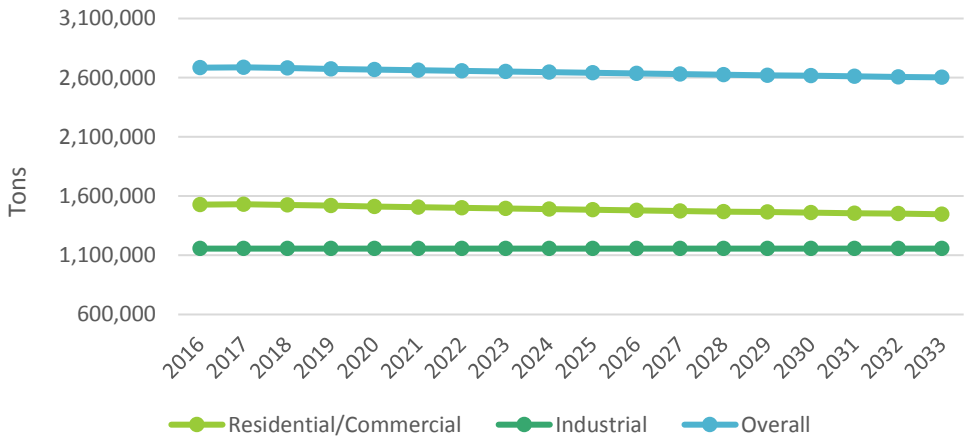
Table G-2. Generation Projections

First Year of Planning Period → x	Year	Population	Residential/ Commercial			
			Disposal	Recycle	Generation	Per Capita Generation (PPD)
	2016	***1,235,936***	***1,064,234***	***463,995***	***1,528,229***	***6.78***
	2017	1,229,370	1,065,557	465,557	1,531,114	6.82
	2018	1,222,804	1,059,866	465,070	1,524,936	6.83
	2019	1,216,238	1,054,175	464,584	1,518,759	6.84
	2020	1,209,672	1,048,484	464,111	1,512,595	6.85
	2021	1,203,568	1,043,193	463,638	1,506,832	6.86
	2022	1,197,464	1,037,903	463,152	1,501,055	6.87
	2023	1,191,360	1,032,612	462,666	1,495,278	6.88
	2024	1,185,256	1,027,321	462,180	1,489,501	6.89
	2025	1,179,152	1,022,031	461,694	1,483,725	6.89
	2026	1,174,188	1,017,728	461,208	1,478,936	6.90
	2027	1,169,224	1,013,426	460,723	1,474,148	6.91
	2028	1,164,260	1,009,123	460,237	1,469,360	6.92
	2029	1,159,296	1,004,820	459,751	1,464,572	6.92
	2030	1,154,332	1,000,518	459,266	1,459,784	6.93
	2031	1,149,766	996,560	458,780	1,455,341	6.94
	2032	1,145,200	992,603	458,295	1,450,898	6.94
	2033	1,140,634	988,645	457,810	1,446,455	6.95

First Year of Planning Period → x	Industrial			Total	Annual Percentage Change		
Year	Disposal	Recycle	Generation		Residential / Commercial	Industrial	Total
2016	***300,704***	***855,612***	***1,156,316***	***2,684,545***	-------	-------	-------
2017	300,704	855,612	1,156,316	2,687,429	0.2%	0	0.1%
2018	300,704	855,612	1,156,316	2,681,252	-0.4%	0	-0.2%
2019	300,704	855,612	1,156,316	2,675,075	-0.4%	0	-0.2%
2020	300,704	855,612	1,156,316	2,668,911	-0.4%	0	-0.2%
2021	300,704	855,612	1,156,316	2,663,147	-0.4%	0	-0.2%
2022	300,704	855,612	1,156,316	2,657,371	-0.4%	0	-0.2%
2023	300,704	855,612	1,156,316	2,651,594	-0.4%	0	-0.2%
2024	300,704	855,612	1,156,316	2,645,817	-0.4%	0	-0.2%
2025	300,704	855,612	1,156,316	2,640,040	-0.4%	0	-0.2%
2026	300,704	855,612	1,156,316	2,635,252	-0.3%	0	-0.2%
2027	300,704	855,612	1,156,316	2,630,464	-0.3%	0	-0.2%
2028	300,704	855,612	1,156,316	2,625,676	-0.3%	0	-0.2%
2029	300,704	855,612	1,156,316	2,620,888	-0.3%	0	-0.2%
2030	300,704	855,612	1,156,316	2,616,100	-0.3%	0	-0.2%
2031	300,704	855,612	1,156,316	2,611,657	-0.3%	0	-0.2%
2032	300,704	855,612	1,156,316	2,607,214	-0.3%	0	-0.2%
2033	300,704	855,612	1,156,316	2,602,771	-0.3%	0	-0.2%

In general, residential/commercial sector generation is projected to decrease modestly and industrial sector generation is projected to remain flat. **Figure G-4** presents the generation statistics and projections from 2016 to 2033.

Figure G-4. Generation Projections by Sector



APPENDIX H: Strategic Analysis

Appendix H includes fourteen (14) strategic analyses as required by Format v4.0. Each analysis is contained in the sections outlined below. The District hired a consultant to perform the analysis so that an independent and objective perspective could be obtained. The consultant conducted the required analysis for each section and identified various strengths and challenges and opportunities. All existing programs have been qualitatively evaluated using the suggestions included within Format v4.0. Any identified strengths and challenges and opportunities are summarized at the end of each section. For programs where data is available, quantitative evaluations have also been incorporated.

The following sections are included in Appendix H:

- SECTION H-1
  - RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS
- SECTION H-2
  - COMMERCIAL SECTOR ANALYSIS
- SECTION H-3
  - INDUSTRIAL SECTOR ANALYSIS
- SECTION H-4
  - RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS
- SECTION H-5
  - ECONOMIC INCENTIVE ANALYSIS
- SECTION H-6
  - RESTRICTED AND DIFFICULT TO MANAGE WASTE ANALYSIS
- SECTION H-7
  - DIVERSION ANALYSIS
- SECTION H-8
  - SPECIAL PROGRAM NEEDS ANALYSIS
- SECTION H-9
  - FINANCIAL ANALYSIS
- SECTION H-10
  - REGIONAL ANALYSIS
- SECTION H-11
  - POPULATION ANALYSIS
- SECTION H-12
  - DATA COLLECTION ANALYSIS
- SECTION H-13
  - EDUCATION AND OUTREACH ANALYSIS
- SECTION H-14
  - PROCESSING CAPACITY ANALYSIS

SECTION H-1 RESIDENTIAL RECYCLING INFRASTRUCTURE ANALYSIS

This analysis evaluates the performance of the existing residential recycling infrastructure in Cuyahoga County which is presented in Appendix B to determine if it is meeting the needs of the residential sector. As demonstrated in this section, Cuyahoga County has a robust recycling infrastructure with 15 communities providing multi-material drop-off recycling and 22 communities providing limited material drop-off sites. In addition, non-subscription curbside recycling provided by 57 of 59 communities during the reference year, which increased to 58 in 2017. The average curbside recycling rate across all communities in Cuyahoga County that offered curbside recycling during the reference year was 385 lbs/hh/year, which exceeds the national average.

While this recycling infrastructure serves residents who live in single and two family homes very well, the District also faces some recycling infrastructure challenges; namely, the recent closure of 87 of the 88 multi-material drop-off sites within the City of Cleveland. For many Cleveland residents who live in in multi-family complexes and operate small businesses, these drop-off sites were the only local outlet to recycle commingled recyclables. In addition, some of the other Cuyahoga County communities with the highest percent of residents living in multi-family housing did not provide drop-off recycling sites during the reference year. Finally, constricting international recycling markets and tighter quality specifications is resulting in local recycling processers being more particular about the quality of incoming material. These concerns, as well as possible increases in processing fees, could potentially affect the sustainability of residential recycling infrastructure in the District.

A. Drop-Off Recycling Infrastructure

District residents and businesses had access to numerous drop-off locations during the reference year.

The drop-off sites included in this analysis met the general criteria for achieving the Ohio EPA definition of a *multi-material drop-off site* by accepting more than four designated recyclables and also the definition of a *limited-material drop-off* site by accepting less than four designated recyclables. This analysis also includes *single-material drop-offs* that accepted fiber only or aluminum cans only. The drop-offs described herein were operated by individual communities or private companies that collect fiber only, including paper and cardboard.

This analysis is limited to the traditional drop-offs described above and does not include the extensive infrastructure of drop-offs and specialty recyclers that accept donations and other recyclables. In addition to the recycling drop-offs listed below, there are approximately 350 local business and charitable organizations listed on CuyahogaRecycles.org that accept donations of reusable goods or process other types of recyclables from District residents and businesses.

1. *Drop-Off Recycling Sites*

a. Locations of Drop-Off Sites

Table H-1.1 identifies the recycling drop-offs located in the District that accept common household recyclables such as paper, cardboard, cans, glass and plastic containers. These include sites that are publicly-sponsored by communities and the fiber-only Paper Retriever™ drop off sites that accept paper and cardboard.

The other fiber-only drop-off service provider, River Valley Paper, does not provide the District with the number and location of its drop-off sites, therefore those sites are not listed.

As mentioned above, **Table H-1.1** does not include drop-off locations for other recyclable or reusable materials such as household goods, clothing, scrap metal, e-waste and etcetera. A comprehensive list of these other reuse and recycling opportunities is available on the District's website – CuyahogaRecycles.org

Table H-1.1. Recycling Drop-Offs by Community

Table H-1.1. Recycling Drop-Offs by Community				
Political Subdivision	**Population**	**Multi-Material Drop-Off ID#**	**Limited Material Drop-Offs ID#**	**Paper Retriever Fiber Drop-Offs (Total #)**
Bay Village	15,162	N/A	OFTU1	8
Beachwood	11,580	FTU1	OFTU2	11
Bedford	12,528	N/A	OFTU 3-6	5
Bedford Hts	10,441	N/A	N/A	1
Bentleyville	849	N/A	N/A	N/A
Berea	18,655	N/A	N/A	6
Bratenahl	1,151	N/A	N/A	1
Brecksville	13,280	PTU1	N/A	1
Broadview Hts	18,989	N/A	OFTU7 -9	4
Brook Park	18,489	N/A	OFTU10	15
Brooklyn	10,711	N/A	OFTR1	4
Brooklyn Hts	1,505	N/A	N/A	N/A
Chagrin Falls	3,952	N/A	N/A	11
Chagrin Falls Twp	119	N/A	N/A	N/A
Cleveland	381,630	FTU2-FTU89*	N/A	64
Cleveland Hts	44,150	N/A	N/A	12
Cuyahoga Hts	605	N/A	OFTR2	N/A
East Cleveland	17,033	N/A	N/A	1
Euclid	46,847	N/A	N/A	15
Fairview Park	16,155	N/A	OFTU11	8
Garfield Hts	27,603	N/A	N/A	6
Gates Mills	2,207	N/A	OFTR3	1
Glenwillow	910	N/A	N/A	N/A
Highland Hts	8,306	N/A	N/A	3
Highland Hills	951	N/A	N/A	N/A
Hunting Valley	707	N/A	N/A	N/A
Independence	7,037	N/A	N/A	6

Table H-1.1. Recycling Drop-Offs by Community				
Political Subdivision	**Population**	**Multi-Material Drop-Off ID#**	**Limited Material Drop-Offs ID#**	**Paper Retriever Fiber Drop-Offs (Total #)**
Lakewood	49,734	FTU90	N/A	7
Lindale	174	N/A	N/A	N/A
Lyndhurst	13,458	N/A	OFTU12	3
Maple Hts	22,235	N/A	OFTU13	4
Mayfield Village	3,350	N/A	N/A	N/A
Mayfield Hts	18,528	FTU91	N/A	7
Middleburg Hts	15,439	N/A	OFTU14	11
Moreland Hts	3,270	N/A	N/A	N/A
Newburgh Hts	2,056	N/A	N/A	1
North Olmsted	31,472	FTU92	N/A	7
North Randall	991	N/A	OFTR4	N/A
North Royalton	29,919	PTU2, FTU93, FTU94	OFTU15	12
Oakwood	3,620	N/A	OFTR5	N/A
Olmsted Falls	8,794	N/A	N/A	10
Olmsted Twp	13,025	PTU3	N/A	N/A
Orange Village	3,236	N/A	OFTR6	1
Parma	78,565	N/A	OFTU16-17	35
Parma Heights	19,905	N/A	OFTU18-19	8
Pepper Pike	6,131	FTU95	N/A	5
Richmond Hts	10,308	FTU96	N/A	5
Rocky River	20,045	PTU4	OFTU20	11
Seven Hills	11,529	N/A	N/A	3
Shaker Heights	27,151	PTU5	N/A	10
Solon	22,754	FTU97	N/A	11
South Euclid	21,423	N/A	N/A	3
Strongsville	44,148	FTU98	OFTU21-27	16
University Hts	12,984	FTU99	N/A	N/A
Valley View	1,983	N/A	OFTR7	2
Walton Hills	2,273	N/A	OFTR8	N/A
Warrensville Hts	13,093	N/A	N/A	2
Westlake	31,943	FTU100 – FTU105	N/A	17
Woodmere	851	N/A	N/A	N/A

Source of Information: Appendix B **Table B-2a and B-2b** that contains an itemized list of drop-offs and materials accepted by ID #.

***** Only one of the City of Cleveland drop-off sites is still in operation and it is located at the City's Ridge Road Transfer Station.

Table H-1.1 shows that during the reference year:

- 15 communities provided a total of 112 multi-material drop-off sites. These sites accepted more than 4 designated materials. *Note: 88 of the sites were provided by the City of Cleveland and all but one of these sites are now closed.*
- 22 communities provided a total of 35 limited material drop-off sites. These sites accepted less than 4 designated materials.
- Paper Retriever ™ provided a total of 375 fiber-only drop-off sites in 43 communities.
- Residents in ten communities did not have access to any type of drop-off.

With the exception of the City of Cleveland, other community drop offs generally did not accept recyclables generated by outside residents and businesses. The District anticipates service to continue at all of the publicly-sponsored drop-off sites except for those operated by Cleveland. By January of 2017, Cleveland closed all but one site due to cost, contamination and the completion of its city-wide curbside recycling roll-out.

Table H-1.2. shows that the role of drop-offs in Cleveland's recycling system has decreased over the last five years.

Table H-1.2. Cleveland Curbside and Drop-Off Tonnage Trends 2012-2016

Year	Curbside (TPY)	% Change	Drop-off (TPY)	% Change	Total (TPY)	Curbside % of Total	Drop-Off % of Total
2012	8,555	188%	4,120	-8%	12,676	67%	33%
2013	11,895	39%	4,248	3%	16,143	74%	26%
2014	16,509	39%	3,720	-12%	20,229	82%	18%
2015	21,726	32%	2,968	-20%	24,694	88%	12%
2016[1]	25,519	17%	-	-100%	25,519	100%	0%

[1] The City of Cleveland did not provide the District with 2016, drop-off recycling tonnages.

While Cleveland's recycling drop-offs were meant to offer a temporary recycling opportunity until the City had city-wide curbside recycling, extensive contamination was also a factor in the city decision to remove the bins. Maintaining the drop-off sites was expensive and problematic because of contamination and illegal dumping. Contamination occurs when residents place material or packaging in the bins that the MRF does not accept. Illegal dumping occurs when people use the drop-off sites to dump trash or construction debris. The City's MRF contractor reported that contamination in Cleveland's recycling with non-recyclables, trash and construction debris was as high as 50% at times.

While, the City of Cleveland did not provide the District with data on the cost associated with operating its drop-off sites, their concerns are validated by other communities and solid waste districts in Ohio facing similar contamination and illegal dumping problems.

The removal of Cleveland's drop-off sites is a concern for the District as it continues to receive calls, social media feedback and e-mails from residents and small businesses who used the drop-offs. While the District did not track the number of calls it received or whether the drop-off user was a city resident or business, it was determined anecdotally that users were typically residents living in multi-family housing in the City as well as small businesses and students.

The availability of the fiber (paper and cardboard) drop-offs provided by Paper Retriever™ and River Valley Paper is important because they provide some recycling opportunities for apartment dwellers, small businesses and schools. Also, these sites generally do not have the same contamination and illegal dumping problems as the multi-material drop-offs. However, the siting of these bins is not under control of the District and the paper recyclers often close or relocate bins for lack of material. Consequently, the District cannot forecast the future availability of any given site.

Overall, the size and aesthetics of the drop-off sites varied with differing container sizes, colors, and signage. This lack of a consistent look could be causing confusion about the types of material accepted and thus, contamination.

b. Drop-off Recycling - Materials Accepted

The 15 communities that provided multi-material drop-offs accepted a comprehensive list of materials which exceeded the minimum four materials that Ohio EPA considers highly amenable for the residential sector to recycle. The materials accepted were as follows:

Paper:
- Newspaper
- Office Paper
- Mixed paper
- Magazines
- Cardboard

Cans/Containers:
- Aluminum Beverage Cans
- Steel, Tin, Bimetal Food Cans
- Plastic Bottles, Tubs, and Jugs
- Glass Bottles and Jars
- Aseptic Containers (Cartons)

The 22 communities that provided limited-material drop-offs accepted less than four materials during the reference year. The materials accepted and the number of sites were as follows:

- Aluminum cans 27 sites
- Steel cans 4 sites
- Cardboard 13 sites
- Newspaper 1 sites
- Mixed paper 12 sites
- Plastics 4 sites

Paper Retriever ™ provided 375 fiber-only drop-offs accepting the following materials:

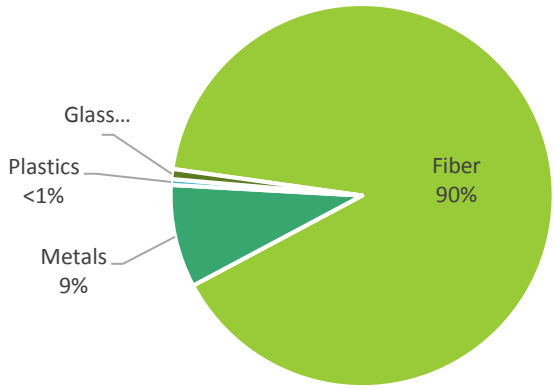
- Newspaper
- Office paper
- Mixed paper
- Magazines
- Cardboard

c. Quantities and Types of Recyclables Received

During the reference year, communities and private recyclers reported that the drop-off sites recovered approximately 5,778 tons of recyclables. [*Note:* not all communities were able to separate their drop-off tonnages from their curbside tonnages. In these instances, the total tonnage was credited towards curbside recycling. Consequently, the drop-off tonnage was most likely higher.]

Using data provided by the communities and private recyclers, **Figure H-1.1** shows the composition of the recyclable materials received at drop-off sites during the reference year.

Figure H-1.1. Materials Received at Drop-Off Sites: 2016



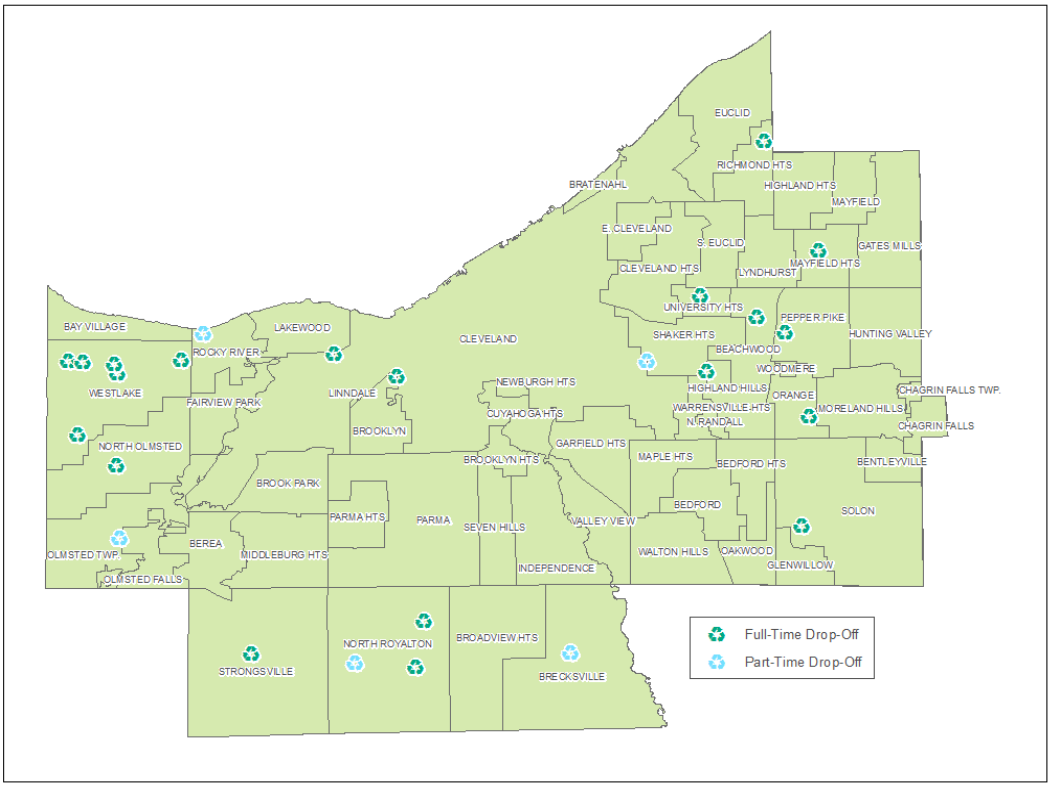
d. Drop-off Recycling Access

As shown in **Table H.1.1**, 15 communities provided multi-material drop-off sites during the reference year. The population directly served by a drop-off in their community was 711,607 or 58% of the District's population.

However, as previously discussed, the drop-off sites sponsored by the City of Cleveland were available to all District residents, which means the entire District population had access to drop-off recycling during the reference year. One City of Cleveland drop-off site will continue to be available to the entire District population throughout the planning period.

Most of the community drop-off sites in the District meet the minimum standards to be classified as full-service drop-offs. Most drop-offs in the District are open dawn to dusk or 24 hours, 7 days a week. Some drop-offs have specific operating hours (see Appendix B). **Figure H-1.2** presents a map of the full time and part time, community drop-off sites in the District except for the 88 in the City of Cleveland

Figure H-1.2. Full and Part-Time Drop-off Locations in the District



Note: Due to the density of the City of Cleveland drop-offs, they were not included on this map as they could not be visually differentiated

e. Education and Awareness for Drop-off Recycling Opportunities.

Residents can search *Cuyahogarecycles.org*, to find locations of multi and limited material drop-offs sites within their community, as well as opportunities to recycle and donate other items at approximately 350 non-profits and private businesses located throughout Cuyahoga County. On the District's website, residents can select their community from a drop-down menu to load a page that includes information about curbside programs, drop-off locations, materials accepted, and special waste collections. Paper Retriever ™ and River Valley drop-off locations are not included on the website but links are provided so that residents may go to the company website to search by zip code.

The District is also working with each community to post current recycling information on their own websites. The purpose is to have consistent recycling information county-wide. See Appendix H, section 13 and Appendix L for more information about the District's outreach, education and awareness efforts.

f. Drop-off Infrastructure Strengths, Challenges and Opportunities

Drop-off Recycling Strengths

- Drop-offs play an important role in expanding recycling opportunities for residents that are not served by curbside recycling programs and small business that may not generate enough volume to make a commercial recycling program viable.
- Drop-offs are especially important in District communities that have a high number of multi-family housing (MFH) properties or a significant portion of the residents living in MFH establishments.
- In addition to the traditional drop-off sites, there are currently private businesses and non-profit organizations that accept various materials for recycling and reuse from all District residents and business regardless of where they reside or where their business is located.
- The District's website provides residents with detailed information about all reuse and recycling opportunities in the District as well as community drop-offs.
- If a community sponsors a drop-off site, it is available to their MFH residents and small businesses.
- Contamination does not appear to be a significant problem at fiber- only drop-off sites.

Drop-off Recycling Challenges

- Contamination and illegal dumping at drop-off sites could make some drop-offs financially unsustainable to operate as it did with Cleveland. Most contamination occurs at the multi-material sites.
- With the closure of all but one of Cleveland's drop-off locations, access to recycling is more limited for the MFH and small businesses that were using

them. Many of these residents and business owners notified the District about their concerns once they closed.

- Drop off sites provide recycling opportunities for MFH residents and small businesses; however, data is not available to assess the type of generator using the drop-offs or to target educational materials by generator.
- Private companies operating fiber only drop-offs often close or relocate drop-off sites due to low usage.
- River Valley Paper (one of the two fiber-only drop off providers) does not provide the District with data on the number/location of sites within a community or the tonnage recovered within a community.
- Residents and businesses cannot search for specific Paper Retriever™ and River Valley Paper drop-off sites by their zip code on the District's website because locations frequently change and the companies are reluctant to provide the District with current lists.
- Challenges that arise from having the drop-off programs operated by multiple public and private entities include the following:
    - Communities that financially sponsor a drop-off site do not want to accept recyclables from residents and businesses in other communities.
    - Different size and different color bins (lack of branding) may be used at each site, making drop-offs potentially more difficult for residents to identify.
    - The District does not know if there are issues with contamination, vandalism, capacity, damage, etc., and if there are issues, whether they are being addressed in a timely fashion.
    - Containers at sites may not have consistent decals or adequate information displayed regarding materials accepted or who to contact in case of issues/questions.
    - Not all communities are able to itemize the amount of recyclables recovered through their drop-off program from the combined curbside/drop-off total. Consequently, it is difficult to measure and estimate drop-off site usage or program success without tonnage information.

Drop-off Recycling Opportunities

- **Public-Private-Partnership to Establish Fiber Drop-off Sites**
  The District could facilitate a public-private –partnership (PPP) with a private recycler to locate fiber-only drop-off containers in communities with limited or no drop-off recycling infrastructure or a high percent of MFH establishments. Through this partnership the District would provide the containers and the private partner would collect and process the fiber. The containers could be staged at municipal locations such as service, police or fire stations where they can be actively monitored. Restricting the drop-offs to fiber lessens the problem of illegal dumping that typically occurs at multi-material drop-offs but still captures the largest component of the residential

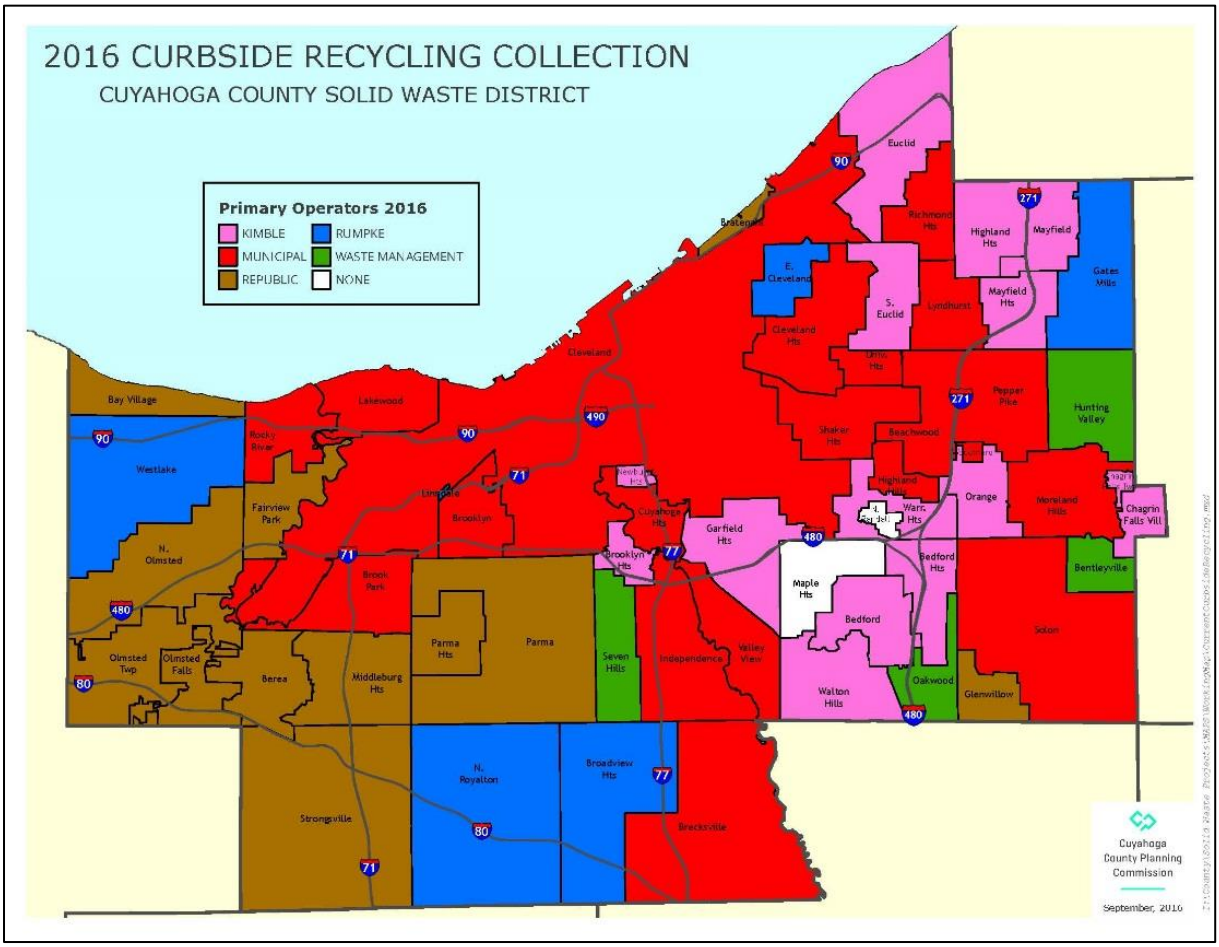
waste stream. The District and the private partner could brand vehicles and containers with the CuyahogaRecycles.org logo, and the District website would reinforce the adverse impacts of contamination and illegal disposal on the sustainability of the drop-off sites.

- **Survey Drop-Off Site Participants to Obtain User Information**
  The District could survey participants at certain community drop-off sites to ascertain why they use the site, how they learned about the site, the generator type (single-family, MFH, business) and other information useful to determine motivations for using a drop-off site and the importance of proper recycling.
- **Audit Recycling Drop-Offs to Investigate Contamination**
  The District could investigate reports of contamination at drop-off sites. This could be conducted through visual inspections or through waste sorts at MRFs. The District could work closely with the MRF operator and the community to conduct a waste sort to identify the types of contamination and the possible sources and address through increased controls or education of users.
- **Educate Users about the Relationship between Contamination and Program Sustainability**
  The District could foster an understanding of the relationship between contamination and drop-off program sustainability at all school and adult education programs, and require all Community Recycling Awareness Grant Recipients to highlight this relationship in all promotional materials.

B. Curbside Recycling Infrastructure

During the reference year, residents in 57 of 59 communities had access to curbside recycling on a non-subscription basis. The curbside service providers were either the municipalities themselves or a private company under contract with a municipality. The only two communities without curbside recycling in the reference year were North Randall and Maple Heights. However, Maple Heights began curbside service in 2017 after the District helped the City renegotiate its waste contract to include bi-weekly, automated curbside recycling collection. The District expects that all 58 curbside recycling programs will continue operating throughout the planning period.

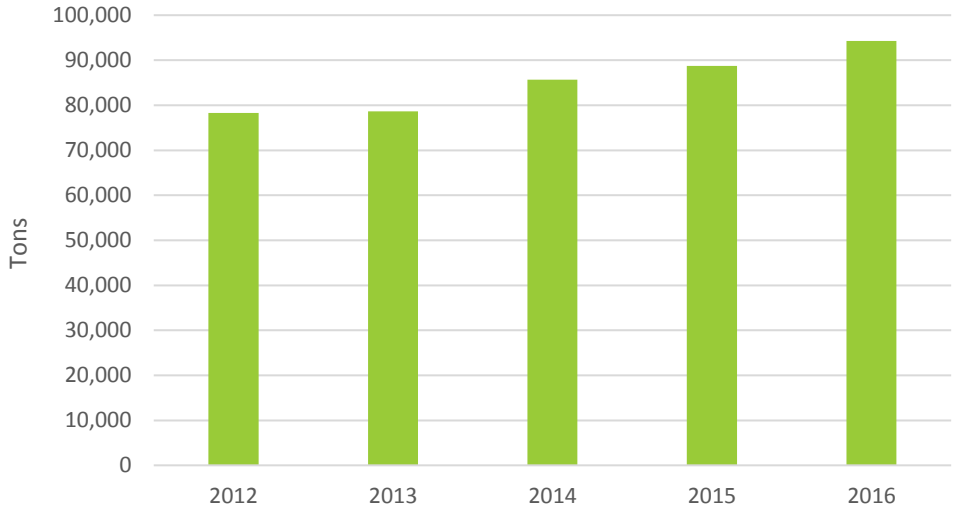
Figure H-1.3. Curbside Recycling Service Providers: 2016



1. Curbside Recycling Infrastructure and Programs

Despite a declining population in the District, there has been an overall increase in the tons recovered from community recycling programs since 2012[1]. **Figure H-1.4** presents the tonnage of recyclables collected from curbside recycling programs from 2012 to 2016. Throughout this section, the curbside recycling figures exclude yard waste.

Figure H-1.4 Curbside Recyclables Recovered between 2012 and 2016 in the District



a. Tons Recovered and Performance

Table H-1.3 shows the total tons of recyclables each community collected through its curbside recycling program and the total pounds of collected per household per year (lbs/hh/yr). [Note: For those communities that were not able to break out drop-off recycling and appliance recycling weights from their curbside weights, **Table H-1.3** includes these tonnages.]

According to The Recycling Partnership (TRP), on average, the national rate of recovery from curbside recycling is 300-350 lbs/hh/year. TRP suggests that a good target recovery rate for communities would be 400-450 lbs/hh/year. They report some high performing communities achieve a 600 lbs/hh/year on average. The average curbside recycling rate across all communities in Cuyahoga County that offered curbside recycling during the reference year was 385 lbs/hh/year, which exceeds the national average.

Table H-1.3 shows that in Cuyahoga County, 40 communities met or exceeded the national average by recycling between 300 and 762 pounds per household per year. The remaining 19 communities that offered curbside recycling during the reference year recycled less than the national average - under 300 /lbs/hh/year.

Table H-1.3. 2016 Curbside Recycling Statistics by Community

Table H-1.3. 2016 Curbside Recycling Statistics by Community				
Community	**Container Type**	**Households in Curbside Program**	**Curbside Recycling TPY**	**Curbside Recycling lbs/hh/year**
Bay Village	Cart	6,250	2,049	656
Beachwood	Cart	2,920	742	508
Bedford	Cart	4,700	1,012	431
Bedford Heights	Cart	2,785	498	357
Bentleyville	Cart	864	116	269
Berea	Cart	7,471	1,552	415
Bratenahl	Cart	811	158	391
Brecksville	Bin/Bag	5,054	958	379
Broadview Heights	Bin/Bag	7,040	1,161	330
Brook Park	Cart	8,360	991	237
Brooklyn	Cart	4,000	644	322
Brooklyn Heights	Cart	617	235	762
Chagrin Falls Twp.	Cart	41	12	585
Chagrin Falls Village	Cart	1,787	495	554
Cleveland	Cart	138,000	25,519	370
Cleveland Heights	Bin/Bag	15,543	2882	371
Cuyahoga Heights	Cart	280	27	193
East Cleveland	Bin/Bag	8,286	57	14
Euclid	Cart	16,463	2,699	328
Fairview Park	Cart	5,986	1,640	548
Garfield Heights	Cart	10,500	1,970	375
Gates Mills	Bin/Bag	1,000	148	296
Glenwillow	Cart	297	48	322
Highland Heights	Cart	3,435	871	507
Highland Hills	Bin/Bag	151	14	187
Hunting Valley	Cart	275	49	354
Independence	Cart	3,025	849	561
Lakewood	Cart	28,498	4,834	339
Linndale	Cart	40	11	554
Lyndhurst	Cart	5,848	1,265	433
Maple Heights		0	0	0
Mayfield	Cart	1,206	354	587
Mayfield Heights	Cart	5,145	509	198
Middleburg Heights	Bin/Bag	5,658	715	253
Moreland Hills	Cart	1,500	534	712
Newburgh Heights	Cart	950	178	374
North Olmsted	Cart	10,420	2,901	557

Table H-1.3. 2016 Curbside Recycling Statistics by Community				
Community	Container Type	Households in Curbside Program	Curbside Recycling TPY	Curbside Recycling lbs/hh/year
North Randall		0	0	0
North Royalton	Cart	9,700	1,510	311
Oakwood	Bin/Bag	1,648	65	79
Olmsted Falls City	Cart	3,500	715	409
Olmsted Township	Cart	3,000	1,029	686
Orange	Cart	1,370	403	589
Parma	Cart	29,000	6,260	432
Parma Heights	Cart	6,237	1682.12	539
Pepper Pike	Bin/Bag	2,560	415	324
Richmond Heights	Bin/Bag	3,360	50	30
Rocky River	Bin/Bag	10,166	1,085	214
Seven Hills	Cart	5,250	1,290	491
Shaker Heights	Bin/Bag	10,385	1,526	294
Solon	Cart	8,262	2,146	519
South Euclid	Cart	8,780	1,806	411
Strongsville	Bin/Bag	15,680	2,145	274
University Heights	Bin/Bag	4,270	279	131
Valley View	Bin/Bag	767	107	279
Walton Hills	Cart	960	238	496
Warrensville Hts	Cart	3,800	398	210
Westlake	Bin/Bag	14,843	1,907	257
Woodmere	Bin/Bag	135	22	327

b. Type of Collection – Automated Collection with Carts

One of the District's goals has been to improve residential curbside recycling by increasing the number of communities using automated collection with recycling carts. The 64 and 96-gallon recycling carts provide additional capacity for recycling, which is proven to recover 400 to 450-pounds of recyclables per household per year[2]. In addition, automated collection increases collection speed and efficiency and reduces worker compensation claims.

Currently, 40 communities in the District offer curbside recycling using 64 or 96-gallon carts. Nearly half of these communities have converted to carts since 2012, pointing to the trend for communities to convert to automated collection when new collection contracts are executed. The average lbs/hh/yr of recyclables recovered from District communities that used carts was 447. The average lbs/hh/yr of recyclables recovered for all District communities was 385.

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

The District tracks data documenting recycling "before" and "after" the conversion to cart-based collection. On average, the communities that switched to recycling carts from blue bags or 18-gallon tubs achieved a 77% increase in recycling collection. This has increased the quantity of material recovered by over 10,000 tons annually.

One downside of carts however is contamination. National studies indicate that contamination is significantly higher in a single steam cart system than when recyclables are set out using bags or bins. According to a Waste Management spokesperson in 2016, the company's average residue rate for commingled recyclables delivered to its nearly 100 North American MRFs is now 16% percent. That residue is landfilled rather than recovered. That means that nationally, by weight, 16% of materials brought into facilities from curbside programs is not recoverable.

MRFs are becoming concerned about high contamination rates as international markets increase standards for the quality of recyclables. Currently, the District does not audit MRFs or recycling programs for contamination, but MRFs do provide data on contamination rates of all recyclables processed. To reduce contamination of Cuyahoga-generated recyclables, the District initiated a campaign to improve the quality of recyclables delivered to MRFs.

c. Type of Collection - Blue Bag and/or Bin Collection

During the reference year, 16 communities collected recyclables using blue bags or a combination of blue bags and/or 5-gallon or 18-gallon bins. Both private haulers and municipal crews provided curbside collection services in these communities. These smaller collection receptacles do affect recycling rates. The average lbs/hh/yr of recyclables recovered from District communities that use blue bags and/or bins is 238. The average lbs/hh/yr of recyclables recovered for all District communities is 385.

While the blue bag collection is popular with some residents and communities, MRFs would like to see the blue bags replaced with loose collection. The film plastic is a problem for MRF's. The bags must first be split open, which is time consuming and the plastic film can damage processing equipment. Additionally, MRFs claim that residents use blue bags for containing garbage rather than recyclables, however, data is not available to validate whether this is actually occurring in the District.

d. Education and Awareness

The District provides information regarding each community's curbside recycling program on their website. The District also provides a variety of programs and other types of support to municipalities for curbside recycling, including offering contracting assistance, special waste collections, the creation of an annual *Residential Recycling Report*, recycling awareness toolkit, community contracts and practices, recycling awareness grants, and other services. See Appendix L for a discussion of Education and Awareness programs within the District.

2. Curbside Recycling Strengths, Challenges and Opportunities

Curbside Recycling Strengths

- The residential, curbside recycling infrastructure in the District is robust as residents in 57 of 59 communities had access to curbside recycling service during the reference year with another community adding curbside recycling in 2017.
- More than two-thirds of communities met or exceeded the average national curbside recycling rate of 300-350 lbs/hh/yr.
- Multiple private haulers compete for municipal contracts that include curbside recycling, which keeps costs low and the variety of materials accepted high.
- The District successfully helped 26 communities convert to a cart system between 2012 and 2016, which increased recycling by over 10,000 tons per year and yielded an average of 447 lbs/hh/yr that was approximately 14% above the District average.
- Over two-thirds of communities use carts to collect recyclables (40 total).
- The District has implemented an education campaign to decrease contamination in curbside recyclables.

Curbside Recycling Challenges

- During the reference year, 16 communities still had a blue bag or bin collection system. The lbs/hh/yr in these communities was approximately 38% less than the District average and 53% less than communities that used carts to contain recyclables.
- Recycling rates vary significantly by community.
- There are communities that are below the "average" for both automated and blue bag systems.
- The international recycling market is becoming extremely stringent about contamination rates in recyclables, which translates into MRFs either charging for loads based on contamination levels or completely rejecting recyclables from communities where high percent of contaminants are a persistent problem.
- Contract prices for recyclables may increase and revenue sharing may decrease due to decreased value of recyclables.
- The District derives individual community recycling rates based on the community and processor provided data. Currently, there is no formal process to validate disposal or recycling data.

Curbside Recycling Opportunities

- **Work with "blue bag" communities to evaluate feasibility of converting to carts** The District could conduct a cost benefit analysis for communities that still use the blue bags to assess the potential for savings by converting to carts. The District could identify grants that would help municipal haulers pay for carts and collection equipment.

- **Work with North Randall to help implement curbside recycling**
  The District could work with the one remaining community that does not offer curbside recycling to implement a program.
- **Conduct targeted education in lower performing communities**
  The District could conduct targeted education and outreach in the fourteen communities that are recovering less than the national average of 300-350 pounds per household per year.
- **Use focus groups or surveys in lower performing communities**
  Conduct focus groups or surveys in communities with recycling rates that are below the average to identify reasons for lower recycling rates. These could be followed up with enhanced education and outreach in these communities.
- **Target education in communities with high contamination**
  The District could work with haulers to identify routes or communities with high levels of recycling contamination and target those routes or communities for enhanced education and outreach.

C. Multi-Family Recycling Infrastructure

Approximately 17.3% of the all housing units in the District are multi-family (MFH)[3].

1. MFH Locations and Recycling Access

The percentage of MFH of all housing units varies greatly among the political subdivisions in the District - ranging from 0% to 57.7%. The five communities with the highest percentage of MFH units of all housing units within their community are as follows:

- Woodmere 57.7%
- Highland Hills 51.4%
- North Randall: 45.2%
- Bedford Heights 40.7%
- Mayfield Heights 39.7%

Out of 612,121 living units in Cuyahoga County, 105,836 are MFH units. The five communities with the greatest number of MFH units include:

- Cleveland 39,806 MFH units
- Lakewood 8,624 MFH units
- Euclid 6,821 MFH units
- East Cleveland 5,175 MFH units
- Cleveland Heights 5,135 MFH units

Table H-1.5 shows the recycling drop-off(s) available to multi-family residents within the ten above mentioned communities during the reference year.

[3] Cuyahoga Countywide Housing Study. Cuyahoga County Planning Commission. August 10, 2016.

Table H-1.5. Recycling Drop-Offs Available in High MFH Communities

Table H-1.5. Recycling Drop-Offs Available in High MFH Communities				
Political Subdivision	Population	Multi-Material Drop-Off ID#	Limited Material Drop-Offs (ID#)	Paper Retriever Drop-Off Sites (Total Number)
Bedford Heights	10,441	0	0	3
Cleveland	381,630	FTU2-FTU89*	0	64
Cleveland Heights	44,150	0	0	12
East Cleveland	17,033	0	0	1
Euclid	46,847	0	0	15
Highland Hills	951	0	0	0
Lakewood	49,734	FTU90	0	7
Mayfield Heights	18,528	FTU91	0	7
North Randall	991	0	OFTR4	0
Woodmere	851	0	0	0

* Only one of these drop-off sites is still in operation and it is located at the Ridge Road Transfer Station.

As shown in **Table H-1.5**, only three of the high MFH communities provided full-time, multi-material drop-off sites for their residents and the City of Cleveland only has one site for almost 40,000 MFH units now that it has closed 87 drop-offs. **Table H.1.5** also shows that there were no publicly-sponsored recycling drop-offs in six of the high MFH communities. Additionally, multi-family residents in Woodmere had no access to recycling while this community has the highest percent of people living in MFH.

It is important to note that a 2004 study conducted by the Ohio EPA and the Ohio Department of Natural Resources assessing drop-off recycling effectiveness in Ohio concluded that residents in an urban area will typically drive up to 2.0 miles to a recycling drop-off site. Thus, while most communities do have some type of drop-off recycling, it is unclear as to whether they are within 2.0 miles of MFH complexes.

2. District Assistance to Develop MFH Recycling Programs

Between 2012 and 2016, the District worked with MFH property owners to implement recycling programs at 52 establishments. Of these, the District provided extensive support to property management companies in Fairview Park, Cleveland and Beachwood in 2014 to implement or improve recycling at eleven properties totaling more 2,500 housing units. The results of some of these engagements is summarized below:

- **Easthaven Apartments, Beachwood:** 297 luxury units managed by Forest City Management -30% waste reduction through recycling and cost savings achieved by decreased trash hauling.
- **Willowood Manor, Fairview Park**: 70-unit senior housing units managed by LSC Property Management - 40% waste reduction and $3,000 annual savings from renegotiating waste hauling contract and adding recycling.
- **200 West, Fairview Park:** 173-unit complex, privately owned - 33% waste reduction achieved and the reduction in trash pick-ups made adding recycling cost neutral.
- **Arbor Park Village, Cleveland:** 820-unit low income housing complex owned by The Finch Group - started recycling pilot in 60 unit senior building and achieved 30% waste reduction. Renegotiated waste hauling contract and saved enough money to pay for recycling service.
- **CircleEast Townhomes, University Circle, Cleveland:** 20-unit luxury townhomes owned by The Finch Group -trash and recycling cost reduced by going out to bid, switching haulers and altering container services to provide more recycling capacity. The program doubled recycling.
- **Parkside Dwellings, University Circle, Cleveland:** Owned by the Finch Group – awaiting rear load recycling service to begin with Rumpke so they can start recycling.
- **Doan Classroom Apartments, Famicos Notre Dame Apartments, and University Towers Apartments, Cleveland:** 276 low-income housing units in University Circle managed by the Famicos Foundation – recycling started in all complexes resulting in 30% waste reduction per complex. Cost savings were achieved through decreased trash service.
- **750 Prospect, Cleveland:** a condominium complex in downtown Cleveland – worked to improve recycling participation and quality in an existing program by conducting education sessions with residents and through proper signage.

Through the District's discussions with property managers and other stakeholders, the following barriers to establishing recycling in MFH were discovered:

- Property managers must contract separately for recycling services and often lack the interest to provide recycling or the knowledge of how to provide recycling. There is also a concern over any added cost.
- One of the largest barriers to MFH recycling are apartments that do not use dumpsters as most recycling haulers only collect materials with front loader vehicles.
- Some MFH units have poor route density for recycling collection.
- Of the 52 properties that received District assistance to start a recycling program, 18 no longer provide recycling. One company managed 18 properties and their hauler reported issues with contamination. The contamination was mainly caused by a lack of follow through with signage and container placement guidelines.

3. Multi-Family Recycling Infrastructure - Strengths, Challenges and Opportunities

Multi-Family Recycling Strengths

- Drop-off recycling is available for MFH in some communities.
- The District has been able to help 52 MFH complexes provide recycling opportunities for their residents.
- The District works with MFH property owners to conduct a financial assessment of the costs and value of implementing a recycling program.

Multi-Family Recycling Challenges

- The communities with the highest percent of people living in MFH or MFH units do not always have access to recycling.
- It is unclear if MFH have drop-off sites within the recommended 2.0-mile radius.
- Drop off sites provide recycling opportunities for MFH residents and small businesses. However, data is not available to assess the type of generator using the drop-off sites.
- A strategy does not currently exist for the District to locate drop-off sites in communities with a high number or percent of MFH.
- MFH property owners do not want to allocate parking space to additional dumpsters for recycling and do not want to pay extra for recycling service.
- The data used for the financial analysis does not include District-specific MFH program results on recovery, contamination and financials.

Multi-Family Opportunities

- **Establish District fiber recycling drop-offs in high MFH communities**
  The District could target those communities with a high MFH and limited drop-offs for a drop-off recycling program. Since Cleveland has the largest number of MFH units, this community should be a priority if the District should choose to establish a public-private partnership to develop a drop-off program for fiber only or for single stream recyclables.
- **Create MFH how-to recycle guide**
  The District could audit all of the 52 MFH properties that implemented a recycling program to create a Cuyahoga County-specific database of MFH programs, costs and lessons learned. The information could be assembled into a recycling guide for MFH building owners and managers. The audits could be accomplished through individual site visits or by inviting managers from multiple properties to focus groups.
- **Develop model ordinance to require MFH recycling**
  The District could draft a model ordinance to require space to be dedicated for recycling in all new commercial building projects. This could be incorporated in the Sustainable Cuyahoga ToolKit.
- **Facilitate joint recycling contracting for MFH**
  The District could facilitate cooperative contracting amongst multiple MFH buildings within in a geographic region to increase economies of scale and route densities to decrease costs.

- **Charge for District MFH consulting services**
  The District could begin charging MFH property owners for its recycling consulting services then reimburse those fees if the recycling program successfully operated for at least 12 months.
- **Provide Incentive Grants for MFH**
  The District could provide a financial incentive (grant) to help subsidize the cost of a MFH recycling program for a period of time with the understanding that the program would continue without a subsidy, if successful.

4. Residential Recycling Infrastructure Conclusions

Most Cuyahoga County residents are served by a robust residential recycling infrastructure featuring curbside recycling in all but one very small community. The average amount of curbside recycling per household during the reference year was 385 pounds and exceeds the national average. While the curbside recycling infrastructure serves residents who live in single and two-family homes very well, it excludes residents living in multi-family housing. Some of these residents can recycle through a community-sponsored drop-off or fiber-only drop-off but these opportunities are not widespread. Threats to residential recycling include contamination in curbside and drop-off materials, a constricting international recycling markets and tighter quality specifications. Local MRF's may charge more to process recyclables and/or limit the types of materials they accept to those they can market domestically in the future.

SECTIONS H-2 and H-3. BUSINESS AND INDUSTRIAL SECTOR ANALYSES

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

A. Business and Industry Profiles

The following sections discuss the number and type of businesses in Cuyahoga county, largest employers and geographic considerations. The District used the *U.S. Business Database. Rep*. *Reference USA. Web. 3 Nov. 20* for this analysis.

1. Commercial/Institutional Establishments

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

Based on this definition, there were approximately 47,000 commercial/institutional establishments in Cuyahoga County during the reference year. **Table H-2.1** shows the number of commercial/institutional establishments within each North American Industry Classification System (NAICS) code, as well as the median number of staff employed by each commercial/institutional establishment within each NAICS code.

Table H-2.1. 2016 Commercial/Institutional Establishment Statistics

NAICS Code	NAICS Description	Number of Commercial/ Institutional Establishments	Median Number of Employees per Establishment
42	Wholesale Trade	1,723	6
44-45	Retail Trade	6,179	5
48-49	Transportation and Warehousing	848	6
51	Information	823	6
52	Finance and Insurance	3,470	3
53	Real Estate and Rental and Leasing	2,323	5
54	Professional, Scientific, and Technical Services	5,428	3
55	Management of Companies and Enterprises	52	2
56	Administrative and Support and Waste Management and Remediation Services	1,637	4
61	Educational Services	1,270	18
62	Health Care and Social Assistance	12,240	3
71	Arts, Entertainment, and Recreation	837	6
72	Accommodation/Food Service	3,365	8
81	Other Services (Except Public Administration)	5,622	4

Table H-2.1. 2016 Commercial/Institutional Establishment Statistics

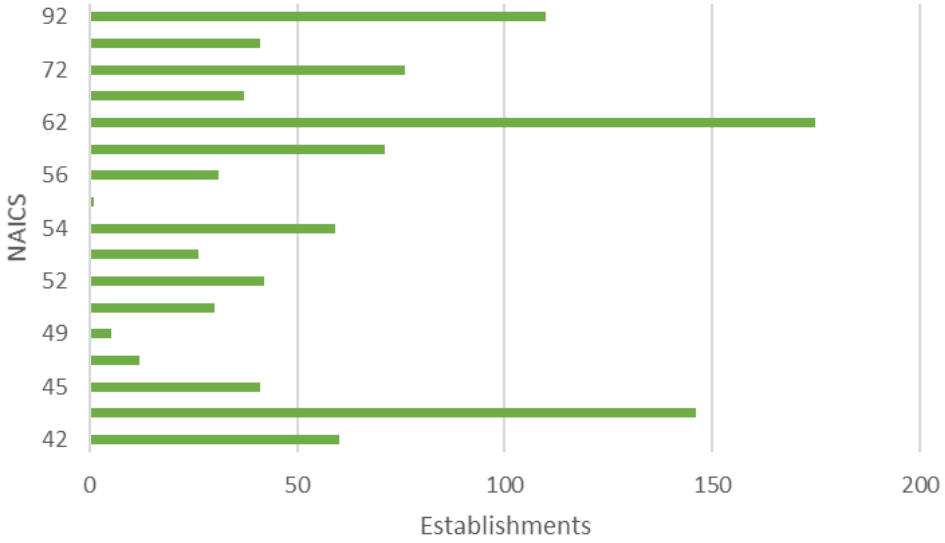
NAICS Code	NAICS Description	Number of Commercial/ Institutional Establishments	Median Number of Employees per Establishment
92	Public Administration	1,141	12

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20*

As shown in **Table H-2.1**, the majority of commercial/institutional businesses in Cuyahoga County are health care and social assistance enterprises and most employ fewer than nine employees. The exception to this is education and public administration where the average number of employees is 18 and 12, respectively. Due to the small size of these businesses, most share dumpsters with other businesses. This dynamic makes implementing recycling programs at these establishments more challenging.

However, there are larger commercial and institutions establishments in the District that most likely arrange for their own waste management services which increase the viability of recycling. Based on the District's analysis, 976 or approximately 2% of all commercial and institutional establishments have at least 100 employees**. Figure H-2.1** shows the number of establishments in each NAICS code that have at least 100 employees.

Figure H-2.1. Establishments with at Least 100 Employees



Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20*

Table H-2.2 identifies the top 10 employers in the District.

Table H-2.2. Top 10 Employers in the District

Company Name	NAICS	Employees
Cleveland Clinic Health Care System*	62	31,668
University Hospitals Health*	62	16,595
Progressive Corp	52	8,765
Cleveland Metropolitan School District	61	7,558
Cuyahoga County	92	7,498
City of Cleveland	92	6,608
The Metro Health System	62	6,381
Key Corporation	52	4,612
Case Western Reserve University	61	4,455
US Postal Service	92	3,599

Source: *Crain's Cleveland Business Book of Lists - July 18, 2016 - July 24, 2016*
***** 2016 District Recycling Survey respondent

Finally, there are address-specific, concentrations of commercial/institutional establishments with similar NAICS codes throughout the Cuyahoga County. For example, legal advisors with a 55 NAICS code are located at 55 Public Square in Cleveland and 36 medical professionals have offices at 10 Severance Circle in Cleveland Heights. Most of these businesses have less than 10 employees. However, a clustering of businesses with a similar waste stream could generate enough volume that in turn, encourages a private recycler to establish a route or site a drop-off to recover their recyclables.

2. Industrial Establishments

Approximately 2,900 industrial businesses operated in Cuyahoga County during the reference year. Unlike commercial and institutional establishments, most industrial businesses have just one location in Cuyahoga County making it easier to implement a waste reduction and recycling program. **Table H-2.3** shows the number of industrial business within each North American Industry Classification System (NAICS) code, as well as the median staff employed by each industrial business for each NAICS code.

Table H-2.3. 2016 Industrial Statistics

NAICS Code	NAICS Description	Number of Industrial Businesses	Median Number of Employees per Establishment
311	Food	160	5
312	Beverage and Tobacco	28	62
313	Textile Mills	11	7
314	Textile Products	35	5
315	Apparel	14	10
316	Leather and Allied Products	4	9
321	Wood Products	26	13
322	Paper	44	28
323	Printing	209	5

Table H-2.3. 2016 Industrial Statistics

NAICS Code	NAICS Description	Number of Industrial Businesses	Median Number of Employees per Establishment
324	Petroleum and Coal	13	8
325	Chemical Manufacturing	96	19
326	Plastic and Rubber	73	15
327	Non-Metallic Mineral Products	66	8
331	Primary Metals	87	22
332	Fabricated Metals	560	10
333	Machinery	313	12
334	Computer and Electronic Products	108	15
335	Electrical Equipment, Appliances and Components	641	8
336	Transportation Equipment	69	11
337	Furniture and Related Products	77	6
339	Miscellaneous Manufacturing	289	10

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20*

***** 2016 District Recycling Survey respondent

Fifty-five percent of industrial business have a median employment of 10 or more individuals, and the median number of employees in NAICS 312 (Beverage and Tobacco) is 62. Similar to commercial and industrial establishments, only a small percent of industrial businesses (7%) have a staff of greater than 100 employees. However, there are more than 200 such business and the top 20 industrial business employers are presented in **Table H-2.4**.

Table H-2.4. Largest Industrial Business Employers

Company Name	City	NAICS	Staff
Swagelok Fulfillment Center	Solon	334	4,000
GM Metal Fabrication Div	Cleveland	336	4,000
TTI Floor Care North America	Solon	335	2,900
GM Parma Metal Center	Cleveland	336	2,296
Ford Motor Co	Cleveland	336	2,200
Nestle Prepared Foods Co*	Solon	311	2,000
UTC Aerospace Systems	Cleveland	336	2,000
Arcelormittal USA Inc	Cleveland	331	1,951
American Greetings *	Westlake	323	1,800
Rockwell Automation	Cleveland	333	1,800
Ford Cleveland Engine Plant	Brookpark	333	1,100
Nestle Prepared Foods Co*	Solon	311	860
PPG*	Cleveland	325	800
Parker-Hannifin Corp	Cleveland	333	720
Lubrizol Advanced Materials	Cleveland	325	600
Charter Steel*	Cleveland	332	600
Swagelok Co*	Solon	334	600

Table H-2.4. Largest Industrial Business Employers

Company Name	City	NAICS	Staff
Fastener Group-Elgin	Brecksville	339	557
Moen Inc.	North Olmsted	332	550
Eaton Corp*	Beachwood	334	550

Source: *U.S. Business Database. Rep. Reference USA. Web. 3 Nov. 20*

The majority of industrial businesses (1,592 of approximately 2,900) are located in the City of Cleveland. The following communities with the largest number of industrial businesses are as follows:

Community	*Number of Industries*
• Cleveland	1,592
• Bedford	90
• Strongsville	87
• Solon	83
• Westlake	53
• Berea	49
• Euclid	44
• North Royalton	31
• Lakewood	26
• Brook Park	23
• North Olmsted	23

B. Business Recycling Infrastructure

A robust infrastructure of companies that recycle materials is available to District businesses. This infrastructure includes companies that recycle traditional commodities such as paper, as well as business-specific materials such as barrels and drums. The District inventories these recyclers at least once a year, and has created an on-line directory where business can key word search the product they want to recycle. The District's *Business Recycling Directory* provides them with the name, location and contact information for the recycler. **Table H-2.5** identifies the companies listed in the *Business Recycling Directory* during the reference year.

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

Material	Company	Address	City	State
Antifreeze	B.B.N. Oil Recycling	245 Beacon Hill Boulevard	Northfield	OH
	Chemical Solvents, Inc.	3751 Jennings Road	Cleveland	OH
	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors	2930 Independence Road	Cleveland	OH
	Environmental Specialists, Inc.	1000 Andrews Avenue	Youngstown	OH
	Everclear	3700 Oakwood Avenue	Austintown	OH
	Heritage-Crystal Clean, LLC	10012 Akins Road	North Royalton	OH

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

Material	Company	Address	City	State
	Hukill Environmental Services	7013 Krick Road	Bedford	OH
Asphalt	Boyas Excavating, Inc.	11311 Rockside Road	Valley View	OH
	Kurtz Bros., Inc.	850 Valley Belt Road	Brooklyn Hts	OH
	PK Crushing and Materials	550 Dan Street	Akron	OH
Barrels, Drums, and Tote Carts	Advance Iron & Metal Co., Inc.	7007 Quincy Avenue	Cleveland	OH
	Container Compliance Corp.	5151 Denison Avenue	Cleveland	OH
	National Container Group	9612 Meech Avenue	Cleveland	OH
	Recycle Zone, LLC	28820 Lorain Road	North Olmsted	OH
Batteries	Battery Solutions	5900 Brighton Pines Court	Howell	MI
	Big Green Box	125 E. Commercial Street	Anaheim	CA
	Bulldog Battery	37645 Vine Street	Willoughby	OH
	CALL2RECYCLE			
	E-Waste LLC	1261 Hudson Gate Drive	Hudson	OH
	Ohio Energy Source	25405 Broadway Avenue	Oakwood Vlg	OH
	Recycle Zone, LLC	28820 Lorain Road	North Olmsted	OH
	Regency Technologies	6111 Cochran Road	Solon	OH
	Retrieve Technologies	265 Quarry Road SE	Lancaster	OH
Books	Caraustar Cleveland Recycling	3400 Vega Avenue	Cleveland	OH
	River Valley Paper Company	120 East Mill Street	Akron	OH
	Royal Oak Recycling	16065 Industrial Lane	Cleveland	OH
	Waste Parchment Inc.	4510 Township Road 307	Millersburg	OH
Bricks	Baumann Enterprises	4801 Chaincraft Rd	Garfield Hts	OH
	Boyas Excavating, Inc.	11311 Rockside Road	Valley View	OH
	Kurtz Bros., Inc.	850 Valley Belt Road	Brooklyn Hts	OH
Cardboard	All Ohio Secure Shred	3842 Congress Parkway	Richfield	OH
	Caraustar Cleveland Recycling	3400 Vega Avenue	Cleveland	OH
	Extreme Green Recycling	1321 Lloyd Road	Wickliffe	OH
	Gateway Recycling	4223 East 49th Street	Cleveland	OH
	Keep It Green Recycling	P.O. Box 81922	Cleveland	OH
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Recycle-It, LLC	19100 Holland Road	Cleveland	OH
	River Valley Paper Company	120 East Mill Street	Akron	OH
	Royal Oak Recycling	16065 Industrial Lane	Cleveland	OH
Carpet & Carpet Padding	Flooring Transport	1601 Perry Drive SW	Canton	OH
	Interface Carpet		Cleveland	OH
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Shaw Floors			
Compact Discs & DVD's	Alltech Electronics Recycling	34300 Lakeland Boulevard	Eastlake	OH
	Greendisk			

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

Material	Company	Address	City	State
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Regency Technologies	6111 Cochran Road	Solon	OH
	Secure It Asset Disposition	8001 Moving Way	Mentor	OH
Computers & Electronics	Alltech Electronics Recycling	34300 Lakeland Boulevard	Eastlake	OH
	E Scrap Solutions	7510 Bittern Avenue	Cleveland	OH
	E-Waste LLC	1261 Hudson Gate Drive	Hudson	OH
	Regency Technologies	6111 Cochran Road	Solon	OH
	RET3 Job Corp.	1814 East 40th Street	Cleveland	OH
	Secure It Asset Disposition	8001 Moving Way	Mentor	OH
	Vintage Tech Recyclers	4601 DeWitt Rd.	Canton	MI
Concrete	Baumann Enterprises	4801 Chaincraft Rd	Garfield Hts	OH
	Boyas Excavating, Inc.	11311 Rockside Road	Valley View	OH
	Demilta Sand & Gravel	921 Erie Road	Eastlake	OH
	Independence Excavating	5720 Schaaf Road	Independence	OH
	Kurtz Bros., Inc.	850 Valley Belt Road	Brooklyn Hts	OH
	PK Crushing and Materials	550 Dan Street	Akron	OH
Construction and Demolition Debris	Cuyahoga Landfill Inc.	6640 Cochran Road	Solon	OH
	Baumann Enterprises	4801 Chaincraft Rd	Garfield Hts	OH
	Boyas Excavating, Inc.	11311 Rockside Road	Valley View	OH
	Kurtz Bros., Inc.	850 Valley Belt Road	Brooklyn Hts	OH
	Pete Container Service, Inc.	4830 Warner Road	Garfield Hts	OH
	Rosby Resource Recycling	4963 Schaaf Lane	Brooklyn Hts	OH
Fire Extinguishers	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Darling Fire & Safety	13404 St. Clair Avenue	Cleveland	OH
Fluorescent Bulbs	Bethlehem Lamp Recycling	890 Front Street	Hellertown	PA
	Chemical Solvents, Inc.	3751 Jennings Road	Cleveland	OH
	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors Environmental	2930 Independence Road	Cleveland	OH
	Heritage-Crystal Clean, LLC	10012 Akins Road	North Royalton	OH
Food Waste	Barnes Nursery, Inc.	3511 W. Cleveland Road	Huron	OH
	Dart Disposal & Recycling	8647 Lyndon Street	Detroit	MI
	Grind2Energy	4700 21st Street	Racine	WI
	GroundZ	6712 Donald Avenue	Valley View	OH
	Organix Recycling, LLC	19065 Hickory Creek Drive	Mokena	IL
	Quality Farms	1227 Deeds Ave.	Dayton	OH
	Quasar Energy Group	13550 Aspinwall Avenue	Cleveland	OH
	Rid-All Green Partnership	8129 Otter Rd	Cleveland	OH
	Rust Belt Riders	3635 Perkins Ave.	Cleveland	OH
Glass	PEL America	4400 Carnegie Ave	Cleveland	OH

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

Material	Company	Address	City	State
	Strategic Materials, Inc.	2300 West 3rd Street	Cleveland	OH
Industrial Filters	The Filter Factory	7400 Bessemer Ave	Cleveland	OH
Litho Film & X-Rays	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors Environmental	2930 Independence Road	Cleveland	OH
	Crown & Kornell Corp.	3950 Ben Hur Ave.	Willoughby	OH
	Shredding Network	29325 Clayton Avenue	Wickliffe	OH
Mattresses	Cleveland Furniture Bank	13360 Smith Road	Middleburg Hts	OH
Medical Plastics	Buckeye Industries	33851 Curtis Boulevard	Eastlake	OH
	Buckeye Industries	12131 Bennington Street	Cleveland	OH
Mercury	Chemical Solvents, Inc.	3751 Jennings Road	Cleveland	OH
	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors Environmental	2930 Independence Road	Cleveland	OH
	Environmental Specialists, Inc.	1000 Andrews Avenue	Youngstown	OH
	Heritage-Crystal Clean, LLC	10012 Akins Road	North Royalton	OH
	Hukill Environmental Services	7013 Krick Road	Bedford	OH
Office Furniture	National Office	15655 BrookPark Road	Brook Park	OH
	Office Furniture Warehouse	4100 Payne Avenue	Cleveland	OH
Oils & Oil Filters	Akron Canton Waste Oil Co.	1701 Sherrick Road SE	Canton	OH
	B.B.N. Oil Recycling	245 Beacon Hill Boulevard	Northfield	OH
	Chemical Solvents, Inc.	3751 Jennings Road	Cleveland	OH
	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors Environmental	2930 Independence Road	Cleveland	OH
	Dubro Oil	2400 Mulberry Street	Cleveland	OH
	Environmental Specialists, Inc.	1000 Andrews Avenue	Youngstown	OH
	Everclear	3700 Oakwood Avenue	Austintown	OH
	Heritage-Crystal Clean, LLC	10012 Akins Road	North Royalton	OH
	Homan Oil	10216 Adelaide Avenue	Cleveland	OH
	Hukill Environmental Services	7013 Krick Road	Bedford	OH
	Petroliance	8500 Clinton Rd # 1101B	Brooklyn Hts	OH
	The Rice Companies	677 Miami Street	Akron	OH
Packing Peanuts	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	THE UPS Stores			
Pallets	Bischof Enterprises Inc.	P.O. Box 361025	Strongsville	OH
	Cimino Box & Pallet Company	8500 Clinton Road	Cleveland	OH
	Extreme Green Recycling	1321 Lloyd Road	Wickliffe	OH
	G & M Pallet Company, Inc.	4201 Lakeside Avenue	Cleveland	OH
	Kurtz Bros., Inc.	5603 Canal Road	Valley View	OH

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

Material	Company	Address	City	State
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Shipmasters Pallets	6975 Bessemer Avenue	Cleveland	Oh
	Woodstock Products, Inc.	2914 Broadway Ave	Cleveland	OH
Paper	All Ohio Secure Shred	14250 S. Industrial Road	Maple Heights	OH
	Caraustar Cleveland Recycling	3400 Vega Avenue	Cleveland	OH
	Gateway Recycling	4223 East 49th Street	Cleveland	OH
	Keep It Green Recycling	P.O. Box 81922	Cleveland	OH
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Recycle-it, LLC	19100 Holland Road	Cleveland	OH
	River Valley Paper Company	120 East Mill Street	Akron	OH
	Royal Oak Recycling	16065 Industrial Lane	Cleveland	OH
Plastic	Crown & Kornell Corp.	3950 Ben Hur Avenue	Willoughby	OH
	Earthworks System LLC	33200 Bainbridge Road, Suite E	Solon	OH
	Gateway Recycling	4223 East 49th Street	Cleveland	OH
	Intergroup International LTD.	1111 East 200 Street	Euclid	OH
	Keep It Green Recycling	P.O. Box 81922	Cleveland	OH
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Plastic Materials, Inc.	775 E. Highland Road	Macedonia	OH
	Recycle-it, LLC	19100 Holland Road	Cleveland	OH
	Royal Oak Recycling	16065 Industrial Lane	Cleveland	OH
	Tymex, Inc.	5300 Harvard Avenue	Cleveland	OH
Propane Tanks	AAA Gas Supply, Inc.	16019 Hilliard Road	Lakewood	OH
	Air Gas Great Lakes	2020 Train Avenue	Cleveland	OH
	Blue Rhino Corporation	470 West Hanes Mill Road	Winston-Salem	NC
	Clean Harbors Environmental	2930 Independence Road	Cleveland	OH
	Gas House Propane Co.	7125 Krick Road	Walton Hills	OH
	Valley National Gasses	151 Olive Street	Elyria	OH
Refrigerant	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Refrigerant Supply, Inc.	6581 Mad River Road	Dayton	OH
	Regency Technologies	6111 Cochran Road	Solon	OH
	REM TEC International	1100 Haskins Road	Bowling Green	OH
Restaurant Grease	Darling International	3275 West 65th Street	Cleveland	OH
	Northcoast Recycling	P.O. 23097	Chagrin Falls	OH
	Otto by Products	2890 West 3rd Street	Cleveland	OH
	Quasar Energy Group	13550 Aspinwall Avenue	Cleveland	OH
Scrap Metal	Aaromet Metal Recycling	3207 West 65th Street	Cleveland	OH
	Able Alloy	3500 West 140 Street	Cleveland	OH
	Advance Iron & Metal Co., Inc.	7007 Quincy Avenue	Cleveland	OH

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

Material	Company	Address	City	State
	All City Recycling	17149 St. Clair Avenue	Cleveland	OH
	All Scrap Salvage	3550 West 140th Street	Cleveland	OH
	American Metal Recycling	13170 York Road	North Royalton	OH
	Bedford Metal Recycling	144 Northfield Road	Bedford	OH
	Berea Metals	6511 Eastland Road	Brook Park	OH
	Empire Recycling, Inc.	1261 Babbitt Road	Euclid	OH
	FPT Cleveland	8550 Aetna Road	Cleveland	OH
	JBI Scrap Processors	2925 East 55th Street	Cleveland	OH
	Maple Metal Recycling	5475 Dunham Road	Maple Heights	OH
	PSC Metals, Inc.	4250 East 68 Street	Cleveland	OH
	Recycle Zone, LLC	28820 Lorain Road	North Olmsted	OH
	Southeast Metals	5141 Richmond Road	Bedford Hts	OH
	Tyroler Scrap	5227 Sweeney Avenue	Cleveland	OH
	West Side Metals Corp.	6400 Stock Avenue	Cleveland	OH
Shrink Wrap	Buckeye Industries	12131 Bennington Street	Cleveland	OH
	Crown & Kornell Corp.	3950 Ben Hur Avenue	Willoughby	OH
	Extreme Green Recycling	1321 Lloyd Road	Wickliffe	OH
	Gateway Recycling	4223 East 49th Street	Cleveland	OH
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Royal Oak Recycling	16065 Industrial Lane	Cleveland	OH
	Tymex, Inc.	5300 Harvard Avenue	Cleveland	OH
Solvents & Paints	Ameriwaste Environmental	6111 Carey Drive	Valley View	OH
	Chemical Solvents, Inc.	3751 Jennings Road	Cleveland	OH
	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors	2930 Independence Road	Cleveland	OH
	Environmental Specialists, Inc.	1000 Andrews Avenue	Youngstown	OH
	Enviroserve	4600 Brookpark Road	Cleveland	OH
	Heritage-Crystal Clean, LLC	10012 Akins Road	North Royalton	OH
	Hukill Environmental Services	7013 Krick Road	Bedford	OH
	US Ecology	2232 Central Avenue	Canton	OH
	Vexor Technology	955 W Smith Road	Medina	OH
Styrofoam	Buckeye Industries	33851 Curtis Boulevard	Eastlake	OH
	Buckeye Industries	12131 Bennington Street	Cleveland	OH
	Extreme Green Recycling	1321 Lloyd Road	Wickliffe	OH
Televisions	E-Waste LLC	1261 Hudson Gate Drive	Hudson	OH
	Regency Technologies	6111 Cochran Road	Solon	OH
Textiles	Donatestuff.Com	4370 Cranwood Parkway	Warrensville Hts.	OH

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

Material	Company	Address	City	State
	Ohio Mill Supply Company, Inc.	1719 East 39th Street	Cleveland	OH
Thermostats	Bethlehem Apparatus	800 Front Street	Bethlehem	PA
	Chemical Solvents, Inc.	3751 Jennings Road	Cleveland	OH
	Chemtron Corp.	35850 Schneider Court	Avon	OH
	Clean Harbors	2930 Independence Road	Cleveland	OH
Tires	Gen-Tire, LLC	352 South Street	Galion	OH
	Liberty Tire Services of Ohio	14864 Lincoln Street SE	Minerva	OH
	US Tire Transportation	5000 Track Road	Cleveland	OH
Toner Cartridges	Alltech Electronics Recycling	34300 Lakeland Boulevard	Eastlake	OH
	Greendisk			
	Laser Impressions	444 East 200th Street	Euclid	OH
	RET3 Job Corp.	1814 East 40th Street	Cleveland	OH
	Secure It Asset Disposition	8001 Moving Way	Mentor	OH
Transparency Film	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
Tyvek Envelopes	Dupont (Tyvek Recycling)	337A Industrial Drive	Petersburg	VA
VCR Tapes	Greendisk			
	Northcoast Recycling	1305 Lloyd Road	Wickliffe	OH
	Secure It Asset Disposition	7255 Free Avenue	Oakwood	OH
	Shred-It	5480 Cloverleaf Parkway	Valley View	OH
Wood/ Lumber	G & M Pallet Company, Inc.	4201 Lakeside Avenue	Cleveland	OH
	Habitat for Humanity Restore	2110 West 110th Street	Cleveland	OH
	Kurtz Bros., Inc.	5603 Canal Road	Valley View	OH
	Metro Hardwoods	5901 Train Avenue	Cleveland	OH
Yard Waste	Boyas Excavating, Inc.	11311 Rockside Road	Valley View	OH
	Kurtz Bros., Inc.	5603 Canal Road	Valley View	OH
	Sagamore Soils	2001 East Barlow Road	Hudson	OH

Source: Cuyahoga County Solid Waste Management District: *2016 Business Recycling Directory*

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

C. Landfill Diversion

1. Commercial/Institutional Landfill Diversion

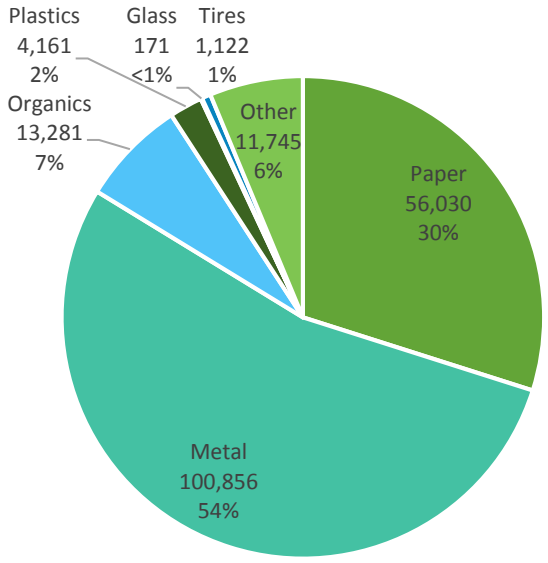
Based on data reported by landfills, transfer stations, and political subdivisions, the District is able to estimate that out of the total 1,064,234 tons of waste disposed by the residential and commercial/institutional sector during the reference year. This is the tonnage reported in the Ohio EPA 2016 Annual Report Form for Cuyahoga County.

To estimate the amount of commercial/institutional waste that was disposed, the District subtracted the amount of residential waste cited as disposed in the 2016 Residential Recycling Report (468,734 tons) from the total disposed quantity. Using this methodology, approximately 565,500 tons of commercial/institutional waste was disposed during the reference year.

To calculate an estimate of the commercial/institutional sector's recycling rate, the District subtracted the residential sector's 2016 recycling and composting total (265,210 tons) from the total 2016 recycling total (463,995 tons), resulting in approximately 198,786 tons of commercial/institutional-generated recyclables being recovered during the reference year. Using the estimated commercial/institutional disposal (565,500 tons) and recycling (198,786 tons) totals resulted in a 25% diversion rate for the commercial/institutional sector.

Through its surveying process, the District is able to isolate certain materials the commercial/institutional generators annually recover. During the reference year, the District was able to quantify 187,365 tons of commercial/institutional recyclables by material type. **Figure H-2.2** provides the breakdown of the type of recyclables recovered during the reference year based on the 2016 survey data.

Figure H-2.2. 2016 Commercial/Institutional Recyclables Recovered by Material



As shown by **Figure H-2.2**, metals comprise the largest portion of commercial/institutional recyclables followed by paper. Commercial/institutional

generators recovered an estimated 11,745 tons of "other" recyclables during the reference year, which was:

- Commingled 9,748 tons
- Textiles 1,306 tons
- Walmart "Other" 569 tons
- Furniture 121 tons

Table H-2.6 shows the quantity of commercial/institutional recyclables recovered between 2012 and 2016.

Table H-2.6. 2012-2016 Commercial/Institutional Recycling by Material

Commercial Sector	2012	2013	2014	2015	2016
Paper & Cardboard	89,642	64,397	68,350	60,947	56,030
Metal	93,811	105,726	108,113	107,530	100,856
Organics	39,194	92,673	20,658	9,422	13,281
Plastic	1,929	2,145	2,150	2,724	4,161
Glass	3,880	14,000	480	536	171
Tires	2,143	1,113	1,850	1,823	1,122
Other	5,371	11,739	5,844	9,132	11,745
Total	**235,969**	**291,792**	**207,443**	**192,115**	**187,365**

As demonstrated in **Table H-2.6**, there have been fluctuations in these quantities during the last five years. One of the overriding variables affecting increases and decreases of materials recycled in the commercial and industrial sectors is due to whether or not a particular business responded to the District's recycling survey.

Some contributors to material-specific recovery fluctuations between years are due to business decisions or activities by private recyclers that are beyond control of the District. For example, issues at a local composter in 2014 reduced the quantity of food waste they accepted. This action decreased commercial/institutional organic waste recovery from 92,673 tons on 2013 to 20,658 tons in 2014. During the same year, one of the largest glass processors stopped accepting glass from residential and commercial/institutional sources and the quantity of this material recovered decreased from 14,000 tons to 480 tons.

2. Industrial Landfill Diversion

In 2016, industrial businesses recycled approximately 855,613 tons of waste, while disposing 300,704 tons. Over the five-year period from 2012 to 2016, the industrial sector has remained above 66% diversion. The industrial sector recycling rate ranged from a low of 74% in 2016 to a high of 81% in 2014. The tons of industrial waste disposed and recycled and types of materials are discussed in more detail in Section H-7, Diversion Analysis. **Figure H-2.3** provides the breakdown of the type of recyclables recovered during the reference year. Metals comprise the majority of industrial sector recyclables.

Figure H-2.3. 2016 Industrial Sector Recyclables Recovered by Material (in tons and percent of total)

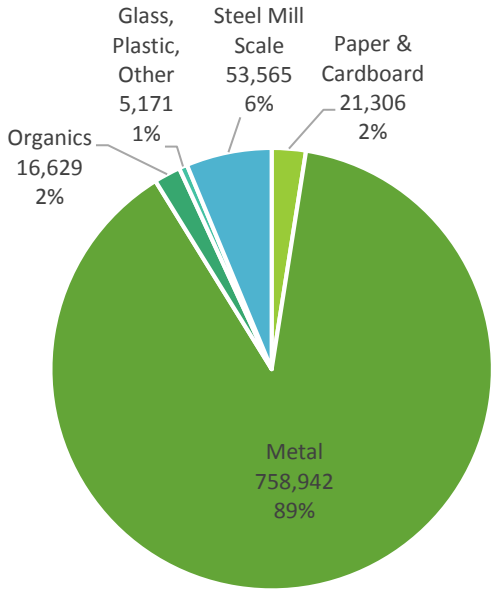


Table H-2.7 shows the quantity of each industrial sector recyclable that was recovered between 2012 and 2016.

Table H-2.7. 2012-2016 Industrial Recycling by Material

Materials	2012	2013	2014	2015	2016
Food Waste	4,603	12,100	9,961	19,965	9,417
Glass	1,700	1,728	2,509	3,701	4
Ferrous Metals	648,899	773,581	773,331	719,392	747,923
Non-Ferrous Metals	68,703	29,524	36,532	34,909	11,019
Cardboard	97,105	88,151	25,892	21,183	7,514
Mixed Paper	22,985	30,039	34,383	19,955	13,792
Plastics	5,642	4,435	3,411	3,726	4,055
Textiles	4	1	2	1	3
Wood	6,177	60,290	11,734	8,473	7,209
Rubber	6	2	2	1	-
Commingled	4,311	4,491	4,980	1,406	927
Non-Exempt Foundry Sand	1	3	10	-	-
Ink Cartridges	64	64	66	24	5
Furniture	2	2	4	48	176
Steel Mill Scale	32,499	49,627	60,522	69,564	53,565
Yard Waste	-	3	4	3	3
Total	**892,702**	**1,054,040**	**963,341**	**902,352**	**855,612**

As demonstrated in **Table H-2.7**, there have been fluctuations in these quantities during the last five years. One of the overriding variables affecting increases and decreases of

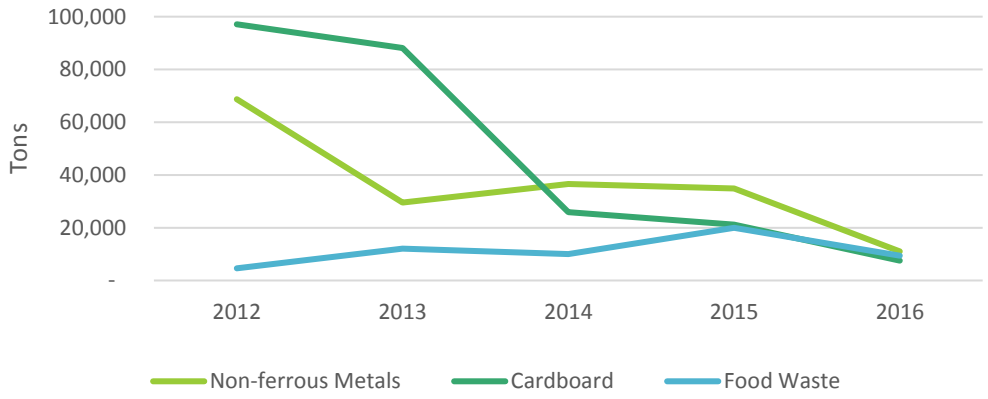
materials recycled in the industrial sector is due to whether or not a particular business responded to the District's recycling survey.

Three materials that showed significant changes in tonnage over the five-year period from 2012-2016 include non-ferrous metals, cardboard, and food waste. The greatest decrease in non-ferrous metals occurred from 2012 to 2013. This change was due to a decrease in generator survey responses. From 2013 to 2015, industrial non-ferrous metal recycling increased with the total amount of survey responses. More than half of the decrease in the industrial sector from 2015 to 2016 came from one manufacturer who recycles metals in house.

Cardboard recycling was impacted from 2013 to 2014. An industry was bought out by another company, which changed the existing business model and significantly reduced the quantity of cardboard recycled. During this time, the District's Business Recycling Specialist reached out to the company to offer technical assistance. Another notable decrease in cardboard recycling occurred during 2015 and 2016 when a significant generator of cardboard moved its operations out of the county.

In 2013, food waste tonnage increased more than two and a half times the total recycled in the previous year due to increased industrial generator survey responses. Another increase in food waste tonnage occurred in 2015. This increase was the result of two food manufacturers increasing production. The decrease in 2016 was the result of scaled back operations at a single food manufacturing facility. **Figure H-2.4** presents changes in the quantities of select materials recycled from 2012 to 2016.

Figure H-2.4. Select Materials with Significant Change in Tonnages 2012-2016

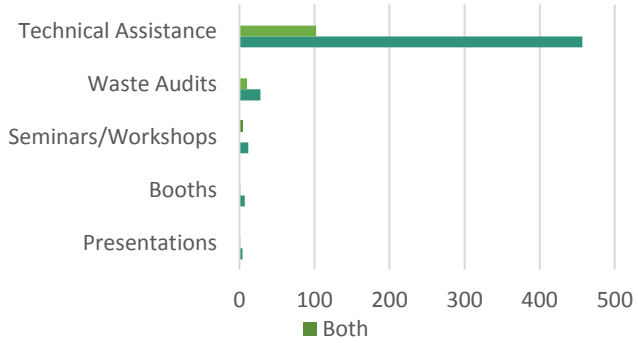


3. District Business and Industry Recycling Assistance Programs

The District provides direct assistance to businesses through information on its website, technical assistance, presentations, and waste audits. Between 2012 and 2016, the District assisted 1,065 businesses evaluate opportunities to decrease dependency on landfills through waste reduction, reuse, recycling, and composting. Included in the technical assistance were 151 waste audits and 133 workshops/presentations.

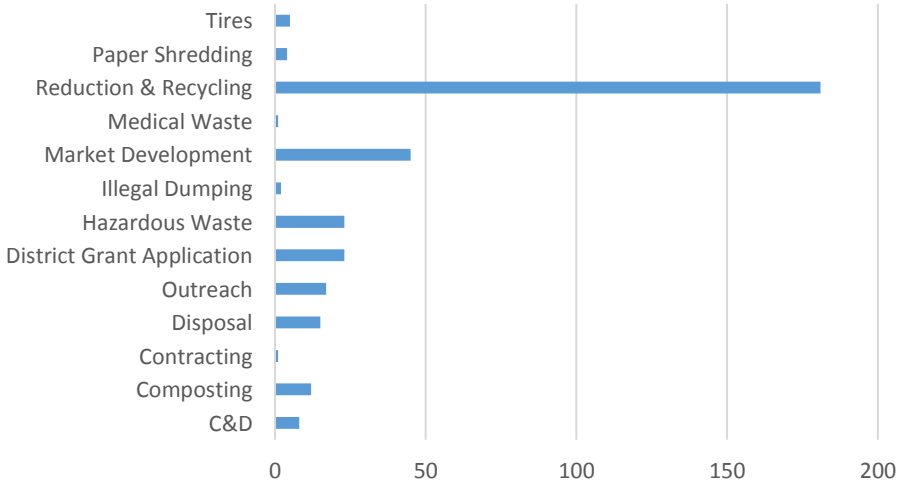
During the reference year, commercial/institutional establishments received the vast majority of guidance from the District, and most was in the form of technical assistance **(Figure H-2.5)**. During the reference year, the District received almost 600 calls requesting technical assistance.

Figure H-2.5. District Assistance Summary-2016



Technical assistance can range from answering questions during a phone call or responding to an e-mail to visiting a facility to assisting with contracting for solid waste and recycling services. **Figure H-2.6** below summarizes the topics on which businesses sought District advice during the reference year.

Figure H-2.6. Businesses / Industry Technical Assistance Topics-2016



Contracting Assistance

The District also works with trade associations, commercial businesses, industrial parks, large retail complexes, etc. to renegotiate contracts for solid waste and recycling services. Through this District support, commercial/institutional businesses have reduced basic waste management contract costs, which increase the financial attractiveness of recycling. During the last 5 years, the District has helped 17 entities either negotiate contracts for waste management/recycling services or pursue cooperative contracting.

In 2016, the District worked with University Circle, Inc. (UCI) to re-bid their waste and recycling consortium contract. UCI provides free and fee based services for its member institutions and area businesses. By pooling member purchases together, greater savings and efficiencies were realized. University Circle is a neighborhood on the east side of Cleveland with America's densest concentration of cultural attractions and performing arts venues.

D. Commercial/Institutional and Industrial Strengths, Challenges, Opportunities and Conclusions

The District's commercial/institutional and industrial sectors exceeds State of Ohio goals for landfill diversion and the District offers an extremely robust Business Assistance Program with services designed to help begin or expand recycling programs and educate employees. However, opportunities exist to increase recycling by implementing a more strategic approach to providing assistance to these sectors. Such an approach could to target the District's largest commercial and industrial employers or target businesses by the type of waste they generate or geographic location. In this way, the District's Business Specialists' time could be maximized to focus on areas with the biggest potential result. In addition, the District will need to find a way to reduce the amount of time spent responding to telephone inquiries and partner with other organizations to leverage District efforts.

Strengths

- The District has a robust and ambitious technical assistance program that has reached 1,000 businesses in the last 5 years.
- The District's assistance considers the economic implications of recycling which establishes a high level of credibility within the commercial/institutional business community. The District has been successful in reducing collection contract rates through negotiations and cooperative procurements. These savings have facilitated the establishment of recycling programs even when there is an incremental cost.
- The District's 151 waste audits have identified opportunities for businesses to recycle non-traditional materials, such as food waste.
- The District has facilitated the development of new recycling and composting businesses through connecting generators to transporters and processors.

Challenges

- Due to limited resources, the District does not have the ability to reconnect with most businesses after the initial engagement to determine the effectiveness of the program in increasing recycling or composting, or help the businesses mitigate barriers to waste recovery.

- Some of the data the District uses in audits for recycling diversion and financial performance is several years old and based on national averages, which may provide business with unattainable goals.
- The source of most technical assistance requests is from businesses calling the District and in just 2016, the District business specialist responded to 600 telephone requests. This puts the District in a reactive mode and limits the bandwidth of the District's business specialist to target businesses with the greatest opportunity to recycle.
- Conditions beyond the District's control, such as a processor closing or reducing material intake, competition for storage space at a business location and change in management can revert recycling progress even with a successful technical assistance program.
- Because of the extensive number of commercial/institutional and industrial establishments in Cuyahoga County, it is difficult to achieve significant impact.
- The contracting program is time intensive and there is not guarantee that a cooperative approach or renegotiated contract will reduce solid waste service fees to the point to make waste recovery economically viable.
- The District does not currently have the resources to monitor the effectiveness of the technical assistance program and whether participation translates into waste reduction.
- Since The District provides waste audits and other technical assistance services at no charge, there is a concern that the lack of financial investment makes businesses less committed to implementing the recommendations.

Opportunities

- **Strategic Approach to Target Business for Assistance**
  The District could use a database, such as the US Business Directory, to target business where there are greatest opportunity to recycle, such as number of employees, NAICS code, geographic cluster or a proximity to recycling processors. The District business specialist and planner could collaborate and survey these targeted business to determine if they are interested in District support to start or increase recycling. Based on survey results, the District could design workshops either by NAICS or geographic region. In addition, where there is either a larger business or a cluster of businesses that generate paper, the District could work with the private paper recyclers identified in Section H.1 to locate paper drop-off containers in these locations.
- **Evaluate Business Recycling Performance**
  The District could evaluate businesses that the District helped establish a recycling program either through an audit, contracting assistance or through a District Container Grant to determine actual diversion rates and economic impacts, as well as "learnings" that could be shared with other businesses. The District could consider conducting these evaluations before conducting future recycling audits so the data points for potential diversion and financial savings are recent and Cuyahoga-specific.
- **Commercial Sector Consortiums**
  The District could evaluate establishing commercial sector recycling consortiums in different sectors of the county where commercial activity is dense, such as strip malls and outlet stores and where recycling is non-existent.

- **Meet with Economic Development Directors in Communities**
  The District could learn more about commercial sector generators and their challenges and needs regarding recycling by connecting with economic development directors. The District could use the meetings to educate economic development directors about the District's services so they may help promote the District's programs to their constituents. Developing a relationship with a network of economic development directors throughout Cuyahoga County could help the District stay informed about major changes in the commercial/industrial landscape.
- **Collaborate with Trade Associations**
  The District could collaborate with local commercial and industrial trade organizations to reach more generators, distribute information, conduct seminars and obtain information about business closings, new businesses, or issues affecting recycling/waste management in Cuyahoga County. Examples of trade organizations include Magnet, BOMA, Ohio Grocers Association, Ohio Manufacturers Association, Ohio Landscapers Association, and Ohio Retail Merchants.
- **Waste Audit Fee**
  Businesses and industries do not have buy-in for waste audits since they are performed free of cost. The District could consider a refundable retainer to ensure commitment from a company receiving waste audit services. Many businesses that had waste audits performed in the past did not implement suggestions from the audit.
- **Zero Waste Planning Services for Industry**
  The District could help industrial facilities consider the development of a zero-waste plan. This would include establishing an industrial green team and the development of recommendations for the industry's waste streams.
- **Promote Ohio Materials Marketplace**
  The District can direct industrial facilities to the Ohio Materials Marketplace. The Ohio Materials Marketplace aims to create a closed-loop, collaborative network of businesses, organizations and entrepreneurs where one organization's hard-to-recycle wastes and by-products becomes another organization's raw material. In addition to diverting waste from landfills, these recovery activities could generate significant cost savings, energy savings, and create new jobs and business opportunities.
- **Collaborate with Industrial Support Organizations**
  There are several industrial support organizations in Cuyahoga County that the District can become involved with to learn more about the industrial sector and its challenges and needs related to recycling. These organizations include the following:
    - WIRE-Net is a non-profit economic development organization dedicated to improving the community through nurturing manufacturing and the jobs and prosperity that come with it. WIRE-Net works as a consultant, collaborator, referral source and hands-on provider in workforce development, growth and operational improvement initiatives, peer to peer and expert knowledge sharing, supply chain development, governmental assistance programs and urban redevelopment.
    - MAGNET (the Manufacturing Advocacy and Growth Network) is an organization dedicated to helping manufacturers grow and compete in Northeast Ohio. As part of the Ohio Manufacturing Extension Partnership (MEP), MAGNET also supports, educates, and champions Northeast Ohio manufacturing with the goal of transforming our regional economy into a powerful, global player.

- The Cleveland Industrial Retention Initiative (CIRI) is an integral part of Mayor Frank Jackson's plan to link manufacturing businesses to valuable community resources that can help manufacturers improve operations, expand their industrial capacity, and maintain profitability. The main objective is to help Cleveland companies build connections so they remain competitive, foster job creation, and find solutions to stimulate business and neighborhood investment.

- **Target Small Industries**

Conduct a survey for small industrial facilities to determine the scope of recycling programs and processors and interest in participating in interactive webinars that focus on small-industry recycling strategies. They should then select examples of industrial facilities with effective recycling programs. The District could consider developing a YouTube video or pre-recorded webinar to post on the website showing recycling possibilities at industrial facilities.

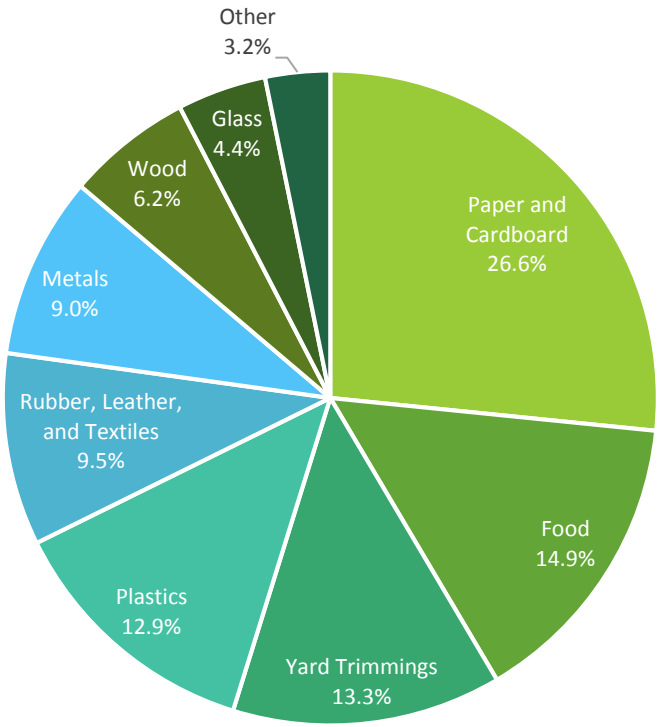
SECTION H-4. RESIDENTIAL/COMMERCIAL WASTE COMPOSITION ANALYSIS

The purpose of this section is to look at the wastes that typically comprise the largest portions of the waste steam by weight and evaluate the availability of and need for programs to recover those materials. The District used the U.S. EPA's waste composition and waste generation estimates to conduct this analysis as well as those developed by the Solid Waste Authority of Central Ohio (SWACO) for comparison purposes.

A. Residential/Commercial Sector Waste Composition

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

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



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

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

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

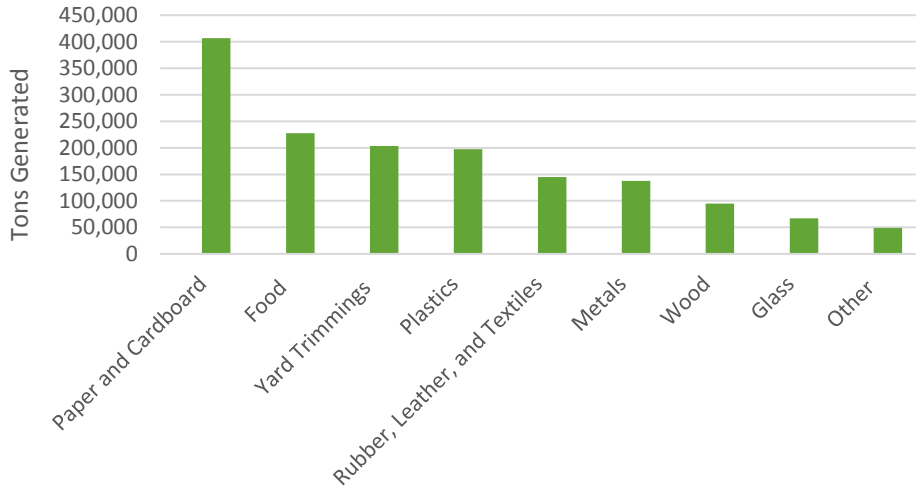


Figure H-4.3 shows annual per capita waste generation by material. P*er capita* waste generation ranges from 79 pounds per person/year for "Other" to almost 658 pounds per person/year for paper and cardboard. "Other" includes all other materials, such as diapers, feminine products, bio-hazard materials/sharps, dirt, rock, electronics, HHW, unrecyclable paper coated with foil or plastic, etc.

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

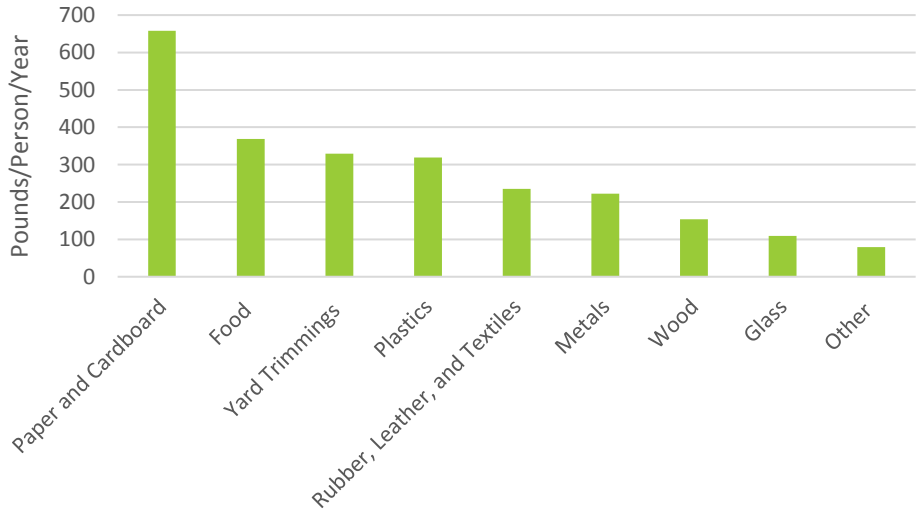
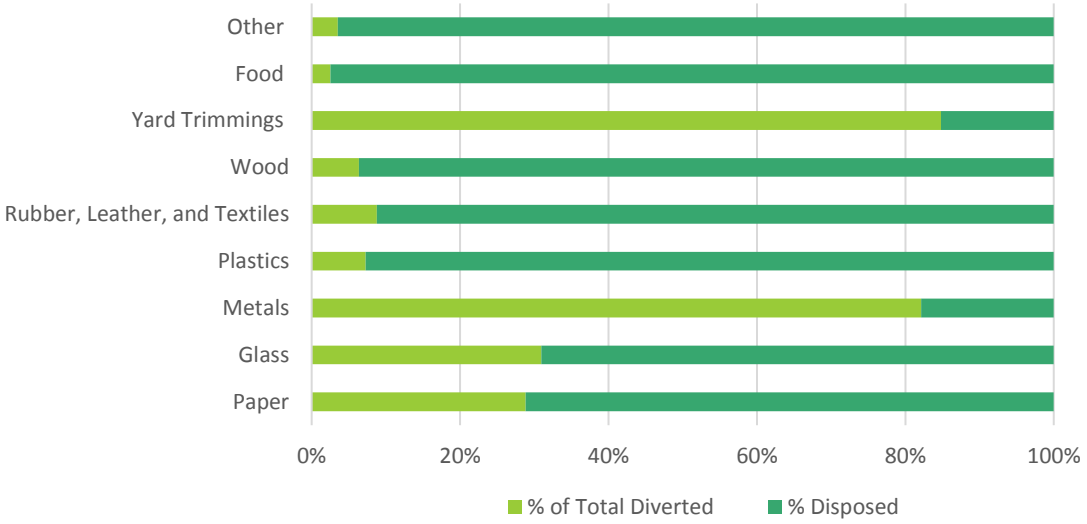


Figure H-4.4. shows the percentage of the residential/commercial materials recovered for recycling in the District (as reported in its 2016 Annual District Report) compared with the total material generated. As shown, the District has the highest recovery rate (or recycling rate) for yard trimmings, which is calculated to be 85%. Metal is the next highest at 82% while food and "other" wastes have the lowest recovery rates, at 3% and 4%, respectively. According to the *US EPA 2014 Fact Sheet*, the national average recycling rates are 60% for yard waste, 34% for metals and 5% for food waste.

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



Local Comparison:

For comparison purposes, the District used an alternative method for estimating residential/commercial sector waste composition by using data from a 2012/2013 waste characterization study completed for the Solid Waste Authority of Central Ohio (SWACO). The purpose was to determine if the application of Ohio-based data yielded significantly different results than nationwide data. SWACO's waste characterization study analyzed the composition of residential/commercial sector waste that was disposed at landfills and transfer stations in 2012 and 2013 ***after*** recycling activities had taken place. This comparison is provided in **Table H-4.1.** The characterization based on national data in **Table H-4.1** was calculated by applying the composition data used in **Figure H-4.1** to Cuyahoga County's residential/commercial total generation to determine the total tons of each material generated. The total tons of each material recycled (as reported in the 2016 Annual District Report) were subtracted from the total tons generated to develop the estimated tons of each material landfilled.

While the SWACO waste characterization study represents region-specific data from a solid waste district with similar characteristics to Cuyahoga County, the national data is more recent and has a larger sample size, which reduces the margin of error. Therefore, the District opted to use the USEPA national data that estimates the quantity of materials generated rather than the SWACO disposal waste composition data.

Table H-4.1. Comparison of Waste Disposal Estimations Based on SWACO vs. National Data

Characterization based on SWACO Data			Characterization based on National Data		
Material	Percent of Total Waste Disposed	Tons Landfilled	Materials	Percent of Total Waste Disposed	Tons Landfilled
Paper	29.2%	310,756	Paper	27.2%	289,305
Plastics	17.1%	181,984	Plastics	17.2%	182,809
Other	14.6%	155,378	Other	4.4%	47,180
Food	12.8%	136,222	Food	20.9%	221,934
Textiles	8.0%	85,139	Rubber, Leather, and Textiles	12.4%	132,431
Yard & Pet Waste	5.9%	62,790	Yard Trimmings	2.9%	30,871
Wood	5.4%	57,469	Wood	8.3%	88,700
Metals	4.2%	44,698	Metals	2.3%	24,573
Glass	2.7%	28,734	Glass	4.4%	46,432

B. Yard Waste Programs

Processing

Based on Ohio EPA reports, 29 Class II and Class IV composting facilities were available to process District yard waste in 2016. **Table H-4.2** identifies these 29 facilities and the amount of material processed originating from both within and outside the District.

Table H-4.2. Class II and IV Compost Facilities and Processing Data

Facility	In-District Yard Waste Processed (TPY)	Outside-District Yard Waste Processed (TPY)	Percent of Yard Waste Originating from the District
Cloverleaf Composting Facility	0	414	0%
Cleveland Metroparks Compost	497	0	100%
Solon Rd Midwest Recycled Landscape Materials	7,395	0	100%
City of Westlake Compost Facility	17,704	0	100%
City of Brooklyn	660	0	100%
Solon Compost	7,395	0	100%
Orange Village Compost	1,001	0	100%
Mayfield Village Compost	2,083	0	100%
Independence Compost Facility	0	0	0%
Bedford Compost Facility	0	0	0%
Boyas Excavating Inc.	631	0	100%
Utilities Equipment & Supply Co	981	0	100%

Table H-4.2. Class II and IV Compost Facilities and Processing Data			
Facility	**In-District Yard Waste Processed (TPY)**	**Outside-District Yard Waste Processed (TPY)**	**Percent of Yard Waste Originating from the District**
Kurtz Bros Inc.	14,596	0	100%
Full Cycle Organics LLC	2	0	100%
Miracle Stone/Anthony Concrete Inc.	0	0	0%
Savarino Brothers	4,691	521	90%
Rid-All Green Partnership	120	0	100%
Barnes Nursery	25	6,424	0.4%
Abate Landscaping	374	359	51%
Green Vision Materials	2,425	0	100%
T&K Kuhnle Co	2,219	6,657	25%
City of Lorain Composting Facility	148	993	13%
City of Wickliffe Composting Facility	19,662	33,883	37%
Kurtz Bros Avon Miller Road Facility	8,920	13,381	40%
#1 Landscape	44	8	85%
Smith Bros Inc.	4,055	9,462	30%
Sagamore Soils	766	4,344	15%
Sagamore Soils Twinsburg Rd Facility	7,035	4,640	60%
Pro Tree & Landscape Co	173	3,289	5%

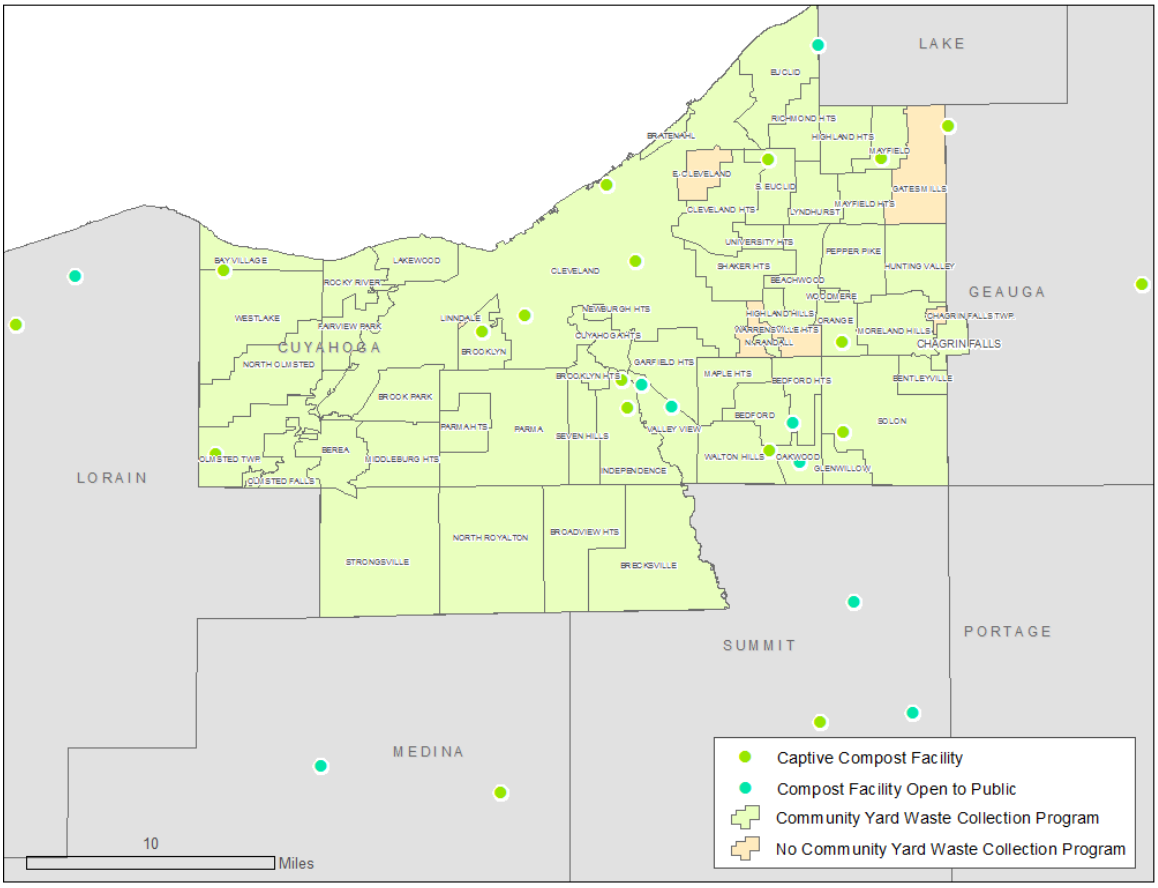
In 2016, these compost facilities processed 103,601 tons of yard waste; of which, 84,375 tons originated within the District. Ohio EPA does not require Class II and IV composting facilities to indicate their annual processing capacity; therefore, the District is not able to evaluate whether there is sufficient yard waste processing capacity in the region.

Note: 20 of the 29 facilities listed in **Table H-4.2** are private captive facilities that only process materials they generate themselves and do not provide processing capacity to communities or the public.

The private sector operates nine of the compost facilities that are available to the public. Many District communities are reliant upon these private sector facilities for yard waste processing. Therefore, if the facility closes or raises their fees, the sustainability of a community's yard waste program may be compromised.

In addition, as **Figure H-4.5** shows, the distance between some District communities and the closest compost facility is significant. It can be challenging for communities that use municipal crews to make the needed multiple trips per day to dump collected yard waste and return to their routes.

Figure H-4.5. Compost Facilities Serving the District



Note: Due to scale constraints, one captive compost facility located in Erie County is not shown in the above figure.

Residential Yard Waste Collection Programs

In 2016, 54 out of 59 political subdivisions in the District operated or contracted for yard waste and/or leaf collection programs. The only District communities that did not report having yard waste or leaf collection included Chagrin Falls Township, East Cleveland, Gates Mills, Linndale, and Warrensville Heights.

Community yard waste collection programs are responsible for diverting the majority of District-generated yard waste from landfills. Community yard waste/leaf collection programs collected 170,926 tons out of the 172,384 tons of yard waste composted by the District during the reference year.

Education

The District educates residents about backyard composting through compost seminars and information posted on the website. The District offers multiple composting seminars and bin sales during the spring and fall throughout Cuyahoga County. The seminars educate residents about the science of composting and provide residents with how-to-compost instruction. The CuyahogaRecycles website includes the following:

- Information about upcoming compost seminars
- General compost information
- Guide to backyard composting
- Vermicomposting publication
- Information about where to pick up free manure to kick-start a home compost pile
- Yard waste facilities that serve Cuyahoga County, and
- An opportunity to be added to the District's residential survey list to voluntarily report backyard composting data

Compost Supply Sales

To complement the District's composting education program, it sells the following affordable compost bins and accessories to the public through its office and seminars.

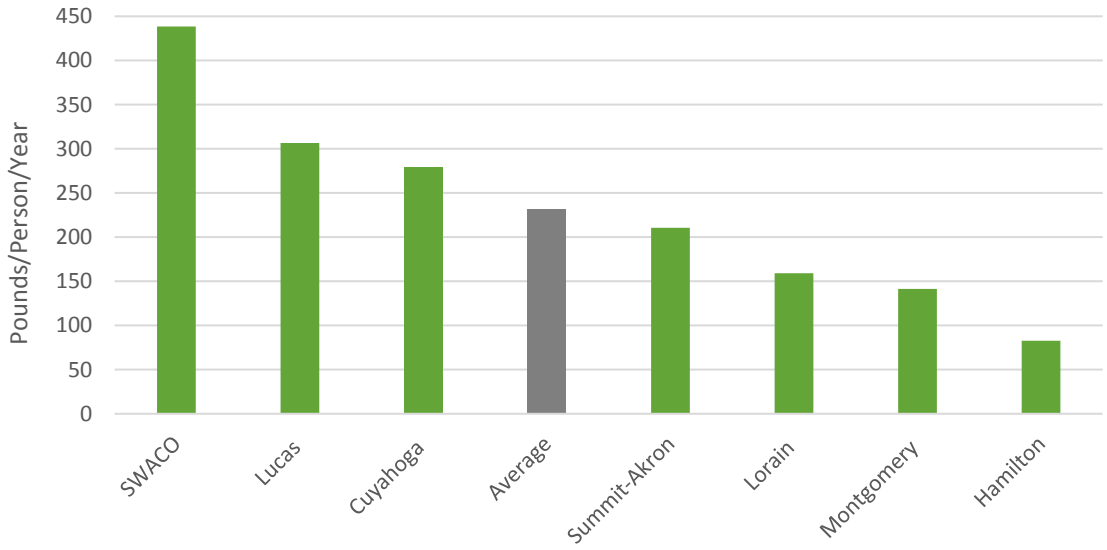
Figure H-4.6. Compost Bins and Accessories Available for Residents to Purchase from the District

Table H-4.3. District Yard Waste Management System Summary

Description	Details
Service Area	District-wide
Types of yard waste reduced/recycled	Yard waste, brush, leaves, grass, wood
Tons of yard waste recycled (2016)	172,384
Program Costs	*District* = $77,000 spent on compost bins from 2012-2016 but $44,000 recouped from compost bin sales *Others* = unknown
Program Operator/Contractor	Political subdivisions, private sector compost facilities and District

Figure H-4.7 represents recovery rates for the District compared to other selected, urban solid waste management districts in Ohio. Compared to other urban Districts in Ohio, Cuyahoga County recovers higher than average quantity of yard waste per capita. The District promotes "Grasscycling" and backyard composting to residents which is difficult to quantify and may result in the District's yard waste composting totals to be understated.

Figure H-4.7 Yard Waste Recovery Rates Benchmark



C. Food Waste Composting Programs

The District's goal is to be able to promote and expand food waste composting. In 2016, there were three Class II registered compost facilities operating in the District that accepted food waste. Food waste generated in Cuyahoga County was also sent to an out-of-district Class II composting facility for processing. In-District food waste processing capacity is an issue for Cuyahoga County. Out of the three in-district registered Class II compost facilities, one has limited processing capacity and one has relayed concerns to the District about odor control issues. Kurtz Bros. is currently attempting to obtain a permit for Silver Oak Landfill, a 27-acre site, to potentially open a Class II registered compost facility.

Food Waste Haulers and Processors:

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

1. *Groundz, LLC* - *c*omposts food waste at community gardens
2. *Rust Belt Riders* - hauler and processor. Serves businesses, schools and institutions. Partners with Kurtz Bros. to manage compost food waste
3. *Organix* - hauler
4. *Kurtz Brothers* - hauler and processor
5. *Full Cycle Organics* - hauler and processor
6. *Rid-All Green Partnership* – processor
7. *Quasar Energy* – hauler and processor

Food Waste Programs:

The following is a sample of some of the larger food waste composting programs operating in the District.

1. Case Western Reserve University
2. Walmart
3. Huntington Convention Center
4. University Hospitals

Market Development and Education:

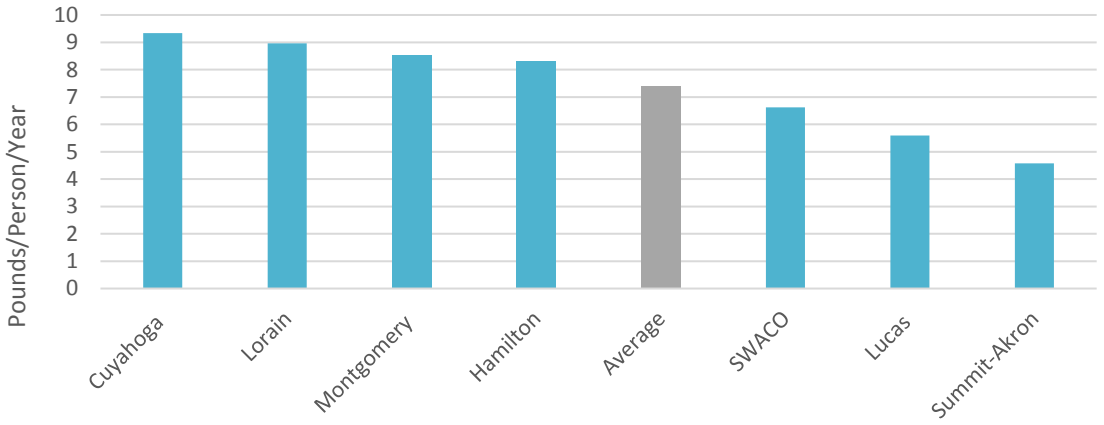
The District works with service providers and generators to expand food waste collection and processing capacity and also to increase food rescue. One such example is working with Rustbelt Riders to increase hauling and processing capabilities and serving on their advisory committee.

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

- Conducted 11 food waste composting seminars reaching 276 people
- Updated its composting publications
- Created and posted composting content on CuyahogaRecycles.org and on social media
- Answered composting questions from the public
- Sold food waste digesters to the public
- Provided information on food donation on CuyahogaRecycles.org

Figure H-4.8 represents food waste recovery rates for the District compared to other urban districts in Ohio and shows that Cuyahoga County had the highest per capita food waste recovery.

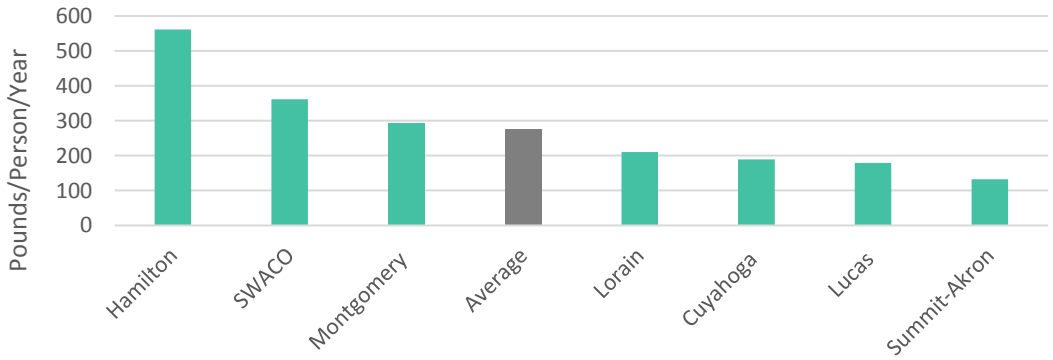
Figure H-4.8 Recovery Rates of Residential/Commercial Food Waste for Selected Ohio SWMDs: 2016



D. Fiber (Paper) Recycling Programs

Cuyahoga County has an extensive, mature network of fiber recycling infrastructure and programs. Fiber includes cardboard, mixed paper, office paper, and newspaper and comprises about one-fourth of all residential/commercial waste generated. All curbside recycling programs in the District accept fiber as well as nearly all drop-offs listed in **Appendix B, Table B-2a.** In addition, there were 14 other limited material drop-off sites that accepted fiber (see **Appendix B, Table B-2b**. Paper Retriever and River Valley Paper are two privately-operated companies that operate in the District and provide drop-off containers to non-profits and schools and pay for paper based on the tons collected. In 2016, there were 375 Paper Retriever drop-off sites located throughout the District. The quantity of River Valley Paper drop-off sites was not available. The District provides comprehensive information for residents and businesses about cardboard and paper recycling opportunities through CuyahogaRecycles.org.

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



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

The District's residential and commercial sectors recycled approximately 117,204 tons of fiber in 2016. Approximately 48% or 55,715 tons was recovered from residential curbside and drop-off recycling programs. The remaining 52% or 61,488 tons was recycled by the commercial sector. The top five types of businesses, as classified by North American Industry Classification System (NAICS) code, that recycled the most fibers in 2016 include:

- NAICS Code 44, Retail Trade: 21,449 tons
  - NAICS Code 44 examples: Supermarkets and other grocery stores, home centers, hardware stores, gasoline stations, and electronics stores
- NAICS Code 81, Other Services (except Public Administration): 13,520 tons
  - NAICS Code 81 examples: General automotive repair, barber shops, dry-cleaning and laundry services, and civil and social organizations
- NAICS Code 62, Health Care and Social Assistance: 9,959 tons
  - NAICS Code 62 examples: Offices of physicians, dentists, chiropractors, optometrists, and mental health practitioners, freestanding ambulatory surgical and emergency centers, medical laboratories, and family planning centers
- NAICS Code 61, Educational Services: 4,225 tons
  - NAICS Code 61 examples: Elementary and secondary schools, colleges, universities, and professional schools, junior colleges, automobile driving schools, cosmetology and barber schools, and apprenticeship training
- NAICS Code 51, Information: 3,285 tons
  - NAICS Code 51 examples: Newspaper/periodical/book publishers, greeting card publishers, libraries and archives, radio stations, and television broadcasting

The amount of fiber material recycled in the District is below average compared to other urban solid waste districts in Ohio. Since fiber is the largest component of the District's residential/commercial waste stream, opportunities to increased fiber diversion are significant given the plentiful opportunities and infrastructure.
Strategies to increase fiber recycling should focus on education and awareness to promote participation in existing programs and the use of existing infrastructure.

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

E. Strengths, Challenges, and Opportunities

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

Strengths

- The District has outstanding recovery rates for yard waste trimmings (85%) and metals (82%).

- The residential and commercial sectors are served by a mature recycling infrastructure
- Most residents and businesses have access to recycling opportunities.
- The District has staff dedicated to assist residential, commercial and institutional recycling efforts.

Challenges

- The capacity and location of existing compost facilities may present vulnerabilities for municipal leaf collection programs.
- The District does not currently have a strategy for targeting high volume food waste generators to facilitate more diversion.
- District reliance on private sector entities to expand food waste processing capacity in the District (additional processing capacity is needed to increase food waste recovery).
- Current market conditions for some recyclables including glass and some plastics makes expanding recycling more challenging.
- Export restrictions and higher recycling standards on fiber and mixed plastics by China may affect local recyclers and MRF operators. Impacts from trade restrictions will be more pronounced on the East and West coasts but the longer these restrictions stay in place, the more likely it will be that Ohio will be impacted in the long-term and affect markets and pricing.

Opportunities

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

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

1. Capacity Analysis of Compost Facilities

Conduct an analysis of the capacity and location of compost facilities from District communities. The District should consider a survey of all publicly and privately-operated compost facilities that accepted Cuyahoga County-generated yard waste. Some of the objectives would be to identify the following:

- Are compost facilities that accept Cuyahoga County-generated yard waste operating at or near capacity?
- Do compost facilities have the ability to expand operations if the quantity of yard waste composting increases?
- Determine whether publicly-operated facilities would be willing to accept yard waste generated from outside their political boundary.
- Is there an opportunity to develop a joint municipal composting facility?

2. Yard Waste Contracting Consortiums

Evaluate whether there is interest in establishing municipal yard waste contracting consortiums to obtain longer contracts and stable pricing for communities. If communities express interest, the District would facilitate the development of the consortium and handle the bid in the same way it developed its disposal and recycling consortiums. To determine the level of interest, the District could survey those

communities that operate municipal leaf collection programs and rely on private sector facilities for processing to determine the following:

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

3. Target High Volume Food Waste Generators

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

4. Facilitate Food Rescue Program

Facilitate collaboration among entities that generate food waste and those the rescue food waste. The District could host a workshop with community groups that provide food rescue programs. The goal of the workshop and any subsequent programming would be to connect groups that provide food rescue services with generators that need their services.

5. Target Commercial Sector Fiber Generators

Target commercial sector generators of fiber to increase diversion. The District needs to develop a plan to promote the "Recycle More, Recycle Better" message to the commercial sector. Specifically, the District should develop measurable statistics from a baseline to evaluate the success of a targeted program. The District could meet with fiber recyclers face-to-face to discuss opportunities for expanding fiber-collection infrastructure to commercial sector.

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

6. Regional Glass Recycling

Markets for glass recycling in Northeast Ohio remain a challenge. The southwest part of the state has a facility to manage post-consumer bottle glass. The District has participated with neighboring counties to discuss the glass recycling market. This effort should continue with regional cooperation with both the public and private sector, as well as Ohio EPA.

SECTION H-5. ECONOMIC INCENTIVES ANALYSIS

In accordance with Goal 6 of the 2009 State Solid Waste Management Plan, the District is required to explore how to incorporate economic incentives into source reduction and recycling programs. For this analysis, the District evaluated existing economic incentives that the District offers to encourage people to recycle.

B. Pay As Your Throw (PAYT) Explanation and Variations

PAYT is a type of billing system for residential waste whereby the resident/household pays for the amount of waste they set out for collection. PAYT systems are designed to encourage recycling and be more equitable. Residents who produce more trash and/or do not recycle are charged more than those residents who produce less. In general, there are four types of PAYT systems available to communities:

- Pre-paid bags
- Pre-paid tags/stickers
- Subscription cart system
- Hybrid cart system

Only subscription or hybrid systems are compatible with the communities using automated collection and carts. In a subscription system, households sign up for collection and disposal for a specific number or size of waste containers for each billing period or set out. Service levels with higher numbers of containers have higher costs for the residents. Households generating solid waste beyond their subscribed level of service must purchase additional tags, stickers or cans if they want additional materials to be collected. Within subscription systems, two sub-systems exist for containers – one that specifies an allowed standard size trash container and the other, a "variable can" system, which allows residents the option of choosing from graduated can sizes. Typically, in variable can programs, container sizes range from 35 to 96 gallons with corresponding increases in fees. A hybrid system combines a flat fee with some type of fee per unit. Under this system, residents are charged for a basic level of service and above this level the resident must pay for an additional container or purchase a tag, bag or sticker.

C. Existing Pay-As-You Throw Systems in the District

None of the 59 political subdivisions in the District had a Pay-As-You-Throw (PAYT) system during the Reference Year.

1. *Analysis and Evaluation*

During the reference year, 57 communities within the District had non-subscription curbside recycling programs and most of these (39) paid for the cost of waste and recycling collection through their general fund. The PAYT model is not feasible in these communities because residents do not pay a separate bill for waste collection and recycling services.

A total of 18 communities do charge separately for waste and recycling collection services usually through a fee on their water bill or through a property tax assessment. Of those communities that charge residents for collection, ten utilize automated collection as shown in **(Table H-5.1)**. Waste and recyclables in these communities is collected using

automated vehicles using standard cart sizes that consist of a 95-gallon cart for trash and a 65-gallon cart for recyclables.

Most communities accommodate different waste generation practices among residents by allowing residents to purchase an extra trash cart if they have a large household and produce a lot of trash but also to request a smaller trash cart if they have a small household or are not physically able to move a large cart.

While communities accommodate different waste generation practices among residents, they generally do not do the same when it comes to recycling. Residents cannot reduce the size of their garbage cart and increase the size of their recycling cart to accommodate recycling practices.

Many cities throughout the United States with cart-based collection also have a PAYT system where residents pay a higher monthly rate for larger garbage carts. That is not the case within Cuyahoga County but it could be an opportunity to support increased diversion.

Table H-5.1. Communities with Automated Collection that Separately Charge Residents for Collection Services

Community	Waste Hauler	Recycling Hauler	Recycling Rate
Bay Village	Republic	Republic	30%
Cleveland	Municipal	Municipal	12%
Euclid	Kimble	Kimble	15%
Fairview Park	Republic	Republic	27%
Maple Heights	Waste Management	Waste Management	N/A[1]
Newburgh Heights	Kimble	Kimble	16%
Olmsted Falls	Republic	Republic	25%
Olmsted Township	Republic	Republic	30%
Parma	Republic	Republic	22%
Parma Heights	Republic	Republic	26%

[1] Did not have curbside recycling during the reference year but did so beginning in 2017

Table H.5.1 shows the recovery rate for the single-stream recyclables collected curbside by the ten automated/cart communities. This number excludes yard waste, tires, appliances and other recyclables. As shown in the table, single stream collection ranges from 12 percent to 30 percent for the cart communities. Therefore, the potential exists to divert 30 percent of single stream recyclables from the landfill when a Cuyahoga County community with automated collection uses recycling carts. The District has data to show that cart-based collection has typically doubled the amount of recyclables collected because of the additional storage capacity and convenience. Yet this increase still falls short of the potential since some communities in the District that provide recycling carts still have recycling rates of less than 15 percent.

Multiple conditions beyond cart capacity can influence participation in curbside recycling, such as the materials accepted in the recycling program and education. However, all of

the communities in Table H.5.1 collect the same materials and have access to District education programs. Therefore, an economic incentive such as PAYT may help catalyze increased recovery for some communities. In addition, a PAYT system may provide an opportunity for communities with municipal collection to design rate structures to generate sufficient revenue, as well as establish equitable parameters for allocating disposal costs.

2. PAYT Strengths, Challenges and Opportunities

PAYT Strengths

- Ten communities within the District are potential candidates for a PAYT program because they utilize a cart-based collection system and they charge residents for collection instead of paying for the service out of their general fund.
- The District retains information on the rates these cities charge for collection and also tracks waste and recycling contract pricing for the nine communities that use a private hauler and therefore has information on collection costs.

PAYT Challenges

- PAYT combined with non-subscription curbside recycling is considered a best-practice in terms of the most effective types of residential recycling programs but there are currently no PAYT programs operating in the District.
- Current cart-based programs are already established, therefore changing to a PAYT system would require a community to redesign a system and could be costly. There would be little incentive for a community to switch to a PAYT system unless a community could recoup the full cost of collection.
- Most communities are not able to implement a PAYT billing structure because services are paid through taxes.

PAYT Opportunities

- **Targeted education of potential PAYT communities**
  For most Cuyahoga County communities, traditional PAYT programs are not feasible due to the existing billing structure. However, the District has identified ten potential communities for a PAYT system. Those communities are identified in Table H-5.1. These ten communities already offer various sizes of refuse carts and charge residents for some or all of the costs of collection. The District could educate these ten communities about the potential benefits of PAYT. The District could then assist any interested communities with evaluating the costs and benefits associated with subscription or hybrid PAYT systems. This assistance could include revising the bid specifications to include the option for a PAYT program along with standard non-subscription curbside services. The community could then decide, based on the prices submitted, if the PAYT option would be viable for their community.

D. District Grant Programs

The District administers two grants that provide financial incentives to different target audiences that encourage the implementation of recycling or promote increased recycling. These include the Community Recycling Awareness Grant for municipalities, villages, and townships, and the Recycling Container Grant for non-profits and schools.

1. Community Recycling Awareness Grant (CRAG)

Community Recycling Awareness Grants are competitive grants provided by the District to communities to help local governments in Cuyahoga County educate residents about recycling and increase participation in community-sponsored recycling programs. Communities may apply for up to $5,000 in funding annually. This grant is somewhat competitive since the amount of grant funding available is capped at $150,000 annually.

All communities are currently eligible for the same amount of grant funding regardless of population, the amount of recycling expected to be recovered from grant-funded projects, or their current recycling rates. If the total amount of grant requests exceeds the amount of funding available, the District awards grants based on the highest scoring applications.

The District recently added a new requirement that requires communities to use the graphics and recycling education materials contained in the Cuyahoga Recycles Toolkit to produce any grant funded awareness items. The Toolkit contains templates for refrigerator magnets, banners, info cards, cart tags, and signage. It also contains recycling icons and text that can be used to incorporate recycling information into other awareness pieces such as calendars and brochures.

Communities that receive a grant must implement the grant project as described in its application or obtain District approval for any modifications to the approved project. The District requires communities' records of all grant expenses including purchase orders, invoices and receipts to account for the use of all grant funds. In order to be reimbursed, communities must submit this expense documentation with a Grant Summary and Reimbursement Report to the District. Eligible grant projects include the following:

- **Recycling Awareness and Education:** Communities can use grant funds to produce educational and informational banners, brochures, calendars, cart tags, fliers, newsletters, recycling signage, refrigerator magnets and videos using the materials provided in the District's Cuyahoga Recycles Toolkit. Allowable costs include design, printing, production, mailing, etc.

- **Recycling Containers:** Communities can use grant funds to purchase public space recycling containers as well as composting containers, and event recycling containers. Allowable costs include containers, bags and signage. The District asks communities to use the signage provided in the Cuyahoga Recycles Toolkit to explain what items can be recycled.

- **Paper Shredding Events and Special Waste Collections:** Communities can use grant funds to conduct special waste collections such as computer round-ups and no more than two shredding events. Allowable costs include hiring a paper shredding company, signage, and event promotion. Applicants are encouraged to obtain quotes from two companies to ensure the best price.

District staff reviews and scores each application according to the criteria listed below:

- Degree to which the project will encourage residents to "recycle more and recycle better" and uses the resources contained in the Cuyahoga Recycles Toolkit.

- Degree to which the application describes the grant project and the activities the community will implement.
- Degree to which the funding request is reasonable and the community explains and justifies costs.

Table H-5.4 shows the total amount of community grant funding awarded between 2012 and 2016. **T**he District awarded Community Awareness Grants to 51 of the 59 political subdivisions between 2012 and 2016. Forty-five of these received multiple grants.

Table H-5.4. Total CRAG Awards 2012 – 2016

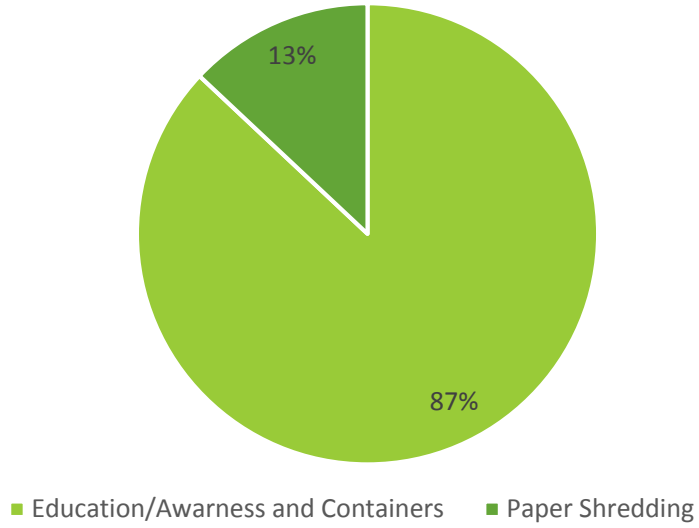
Table H-5.4. Total CRAG Awards 2012 – 2016	
Political Subdivision	**Total Grant Funding**
Bay Village	$37,325
Beachwood	$28,102
Bedford	$43,991
Bedford Heights	$0
Bentleyville	$0
Berea	$8,535
Bratenahl	$41,980
Brecksville	$42,755
Broadview Heights	$28,966
Brook Park	$32,110
Brooklyn	$9,531
Brooklyn Heights	$32,597
Chagrin Falls	$15,006
Chagrin Township	$0
Cleveland	$43,962
Cleveland Heights	$28,072
Cuyahoga Heights	$0
East Cleveland	$4,970
Euclid	$44,000
Fairview Park	$38,006
Garfield Heights	$11,724
Glenwillow	$12,531
Highland Heights	$22,064
Highland Hills	$18,930
Hunting Valley	$0
Independence	$32,200
Lakewood	$10,575
Linndale	$0
Lyndhurst	$8,516

Table H-5.4. Total CRAG Awards 2012 – 2016	
Political Subdivision	**Total Grant Funding**
Maple Heights	$23,737
Mayfield Heights	$39,734
Mayfield	$3,415
Middleburg Heights	$0
Moreland Hills	$21,095
Newburgh Heights	$36,191
North Olmsted	$40,500
North Randall	$925
North Royalton	$40,772
Oakwood	$7,414
Olmsted Falls	$13,327
Olmsted Township	$11,950
Orange	$42,580
Parma	$26,513
Parma Heights	$41,187
Pepper Pike	$43,972
Richmond Heights	$32,175
Rocky River	$35,453
Seven Hills	$17,748
Shaker Heights	$23,209
Solon	$42,890
South Euclid	$8,341
Strongsville	$44,000
University Heights	$8,542
Valley View	$9,914
Walton Hills	$0
Warrensville Heights	$28,537
Westlake	$18,391
Woodmere	$16,845
TOTAL	**$1,285,808**

In 2016, Community Recycling Awareness Grant recipients spent $136,070 on recycling education/awareness, recycling containers and paper shredding events. As shown in **Figure H-5.1** grant recipients spent the majority of grant funds, 87%, on education/awareness activities and purchasing public space recycling containers[4]. Sixteen communities conducted paper-shredding events for a total of $17,062 or 13%.

[4] Communities do not allocate expenditures between education/awareness and containers, but 18 of 40 communities used grant funds for education/awareness and eight purchased 53 recycling containers.

Figure H-5.1 Community Recycling Awareness Grant Distribution



As part of this planning process, the District assessed the relationship between a community receiving funds for education/awareness and increasing recycling.
Table H-5.5 shows the ten communities with the most improved recycling rate between 2015 and 2016 and whether the community used the Community Recycling Awareness Grant for education purposes. **Table H-5.5** shows that the correlation between grant funds used for education/awareness and improving a recycling rate is limited based on the "top ten" communities.

Table H-5.5. Correlation between Recycling Improvement and Grant

Table H-5.5. Correlation between Recycling Improvement and Grant				
Community	2015 Materials Recycled (%)	2016 Materials Recycled (%)	2015 to 2016 Percent Change	Received Education/ Awareness Funds in 2016
Moreland Hills	47.25%	62.93%	15.68%	Yes
Bentleyville	22.80%	35.48%	12.69%	No
Olmsted Township	35.66%	48.34%	12.68%	No
Linndale	8.84%	20.39%	11.55%	No
Fairview Park	45.09%	55.14%	10.05%	Yes
Chagrin Falls Village	32.46%	41.52%	9.05%	No
Glenwillow	25.16%	33.77%	8.61%	No
Independence	54.13%	62.70%	8.57%	Yes
Hunting Valley	22.17%	29.96%	7.78%	No
Westlake	35.81%	43.44%	7.63%	No

The District also assessed the effectiveness of community- sponsored shred days. During the Reference Year, grant recipients spent $17,062 to recover 184 tons for an average of

$92 per ton. The average cost per event was $471. However, the cost per ton on an individual community basis ranged from $25.93 (Pepper Pike/Orange) to $1,600.00 (Glenwillow). The cost per ton differential is due to paper-shredding vendors charging communities on a per event basis, rather than per ton. Pepper Pike and Orange collaborated to offer a paper-shredding event to a service area of 9,367 residents. Glenwillow, like most communities, limits the program to its 923 residents.

As with cost per ton, the event expenditures ranged significantly. The least expensive event was $241, with the most expensive being $900.

CRAG Strengths, Challenges, Opportunities and Conclusions

CRAG Strengths

- Education/awareness grants allows communities to design awareness pieces and messages that resonate with their residents and businesses.
- Helps leverage District's resources in promoting local, recycling programs.
- The majority of District communities participated in the grant.
- Paper shredding events have the potential to be a cost-effective form of fiber recovery.

CRAG Challenges

- Grant funding does not directly correlate with increased diversion.
- On a cost-per-ton basis, paper-shredding events can be expensive for small communities.
- Some paper shredding companies charge almost four times as much as others.
- The $5,000 cap on grants limits what communities (especially large communities) can accomplish with funding.
- The Community Recycling Awareness Grant program structure has largely remained the same since the District's last plan.

CRAG Opportunities

The Community Recycling Awareness grant has the potential to be more effective through restructuring the focus, reducing the number of grants but increasing the amount and/or encouraging the communities to collaborate through the following opportunities.

- **Use Grants to Assess Recycling Barriers**
  Multiple communities receive a Community Awareness Grant every year and use the majority of funds for materials to promote recycling, such as calendars, but are not experiencing an increase in recycling. For these communities, the District could expand the scope of the grant to allow them to research why residents are not recycling. This market assessment could include focus groups or surveys. The community could then use the information to design promotional materials that address these barriers.
- **Restructure the grant to increase funding for cart purchases**
  With a grant limited to $5,000 per community, the Community Awareness Grants do not really facilitate communities converting to automated collection by purchasing carts. Carts can cost between $50 and $75 each, and often prevents communities

from implementing even semi-automated collection. In a semi-automated collection system, existing collection vehicles can be retrofitted with tippers rather than purchasing new, vehicles. As discussed in Section H.1, providing residents with recycling carts was the most significant contributor to increasing residential recycling between 2012 and 2016. Therefore, the District could award larger grants to help communities offset the cost of purchasing carts. This would only apply to communities that collect their own recyclables since carts are included contracts for communities that contract for recycling collection.

- **Restructure the Community Awareness Grant or create a new Special Assistance Grant**
  This grant could be restructured to provide more money to underperforming communities or a new special assistance grant could be created whereby one or two underperforming cities would be given extra dollars for education and awareness and as well as special assistance from the District to improve curbside, commercial and school recycling programs.
- **Procurement Assistance for Shred Day Services**
  A barrier to communities collaborating on paper shredding events is the legal considerations associated with two communities procuring a single vendor. In addition, with some communities may not be receiving the most competitive bid if they are paying almost four times as much as others for a shredding event. To help communities reduce cost through economies of scale and competitive bids, the District could assist communities with procuring paper-shredding companies.

2. Recycling Container Grant

The Recycling Container Grant helps non-profits and schools start, expand, and improve recycling and composting programs by assisting with the purchase of recycling and composting containers or equipment and associated signage. Eligible organizations may apply for up to $3,000. Recipients may use Container Grants to purchase the following:

- Recycling containers, equipment and supplies including bins, can crushers, carts or dollies.
- Composting containers, equipment and supplies including compost bins, storage containers, tools, compostable liners for bins or storage containers.
- Liners for bins – only one starter box allowed.
- Signage (Posters and Stickers) – Must be approved by District if designed in-house, can be purchased from www.recycleacrossamerica.org, or utilize a template produced by the District. Signs or stickers should be placed on bins and/or directly above bins. No more than 15% of grant dollars awarded to be spent on signage.

District staff reviews and score each application according to the following criteria.

- Degree to which the application describes the grant project, the proposed recycling program and the materials to be purchased.
- Degree to which the project is sustainable. Applications must demonstrate how the recycling program will be implemented, promoted and maintained.

- Degree to which the project has educational impact. Applications must indicate how the organization will promote recycling and how users will be involved with the recycling program.
- Degree to which the project will result in significant waste reduction and the degree to which progress will be measured and tracked. Applications must indicate the organization's goals of waste reduction and how progress will be measured.
- Degree to which the organization justifies the need for funding and the degree to which costs are reasonable and justified.

The District awards grants to the highest scoring applications. Between 2012 and 2016, the District awarded $146,852 of Recycling Container Grants to 81 schools and non-profit organizations.

Organizations that receive a grant must attend a District recycling training prior to implementing the grant project. Organizations must keep records of all grant expenditures including purchase orders, invoices and receipts to account for the use of all grant funds. Organizations must submit a Grant Summary and Reimbursement Report to the District. The Reimbursement Report must include photos of items purchased, samples of educational materials or other project related items.

Recycling Container Grant Strengths, Challenges, Opportunities

The Recycling Container Grant complements the technical assistance that the District provides commercial businesses and non-profit institutions, and takes a holistic approach for educating grantees about how to operate their program. The only aspect that the District could modify is using technology to monitor results and to continue communicating with grantees.

Recycling Container Grant Strengths

- Helps non-profit organizations and schools implement recycling programs.
- The District takes an extremely holistic approach for leveraging grant dollars. This includes having Grantees attend recycling program training and involving students in the project.
- The District requires organizations to be accountable for their expenditures and that organizations implement the program as described in the application.

Recycling Container Grant Challenges

- The Container Grant application requires the organization to describe how the project will significantly reduce waste and the how progress will be measured and tracked. However, the District does not monitor applicants to see if the grant recipient achieved those projections.

Recycling Container Grant Opportunities

- **Follow-up with Grant Recipients**
  The District could follow-up with grant recipients to learn about the performance of the program and offer assistance in year two of implementation.

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

Some components of the solid waste stream are either restricted from landfill disposal or are not appropriate for landfilling because they are either readily recyclable or contain hazardous materials that could leach contaminants through the landfill and into water sources. These materials include scrap tires, household hazardous wastes, electronic waste, lead-acid batteries, household batteries, appliances (and bulky waste), and pharmaceuticals. The District and/or local communities have programs designed to address each of these materials.

The District's overall strategy for the management of the above listed materials is unique as compared to other solid waste districts in Ohio. The District operates in partnership with its 59 communities to conduct local HHW, e-waste and scrap tire collections. Actual collection responsibilities for each material are described later in this section. This is efficient and cost effective for the District and more convenient for residents.

The following section summarizes the programs and initiatives that manage these materials:

E. Scrap Tire Program

The District conducts an annual Scrap Tire Round-Up that is held each October. During the Round-Up, the District, through its contractor, Liberty Tire, provides for the collection and recycling of scrap tires from cities located within Cuyahoga County. These are tires that communities collect from their residents throughout the year and store at their city service facility. The District contracts with Liberty Tire to do a "milk run" to remove and recycle the scrap tires that the cities accumulate at their service garages.

The District conducted a Scrap Tire Round Up in 2016 collecting 232 tons or 21,117 tires for a cost of $52,232. The collection event was primarily conducted for communities that accept scrap tires from their residents. Table H-6.1 summarizes the historical scrap tire collection data and costs:

Table H-6.1: 2013-2016 Tire Collection Data and Costs

Year	Tons Collected	Cost	Cost Per Ton Managed
2012	220	$18,348	$83
2013	242	$21,755	$90
2014	232	$46,476	$200
2015	212	$44,910	$212
2016	233	$52,233	$224

In addition to the Scrap Tire Round Up, the District promotes proper scrap tire management through the process of discarding old tires at tire dealers when new ones are purchased. The District also encourages communities to collect tires from residents on a year-round basis.

Table H-6.2 identifies the communities that accept scrap tires from residents, and how frequently they provide this service:

Table H-6.2: Communities that Accept Scrap Tires from Residents

Table H-6.2: Communities that Accept Scrap Tires from Residents			
Political Subdivision	**Curbside Collection**	**Year-Round Drop-Off Collection**	**Special Event Collections**
Cities			
Bay Village	No	No	Yes
Beachwood	No	Yes	No
Bedford	Yes	No	No
Bedford Heights	No	No	Yes
Berea	No	No	Yes
Brecksville	No	No	No
Broadview Heights	No	No	Yes
Brooklyn	No	Yes	No
Brook Park	No	Yes	No
Cleveland	Yes	Yes	No
Cleveland Heights	N0	Yes	No
East Cleveland	No	No	No
Euclid	No	No	Yes
Fairview Park	No	No	Yes
Garfield Heights	Yes	No	No
Highland Heights	No	No	No
Independence	No	No	Yes
Lakewood	No	Yes	No
Lyndhurst	No	No	Yes
Maple Heights	No	No	No
Mayfield Heights	No	No	No
Middleburg Heights	No	Yes	No
North Olmsted	No	No	Yes
North Royalton	No	No	No
Olmsted Falls	No	Yes	No
Parma	No	No	Yes
Parma Heights	No	No	Yes
Pepper Pike	No	No	Yes
Richmond Heights	No	No	Yes
Rocky River	Yes	No	No
Seven Hills	No	No	No
Shaker Heights	No	Yes	No
Solon	No	No	No
South Euclid	No	No	Yes
Strongsville	No	No	Yes

Table H-6.2: Communities that Accept Scrap Tires from Residents			
Political Subdivision	**Curbside Collection**	**Year-Round Drop-Off Collection**	**Special Event Collections**
University Heights	No	No	Yes
Warrensville Heights	No	No	No
Westlake	Yes	No	No
Villages			
Bentleyville	Yes	No	No
Bratenahl	No	Yes	No
Brooklyn Heights	No	Yes	No
Chagrin Falls	No	No	Yes
Cuyahoga Heights	Yes	No	No
Gates Mills	No	No	No
Glenwillow	No	Yes	No
Highland Hills	No	No	Yes
Hunting Valley (adjusted)	No	Yes	No
Linndale	No	Yes	No
Mayfield	No	No	Yes
Moreland Hills	No	No	Yes
Newburgh Heights	No	Yes	No
North Randall	No	No	No
Oakwood	Yes	No	No
Orange	No	No	Yes
Valley View	No	No	No
Walton Hills	No	No	Yes
Woodmere	Yes	No	No
Townships			
Chagrin Falls Twp.	No	No	Yes
Olmsted Twp.	No	Yes	No

The following list of local and regional tire haulers and recyclers is promoted by the District on its website. Of these companies, Liberty Tire Services and US Tire provide the majority of tire collection services.

Kurtz Brothers, Inc. (hauler)
6415 Granger Road
Independence, OH 44131
(216) 986-7000
Liberty Tire Services of Ohio (hauler and recycler)
14864 Lincoln Street SE
Minerva, OH 44657
(330) 868-0097

Timco, LLC Recycling Division (hauler)
Richfield, OH
(330) 523-6048
Tire World Discount, Inc. (hauler)
8015 Brookpark Road
Parma, OH 44129
(216) 661-6655
U.S. Tire Transportation (hauler)
5000 Track Road
Cleveland, OH 44127
(216) 441-0950

a. Scrap Tires Analysis and Evaluation

Each community in the District operates their own solid waste collection program and decides which items are accepted at the curb and/or at their service garages. The District has 9 communities with curbside tire collection, 16 communities with year-round collection at their service garage and 23 communities with special collections. There are 12 communities that do not have any form of tire collection available to residents.

There are 5 haulers and 1 recycler that the District promotes for residential and business scrap tires on its web site. According to Ohio EPA 2016 Scrap Tire Data Report, there are 17 scrap tire haulers and/or recyclers that collect scrap tires from the District.

In 2016, the combination of District, community, and private sector initiatives recovered 11,445 tons of scrap tires from the residential/commercial sector, which is a 14% increase over 2015. Table H-6.3 shows the historical scrap tire recycling that occurred within the District.

Table H-6.3: 2012-2016 Total Scrap Tires Collected from within the District (all sectors)

Year	Tons
2012	9,522
2013	14,462
2014	11,366
2015	9,820
2016	11,445

Even with multiple opportunities for proper tire management, illegally dumped tires continue to be a problem in certain areas of the District. In the District's opinion and through observations and investigations by the Cleveland-Cuyahoga Environmental Crimes Task Force, the largest contributors to open tire dumping appear to be non-registered haulers who approach tire stores, tire retread shops, and other repair shops to "take care" of their tires for a discounted rate. The non-registered hauler cherry picks the tires that can be sold and then dumps the rest.

b. Scrap Tires - Strengths, Challenges, Opportunities and Conclusions

Reported tons of recovered scrap tires have been consistent and range from 9,000 to 12,000 tons annually, and there appears to be significant opportunity for residents and businesses to properly manage scrap tires. According to the U.S. EPA, average tire generation rate is one passenger tire per capita per year, and the average passenger tire weighs 20 pounds. Based on these parameters and a District population of 1,235,936, an estimated 12,359 tons of tires were generated in the District during the reference year. Thus, with 11,445 tons of tires recovered, the existing infrastructure captured 92% of tires generated in the District. However, illegal tire dumping continues to be a problem that could be contributing to more serious crimes.

Strengths

- 92% of scrap tires generated in the District are collected and recycled and/or disposed of properly.
- Residents have multiple locations to recycle/dispose of scrap tires in their respective communities.
- Businesses and other entities have a choice of licensed haulers to manage their scrap tires.
- There is a significant infrastructure in the District of tire and car dealers that can manage scrap tires when customers purchase new tires.

Challenges

- The cost per ton for the District collection program has risen from $90 per ton in 2013 to more than $200 per ton in 2016.
- Because the District's Scrap Tire Round-Up is held just once per year, many communities must store large quantities of tires for the collection. Storing scrap tires takes up needed space and can potentially breed disease carrying mosquitos.
- There are limited resources for enforcement of existing open dumping laws for scrap tires in the District, leading to increased dumping of tires.
- Residents who participate in community collections do not have to pay for the tires dropped off, thus creating a disincentive to manage their scrap tires on their own through local tire dealers.
- Twelve communities do not offer at least a special collection of scrap tires.
- Illegal dumping of scrap tires still exists in the District.
- There is no in-District tire processing or transfer facility.

Opportunities

- **Eliminate or Phase out the Scrap Tire Round Up**
  The District could eliminate the Scrap Tire Round Up due to increasing cost, that only 2% of tires recycled in the District during the reference year came from this program (233/11,445 tons) and the robust infrastructure of private sector opportunities to recover tires. In addition, the Scrap Tire Round Up is most likely not preventing illegal tire disposal. **The District could use a portion of the money it saves to support the educational initiatives identified below.**

- **Enhance Data Collection for Scrap Tire Recycling**
  To enhance the data collected by the District for scrap tire recycling, the District could develop a list of all tire dealers, repair shops that handle scrap tires, car dealerships and licensed haulers of scrap tires that serve the District. With the list, the District could communicate, survey, and/or develop chains of communication to obtain data on tire recycling annually. The District could also determine the level of service each entity offers related to scrap tire management. This list will also better define the infrastructure to manage scrap tires within the District and allow for the opportunity to promote the scrap tire services to District residents, communities, institutions and businesses.
- **Education of Residents – Proper Tire Disposal**
  The District could promote the proper disposal of scrap tires to residents through a public education initiative that would encourage them to dispose of scrap tires at the point of purchase. This would explain the need for the disposal fee charged by the retailer. This would reduce the number of tires that communities and the District must pay to manage.
- **Education of Scrap Tire Generators on Scrap Tire Laws**
  The District could work with each of the entities within the District that sell new tires to develop a persuasive educational poster comparing the costs of legal versus illegal scrap tire disposal. The poster could compare the average tire disposal fee charged by local tire retailers versus the costs of illegal tire disposal which includes court costs, fines, community service, jail sentences, and a criminal record. The District in partnership with the Cuyahoga County Board of Health, the Cleveland Department of Public Health and the Cleveland-Cuyahoga County Environmental Crimes Task Force, could work with local tire retailers and businesses that accept scrap tires to educate them about the local problems related to tire dumping. The District could encourage these businesses to display the poster in a highly visible area in their establishment. The goal is to capture more scrap tires at the point of sale when a scrap tire is being replaced, which should reduce the quantity of scrap tires dumped throughout the District, as well as surrounding areas.
- **Local or Regional Tire Transfer Operation**
  The District could conduct a feasibility study on the development of a scrap tire transfer station. The purpose of the study will be to determine the feasibility of developing a centralized or decentralized facility(s) to collect and transfer scrap tires from residents and businesses to a licensed recycler or disposal facility.
- **Scrap Tire Disposal Consortium**
  The District could work with all member communities to develop a recycling consortium whereby the District has a county-wide contract for tire disposal that the communities opt into to manage the tires they collect. The cooperative would provide communities with an as-needed pick up which reduces storage issues plus they pay for the disposal/recycling. If this program is developed, it would replace the annual scrap tire round-up. Communities could decide if they will pass on the cost of the program to their residents or absorb the cost internally.
- **Scrap Tire Dumping Tip Line**
  The District could develop a reporting function on its web site to allow for the identification of scrap tire dumpers. A reward could be offered to encourage tips.

The reported information could then be passed on to the proper authorities for investigation and possible prosecution.

- **Scrap Tire Dumping Enforcement – Health Departments**
  The District could start working with the health departments to begin inspecting tire dealers to assure they are using registered haulers.
- **New Tire/Scrap Tire Bundle Pricing Promotion**
  The District could work with tire shops and dealers to include the cost of disposing of scrap tires in the purchase price of new tires rather than charging a separate fee. Internalizing the cost would hopefully encourage more residents to properly dispose of their tires at the point of purchase instead of bringing them home. It is this scenario that creates the waste management issue for communities and the District.

2. Household Hazardous Waste (HHW)

In 2011, the District opened a Special Waste Convenience Center to offer a unique and efficient way of collecting HHW. The year-round center receives HHW that communities collect from their residents. Communities are provided collection supplies and training by the District's contractor and they hold HHW collection events themselves. They then have the opportunity to deliver the HHW two times per month. Some communities hold collections year-round and some hold monthly or seasonal collections. The Convenience Center replaced the county-wide HHW collections the District used to hold at its county fairgrounds twice a year and makes HHW disposal more "convenient" and accessible.

The HHW Program is free to all communities that deliver acceptable materials to the Special Waste Convenience Center. In 2016, 49 out of the 59 communities participated in the program. HHW is collected from residents by participating city service departments and then delivered to the Special Waste Convenience Center. Collection events are held only at city service departments; residents are not permitted to deliver HHW to the Special Waste Convenience Center directly. Most communities will only accept and manage HHW from their own residents.

Table H-6.4: Materials Accepted in the District's HHW Program

Acceptable Materials	Non-Acceptable Materials
✓ Oil or solvent-based paint, sealers, primers, or coatings (aerosols or liquids)	✕ Latex paint
✓ Varnishes, polyurethanes, shellacs	✕ Explosives, gun powder, ammunition, flares
✓ Paint thinner, mineral spirits, turpentine	✕ Medical waste, pharmaceuticals, medicine, sharps
✓ Pesticides, herbicides, fungicides	✕ Batteries
✓ Caustic household cleaners	✕ Fluorescent bulbs
✓ Pool chemicals	✕ Smoke detectors
✓ Oils and grease	✕ Tires
✓ Automotive fluids, motor oil, car batteries	✕ Electronics, appliances
✓ Adhesives, roof tar, driveway sealer	✕ Asbestos
✓ Kerosene, gasoline, lighter fluid	✕ Business or commercial waste
✓ Mercury	

The HHW Program meets State Plan Goals #2 and #5. In 2016, the District provided HHW information on its website and recycled 253 tons of materials. **Table H-6.5** summarizes the pounds collected by participating community in 2016.

Table H-6.5: 2016 Pounds of HHW Collected by Community

Community	2016 HHW Collected lbs.
Bay Village	9,191
Beachwood	3,840
Bedford	5,787
Bedford Heights	1,235
Bentleyville	0
Berea	14,859
Bratenahl	1,655
Brecksville	22,048
Broadview Heights	12,979
Brook Park	3,625
Brooklyn	15,576
Brooklyn Heights	850
Chagrin Falls	6,563
Chagrin Fall Township	0
Cleveland	24,636
Cleveland Heights	0
Cuyahoga Heights	700
East Cleveland	0
Euclid	12,427
Fairview Park	12,486
Garfield Heights	16,143
Gates Mills	2,110
Glenwillow	6,672
Highland Heights	12,155
Highland Hills	0
Hunting Valley	1,900
Independence	10,324
Lakewood	25,423
Linndale	0
Lyndhurst	15,738
Maple Heights	3,098
Mayfield Heights	12,291
Mayfield Village	4,477
Middleburg Heights	4,702
Moreland Hills	3,260
Newburgh Heights	2,791
North Olmsted	13,856

Community	2016 HHW Collected lbs.
North Randall	0
North Royalton	11,054
Oakwood Village	1,330
Olmsted Falls	4,190
Olmsted Township	4,430
Orange Village	3,765
Parma	28,977
Parma Heights	9,530
Pepper Pike	3,995
Richmond Heights	2,321
Rocky River	23,920
Seven Hills	11,160
Shaker Heights	14,326
Solon	28,312
South Euclid	9,109
Strongsville	37,706
University Heights	3,674
Valley View	0
Walton Hills	3,207
Warrensville Heights	0
Westlake	21,532
Woodmere	0
Total Pounds Collected	**505,935**
Number of Participating Communities	**49**

Table H-6.6: 2012-2016 HHW Program Statistics

Year	Communities Participating	Tons Collected	Cost	Cost Per Ton Managed
2012	54	215	$246,426	$1,146
2013	58	249	$287,468	$1,154
2014	56	243	$279,757	$1,151
2015	51	231	$283,557	$1,128
2016	49	253	$307,771	$1,216

The District will continue assisting communities with the management of HHW materials through the District website, social media and other marketing and educational outreach efforts as available.

The District's goal is to reduce the amount of HHW materials that are placed in landfills. In addition, the District wishes to reduce the amount of usable materials that are being disposed

and educate the public regarding which items are hazardous and non-hazardous and how the creation of HHW can be reduced by using non-toxic alternatives.

The District reserves the right to adjust the HHW management program funding amount each year based upon District budgetary needs.

a. Analysis and Evaluation

Participation rates and generation rates for collected materials are not available as the actual number of households participating is not tracked by the participating communities that conduct collections for their residents. However, based on the District receiving 253 tons or 506,000 pounds of HHW during the reference year, between 5,644 and 10,160 households participate in the HHW program. Based on 545,056 households in Cuyahoga County, the District estimates between 1 and 2% of households participate in the HHW program based on other HHW program participation rates in Ohio.

The number of participating communities varies per year but has decreased from a high of 58 in 2013 to just 49 in 2016. Of the communities that do not participate, they are mostly smaller with low volumes of potential HHW.

b. HHW Strengths, Challenges, Opportunities and Conclusions

The District has operated the HHW program for six years. Since its inception, the Northeast Ohio Regional Sewer District has provided a grant to the District that has paid for one-half of the cost of the program. This grant will come to an end in mid-2018. Meanwhile, the cost to operate the program has increased because of an increase in the volumes collected. The program is very successful and appreciated by the communities that participate and their residents.

The program is operated by the District's contractor, Clean Harbors. Clean Harbors provides staff to unload incoming HHW materials from community deliveries that were pre-scheduled. The District pays $320/day for a site manager and $320/day per technician. The rates above equate to $40/hour for 8 hours and more per hour if they work less than 8 hours. Clean Harbors estimated a daily rate of $960/day in their proposal for all staff. On average, Clean Harbors staffs the collection days with 5 individuals equaling a per-day cost of $1,600.

The District's goal is to reduce the amount of HHW materials that are placed in the landfills. In addition, the District wishes to reduce the amount of usable materials that are being disposed and educate the public regarding which items are hazardous and which items are not. The District believes that the long-term cost to manage HHW will be greatly reduced as the efforts above are implemented and become effective.

HHW Strengths

- This is the District's signature program.
- Creates strong relationships with participating District communities.
- Recycles hundreds of tons of HHW materials annually.
- The collection opportunities are available year-round for participating District communities and their residents.
- Using a contractor to unload and package HHW protects the District from liability.

- There is no charge to the communities or residents for the service.

HHW Challenges

- Not all communities participate in the program.
- The cost to operate the program is high and continues to increase because of the increasing volumes being turned in even though certain HHW materials have been eliminated.
- Contractor staff are used to process HHW at the District's Convenience Center, partially leading to high operational costs.
- The District has had to eliminate materials (bulbs and batteries) from the acceptance list in order to control costs.
- The previous subsidy from the Northeast Ohio Regional Sewer District will not be available in the new planning period.
- Program does not provide a direct opportunity for the District to educate residents on HHW management issues and other District initiatives since the actual collection of HHW occurs at the community location.
- The program does not provide services to businesses such as conditionally exempt small quantity generators of hazardous waste and universal waste generators.
- Because of the nature of how the materials are collected by the communities, verification of household versus business generator type is not conducted.
- The District is not able to determine actual participation in the program by household count.

HHW Opportunities

- **Conduct targeted education on using versus discarding HHW and green cleaning alternatives.**
  Because this program is very popular and highly used, the District has an opportunity to reach out to the residents who use the program to try and minimize the materials that should not be delivered to their communities. These materials, if used for their intended purpose, would neither be wasted nor brought to their community collection. By reducing these materials, the resident saves money, the District saves money, and the environment benefits. The campaign should focus on buying and using household products smartly to reduce waste and to save money. Residents should strive to only bring materials that, through the use of the product are no longer usable such as used oil, used antifreeze, spent paint thinner, etc. Materials such as paint, cleaners, pesticides and coatings, if used correctly and purchased in the right volumes based on need, will result in very little waste.
- **HHW Program Operations- Evaluate Staffing for HHW program (Private, District or combo)**
  Some HHW programs in Ohio solid waste districts have begun shifting from paying a contractor to unload and package HHW materials to using public employees. Lorain County is an example of this operational policy. This district utilizes part-time, public employees to unload cars and package HHW materials. The HHW contractor only handles high hazard lab packs and provides transportation and disposal services. All of the training of District staff, liability issues, and operational issues would be addressed in a detailed contract between the contractor and the District, which has

been done by Lorain and Lucas Counties, as well as the 6 counties of the NCO Solid Waste District. These 3 districts employ this type of HHW program to reduce costs. The District could consider in its next procurement process with selecting an HHW contractor to adopt a new model of operation. This operation could use part-time District staff trained by the contractor to unload and package HHW materials delivered by communities and only use the contractor for transportation, disposal and high hazard lab packing.

- **HHW Program Operations – Contract Management**
  The District should consider consistently observing the collection day operations of the HHW contractor to ensure compliance with contract terms and conditions; ensure container packing is being maximized to reduce overall poundage costs; ensure materials accepted are being packed into the proper categories per the contract pricing proposed; ensure HHW contractor staff is working effectively and efficiently.
- **HHW Program Operations - Rebidding**
  The District could consider rebidding the HHW contract in 2018 or 2019 instead of renewing the existing contract. Recent procurement processes in other Ohio solid waste districts have shown excellent competition and prices that may benefit the District. Rebidding would also be required if the District considers utilizing District employees for unloading and packaging of HHW materials as discussed above.
- **Evaluate feasibility of offering a Conditionally Exempt Small Quantity Generator (CESQG) and Universal Waste Program**
  The District could conduct a market assessment to determine the regulatory and operational aspects of developing a CESQG and/or Universal Waste Collection program for small businesses, institutions, and governments generating hazardous waste and universal waste. A similar program was evaluated by Summit County in the late 1990s. There are other programs being operated across the country. It is recommended that any program development also consider user fees to run the program.
- **Evaluate feasibility of offering a HHW Reuse Program**
  The District could consider developing a program to capture usable HHW materials from the program for reuse and partnering with Habitat for Humanity or other reuse stores to distribute usable HHW. Programs across the country are developing or have developed reuse programs to save money and to return perfectly usable materials back to residents. In Stearns County, Minnesota, an HHW Reuse Store was created to encourage residents to reuse materials that come into the Household Hazardous Waste facility to save money and to use the materials for their intended purpose.
- **Obtain participation data from communities**
  The District could work with its communities that participate in the HHW program to survey participants to better understand how and why they use the program and how often and to educate residents about HHW reuse and reduction.

3. Computers and Electronics

The District has offered programs for residents to recycle computers and electronics since 2000, being one of the first in the State to do so. Currently it promotes an annual "Recycle Your Computer Month" each April and August in partnership with its 59 communities. Residents are encouraged to turn in their e-waste to their local city service departments who then deliver the computers to RET3 Job Corp., a local, non-profit and R2 certified e-waste recycler. In 2016, 53 communities participated in the Round-Ups with 329 tons of electronics collected and recycled from the residential sector. In addition, RET3 accepts computers and other e-waste from businesses. In 2016, 290 tons was collected from businesses. The District spent $16,873 in 2016 on promoting this program, as well as a grant to assist RET3 with managing monitor/displays with cathode ray tubes (CRT). The Recycle Your Computer Month program has been in place since 2006. It replaced the District's Computer Round-Up events held at the county fairgrounds two times per year. Having communities conduct computer collections for their residents themselves, proved to be more cost-effective, efficient and convenient for residents than having one collection option. **Table H-6.7** summarizes the historical electronics program statistics.

Table H-6.7: 2012-2016 District Electronics Collection Program Statistics

Year	Communities Participating	Residential Tons Collected	Business Tons Collected	Costs*
2012	49	449	301	$23,078
2013	50	335	321	$29,906
2014	54	359	252	$20,835
2015	54	270	250	$10,792
2016	53	329	280	$16,873

*The costs associated above are for the advertisement of the program as the District and communities do not incur processing costs.

The District promotes proper electronics management through existing community events and existing private sector and non-profit organizations in the region. The District works directly with the communities to promote and provide technical assistance for the management of electronics. The District was instrumental in assisting RET3 in developing their operation to be able to manage community and business electronics. The District does offer collection of cell phones, mobile devices, tablets, and handheld electronics at its Special Waste Convenience Center in marked collection bins in the main lobby. These items are also recycled or refurbished by RET3 Job Corp.

Table H-6.8 identifies the cities that collect electronics by hosting Recycle Your Computer Month events and those that have expanded to include year round electronics collections.

Table H-6.8: Communities that Accept Electronics from Residents		
Political Subdivision	**Year-Round Collection**	**Limited Times or Special Collections**
Cities		
Bay Village	Yes	No

Table H-6.8: Communities that Accept Electronics from Residents		
Political Subdivision	**Year-Round Collection**	**Limited Times or Special Collections**
Cities		
Beachwood	Yes	No
Bedford	No	Yes
Bedford Heights	Yes	No
Berea	No	Yes
Brecksville	Yes	No
Broadview Heights	Yes	No
Brooklyn	Yes	No
Brook Park	Yes	No
Cleveland	Yes	No
Cleveland Heights	Yes	No
East Cleveland	No	No
Euclid	No	Yes
Fairview Park	No	Yes
Garfield Heights	No	No
Highland Heights	No	Yes
Independence	Yes	No
Lakewood	Yes	No
Lyndhurst	Yes	No
Maple Heights	No	Yes
Mayfield Heights	Yes	No
Middleburg Heights	Yes	No
North Olmsted	Yes	No
North Royalton	Yes	No
Olmsted Falls	No	Yes
Parma	Yes	No
Parma Heights	No	Yes
Pepper Pike	Yes	No
Richmond Heights	No	Yes
Rocky River	No	Yes
Seven Hills	No	Yes
Shaker Heights	No	Yes
Solon	Yes	No
South Euclid	No	Yes
Strongsville	Yes	No
University Heights	Yes	No
Warrensville Heights	No	Yes

Table H-6.8: Communities that Accept Electronics from Residents		
Political Subdivision	**Year-Round Collection**	**Limited Times or Special Collections**
Cities		
Westlake	No	Yes
Villages		
Bentleyville	Yes	No
Bratenahl	Yes	No
Brooklyn Heights	Yes	No
Chagrin Falls	Yes	No
Cuyahoga Heights	Yes	No
Gates Mills	No	Yes
Glenwillow	Yes	No
Highland Hills	No	Yes
Hunting Valley (adjusted)	Yes	No
Linndale	Yes	No
Mayfield	No	Yes
Moreland Hills	Yes	No
Newburgh Heights	Yes	No
North Randall	Yes	No
Oakwood	No	Yes
Orange	Yes	No
Valley View	No	Yes
Walton Hills	No	Yes
Woodmere	Yes	No
Townships		
Chagrin Falls Twp.	No	No
Olmsted Twp.	Yes	No

The following list of local and regional electronics haulers and recyclers is promoted on CuyahogaRecycles.org. Numerous donation opportunities are also listed. The majority of electronics recycled by District communities occurs through RET3 Job Corp:

Alltech Electronics Recycling, Inc.
52 Alpha Park Drive
Highland Heights, OH 44143
(440) 773-0362

E Scrap Solutions
7510 Bittern Avenue
Cleveland, OH 44103
(216) 431-0796

E-Waste LLC
5211 Hudson Drive
Hudson, OH 44236
(330) 650-0274

Regency Technologies
6111 Cochran Road
Solon, OH 44139
(440) 248-3991

RET3 job corp.
1814 East 40th Street, Rear
Cleveland, Ohio 44103
(216) 361-9991

Secure ITADS LLC
7255 Free Avenue
Oakwood Village, OH 44146
(440) 252-5481

a. E-Waste Evaluation

The District has 35 communities that provide year-round collection of electronics at their service garage or at the curb, and 21 communities with limited collections. There are 3 communities that do not have any form of electronics collection available to residents. Most communities do not accept TVs as a part of their program. RET3 Job Corp has provided electronic recycling services to the communities since 2000 at no cost. The rising cost for the management of CRTs may require RET3 Job Corp to begin charging the communities for the processing of CRTs in the future.

The District does incur a cost for the special month-long collection events related to advertising only. These costs have ranged from $10,000 to $30,000 annually over the last 5 years.

In 2016, the 329 tons of residential electronics and 290 tons of business electronics were recovered.

There are 6 recyclers and 13 donation entities that accept electronics that service the District for residential and business electronics.

b. E-Waste Strengths, Challenges, Opportunities and Conclusions

Electronics recycling tons have been consistent and range from 300-380 tons annually. There appears to be significant opportunity for residents and businesses to properly manage electronics but not TVs.

E-waste Strengths

- Electronics recycling is available in 56 of the 59 District communities.

- A significant amount of electronics are collected and recycled in the District. Residents, businesses, and other entities have additional choices with local and regional recyclers and donation centers to manage their electronics.

E-Waste Challenges

- The cost for CRT management is rising and may impact the community programs in the future.
- There are 3 communities that do not offer at least a special collection for electronics.
- There are 21 communities that only offer limited collection of electronics.
- Most communities do not include TVs as part of their electronics recycling programs but do collect them if put out with the trash.

E-Waste Opportunities

- **Provide CRT Recycling Subsidy to RET3**
  The District could collaborate with RET3 to forecast financial and space requirements to manage CRTs. Based on the discussions, the District could provide a small subsidy to RET3 for the management of CRTs delivered by District communities to offset the recycling and processing costs incurred.
- **Treat CRTs as Bulky Waste**
  As an alternative to a CRT recycling subsidy, the District could evaluate the option of having communities manage CRTs as part of their bulky waste or regular disposal programs in lieu of recycling collection and delivery to RET3. This option essentially would be legally disposing of the CRTs in a solid waste landfill.
- **CRT Recycling Fees**
  Based on discussions with RET3, the District could determine if communities would be willing to pay a fee for CRT recycling collection to cover part or all of the cost of recycling.

4. Appliances and Bulky Items

The District does not conduct a special collection for appliances because all communities collect large appliances and other items (bulky waste) as part of their waste collection programs. Small, non-working household appliances can be recycled at the District's Special Waste Convenience Center. Acceptable small appliances must be clean and under 10 lbs. Small appliances include hair dryers, small portable heaters, toasters, blenders, other small kitchen appliances, small fans, GPS devices, personal electronics, curling irons, CD players, stereos, radios, and MP3 players. The District does not accept televisions, Freon containing appliances, smoke detectors, carbon dioxide detectors, or dirty food-containing small appliances.

The District promotes the programs offered by the communities within the District. Residents can place at the curb acceptable appliances on their regular scheduled bulky waste collection day. Residents can also bring acceptable appliances to the District's large inventory of scrap yards for recycling.

In 2016, 27,667 tons of appliances and bulky items were recycled in the District. **Table H-6.9** summarizes the historical tons recycled.

Table H-6.9: 2012-2016 District Appliances Recycled

Year	Tons
2012	27,200
2013	28,229
2014	29,127
2015	26,059
2016	27,667

a. Appliances - Conclusions and Evaluation

Appliance recycling tons have been consistent and range from 26,000-28,000 tons annually. There appears to be significant opportunity for residents and businesses to properly manage appliances.

b. Appliances - Strengths, Challenges, and Opportunities

Strengths

- The District is confident that the current infrastructure of appliance recycling is appropriate and does not see any further need to develop additional infrastructure for appliance recycling.
- Over 27,000 tons of appliances are recycled annually.
- Ample infrastructure available for residents and businesses to recycle appliances.

Challenges

- None identified.

Opportunities

The District has not developed any potential improvements, initiatives, and/or strategies to be considered for implementation in the new planning period based on the analysis, conclusions, strengths and weaknesses, and other factors identified in this section.

5. Batteries

Lead-acid batteries are collected as part of the District's HHW program and promotes the use of local businesses that accept and recycle lead-acid batteries including A-1 Battery Shop, Bulldog Battery, Ohio Energy Source and scrap yards.

Rechargeable batteries are no longer accepted in the District's HHW program as a cost saving measure because there are many, free retail drop-off locations that collect batteries. Instead, the District promotes local, regional and national battery recycling locations for residents and businesses to utilize for household batteries and including:

Call2Recycle - provides free recycling drop-offs for batteries at retail stores such as the Apple Store, Best Buy, Home Depot, Lowe's Home Improvement, Sears Hardware, tool repair shops, and local hardware stores.

Batteries+Bulbs retail stores accept and recycle many types of batteries. Locally, stores are located in Macedonia, Mayfield Heights, North Olmsted and Strongsville.

In 2015, the District recycled 81 tons of household and lead-acid batteries; in 2016, 90 tons were recycled, which was a 10% increase over 2015.The collection programs for electronics, appliances, and batteries meet State Plan Goals #2 and #5.

a. Batteries - Analysis and Evaluation

Battery recycling tons have been consistent and range from 80-90 tons annually. There appears to be significant opportunity for residents and businesses to properly manage batteries.

b. Batteries - Strengths, Challenges, and Opportunit*ies*

Strengths

- Ample infrastructure is available for residents and businesses to recycle batteries.

Challenges

- Reducing battery collection from HHW program.

Opportunities

- **Promote Local and Regional Rechargeable Battery Recycling and help establish municipal collections**

  To reduce the amount of rechargeable batteries collected from the District HHW program, the District will work with communities to educate residents on the numerous local outlets for rechargeable battery recycling which is free of charge. The District typically accepts more than 4,000 pounds of batteries annually costing $0.57 per pound to recycle.

6. Pharmaceutical Programs

The Northeast Ohio Regional Sewer District and the Cuyahoga County Sheriff's Office provides an ongoing disposal option for unused medications, which the District promotes. The Sheriff's RX Drug Drop Box Program allows residents to deposit unused, unwanted, or expired prescription drugs at drop boxes in participating law enforcement agencies across Cuyahoga County. Residents are directed to the following to find a drop-off location: www.RXdrugdropbox.com or call 2-1-1.

a. Analysis and Evaluation

There appears to be significant opportunity for residents and businesses to properly manage pharmaceuticals. The District is confident that the current infrastructure of pharmaceutical collection and management is appropriate and does not see any further need to develop additional infrastructure.

b. Strengths, Challenges, and Opportunities

Strengths

- Ample infrastructure available for residents and businesses to properly dispose of pharmaceuticals.

Challenges – none identified

Opportunities – none identified

SECTION 7. DIVERSION ANALYSIS

The purpose of this analysis is to evaluate the quantities of waste reduced and recycled from 2012-2016 to ensure compliance with the state mandated waste reduction goals. Ohio solid waste management districts are required to meet one of the two following recycling goals:

- State Plan Goal #1: Ensure there is adequate infrastructure to provide residents and commercial businesses opportunities to recycle waste.
- State Plan Goal #2: Reduce/recycle at least 25 percent of waste generated by the residential/commercial sector and at least 66 percent of the waste generated by the industrial sector.

The District has consistently achieved Goal 2 since preparing its initial solid waste management plan and will continue to achieve Goal #2 throughout this planning period.

Table H-7.1 shows recycling and disposal quantities from 2012 to 2016. Overall, residential/commercial (R/C) sector diversion has remained moderately consistent since 2012. An increase in R/C recycling in 2014 was mainly due to increases in yard waste from storm damage. Recycling in the industrial sector has been relatively consistent as well, with the largest amount reported recycled in 2013.

Table H-7.1. R/C Disposal and Recycling in the District: 2012 – 2016

Year	Pop.	Residential/Commercial		Industrial		Total	Per Capita Gen. (ppd)	Annual % Change in Total Tons
		Disposal	Recycled	Disposal	Recycled			
2012	1,265,111	1,115,280	476,201	260,749	892,702	2,744,933	11.89	-
2013	1,263,154	1,076,361	454,865	272,487	1,054,040	2,857,753	12.40	4.11%
2014	1,259,828	1,093,975	473,625	232,735	963,341	2,763,677	12.02	-3.29%
2015	1,255,921	1,093,450	444,793	291,142	902,351	2,731,736	11.92	-1.16%
2016	**1,235,936**	**1,064,234**	**463,995**	**300,704**	**855,612**	**2,684,545**	**11.90**	**-1.73%**

F. Residential/Commercial Sector

The District met State Plan Goal #1 and Goal #2 for the R/C sector in the 2016 reference year.

1. Analysis and Evaluation

The District's R/C diversion rate during the past five years has fluctuated between 28.9 and 30.4 percent (see Table H-7.2). Diversion is calculated by dividing the total tons recycled plus composted by the total tons generated (which includes tons landfilled, recycled, and composted). The per capita diversion rate as measured in terms of pounds per person per day (PPD) decreased slightly from 2012 to 2016.

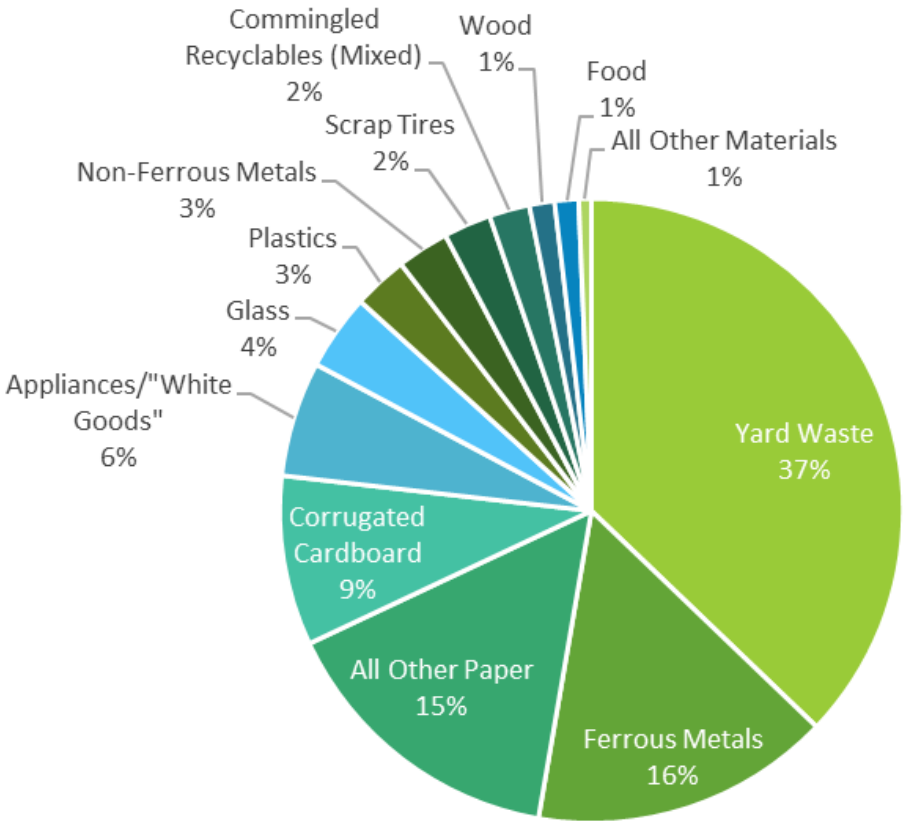
Table H-7.2. R/C Diversion Rates: 2012 – 2016

Year	R/C Waste Generated			Diversion Rate	
	Landfilled	Recycled	Composted	Percent (%)	Per Capita
2012	1,115,280	318,679	157,522	29.9%	2.06
2013	1,076,361	291,813	163,051	29.7%	1.97
2014	1,093,975	289,034	184,591	30.2%	2.06
2015	1,093,450	282,882	161,911	28.9%	1.94
2016	1,064,234	285,839	178,156	30.4%	2.06

The five materials that comprised the largest quantities of all materials recycled for the R/C sector in 2016 included the following (see **Figure H-7.1**):

- Yard Waste: 172,384 tons, or 37% of 2016 R/C recycling
- Ferrous Metals: 72,280 tons, or 16% of 2016 R/C recycling
- Paper: 70,926 tons, or 15% or 2016 R/C recycling
- Cardboard: 40,819 tons, or 9% of 2016 R/C recycling
- Appliances: 27,667 tons, or 6% of 2016 R/C recycling

Figure H-7.1. R/C Material Types Recycled in Cuyahoga: 2016



Compared to other urban and surrounding SWMDs in Ohio, Cuyahoga County's R/C diversion rate is slightly above average and per capita diversion is slightly below average (see **Table H-7.3**). The nationwide municipal solid waste (MSW) diversion (recycling and composting) rate is 34.6%[5]. Ohio's statewide R/C diversion rate is 28.4%[6].

Table H-7.3. R/C Diversion Rates for Other Select Ohio SWMDs: 2016

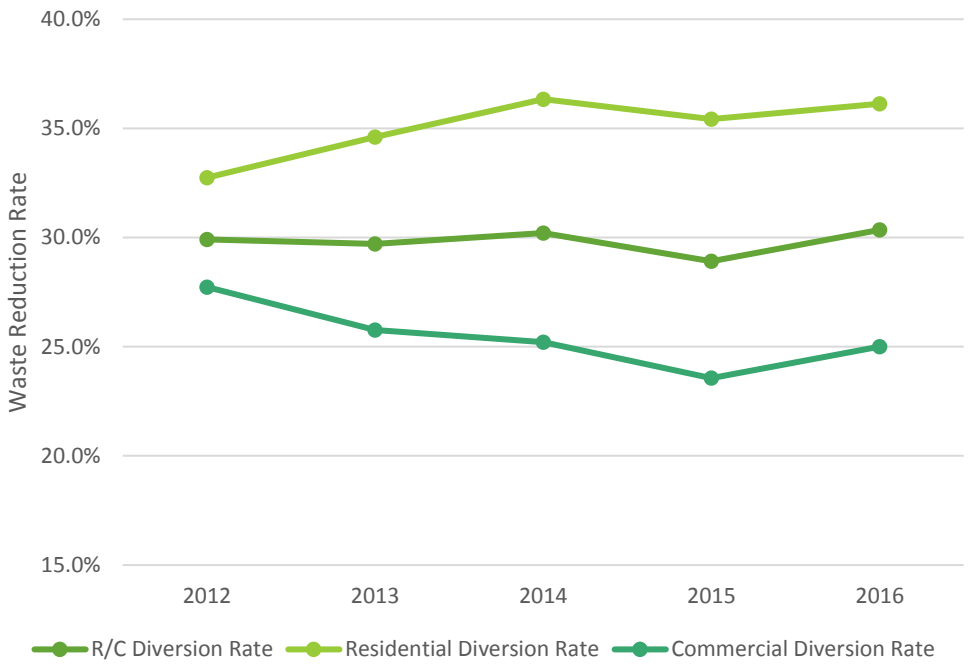
SWMD Name	Res/Com Diversion Rate	
	Percent (%)	Per Capita
SWACO	43.57%	3.42
Hamilton	31.71%	2.61
Lucas	30.59%	2.37
Cuyahoga	30.36%	2.06
Average	**29.91%**	**2.12**
Lorain	25.99%	1.42
Summit-Akron	23.65%	1.31
Montgomery	23.47%	1.64

Waste reduction and disposal data for Cuyahoga County's R/C sector can be further broken down between the residential and commercial sector. Residential sector data is obtained from the District's *Annual Report & Residential Recycling Report*, which compiles the total tons landfilled, recycled, and composted though each community's residential waste collection, recycling, and yard waste management program. The report excludes materials from commercial buildings, retail stores, restaurants, and apartment complexes that are not served by the community's waste collection program.

Commercial sector landfill, recycling, and composting tonnage are derived by subtracting the residential sector totals from the R/C totals reported in the District's Annual District Report and the R/C disposal totals in the Waste Flow report provided by Ohio EPA. **Figure H-7.2** presents the District's residential and commercial sector diversion rates from 2012 to 2016. As a whole, the R/C sector met State Plan Goal #2 (reduce/recycle at least 25 percent of all waste generated by the R/C sector) during all of the years analyzed in this section (2012-2016). Individually, the residential sector exceeds the requirements for Goal #2 during each of the years; the commercial sector meets but does not exceed the requirements of Goal #2 in 2014 and 2016, and it falls short of the goal in 2015, recycling just 24% of the materials generated. Residential sector waste diversion has increased and commercial sector diversion has decreased from 2012 to 2016.

[5] US EPA. *Advancing Sustainable Materials Management: 2014 Fact Sheet*. November 2016.
[6] Ohio EPA. *Re-TRAC Connect 2016 Statewide Figures for Tables 1, 2, and 3.* December 2017.

Figure H-7.2. Residential and Commercial Waste Diversion Rates: 2012-2016



Residential Sector

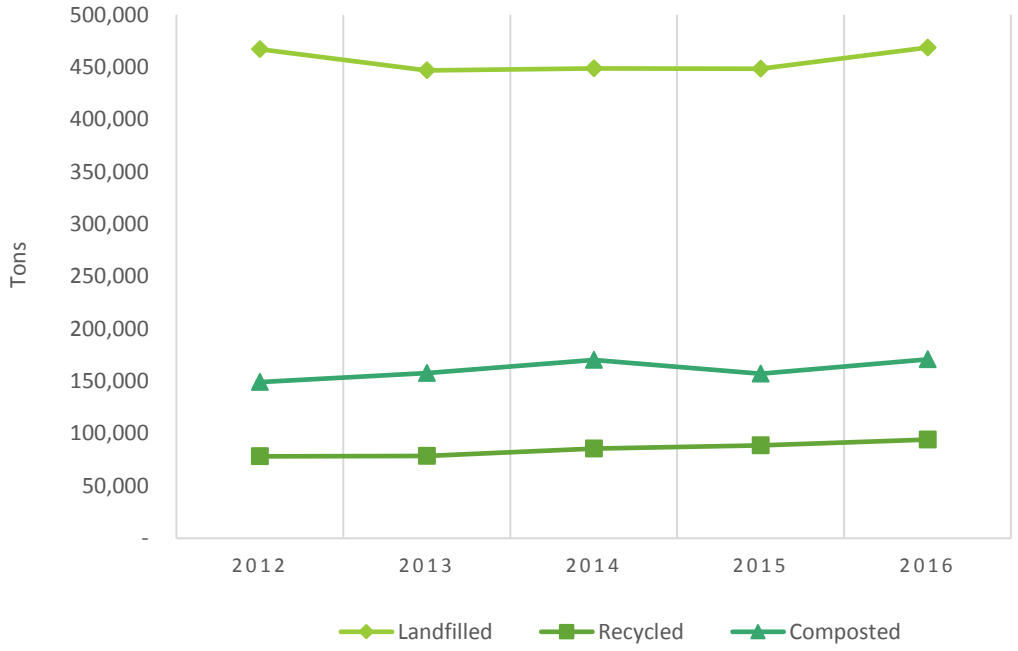
Table H-7.4 presents the residential sector's waste diversion and disposal totals from 2012 to 2016. Residential sector diversion has increased from 2012 to 2016.

Table H-7.4. Residential Sector Waste Reduction and Disposal: 2012-2016

Year	Landfilled	Recycling	Organics	Waste Diversion Rate
2012	467,218.54	78,254.71	149,218.78	32.74%
2013	446,882.28	78,667.49	157,764.82	34.60%
2014	448,693.98	85,699.38	170,428.72	36.34%
2015	448,411.59	88,747.93	157,204.75	35.42%
2016	468,734.07	94,284.08	170,925.82	36.13%

Trends in residential sector diversion are identified more easily by presenting recycling and composting totals separately because organics totals can fluctuate based on weather-related events such as storms that result in a significant uptick in vegetation debris. **Figure H-7.3** presents trends in residential sector landfilling, recycling, and composting from 2012 to 2016.

Figure H-7.3. Residential Sector Waste Management Trends: 2012-2016



Residential sector recycling has increased annually since 2012, while landfilling and composting totals have fluctuated.

Commercial Sector

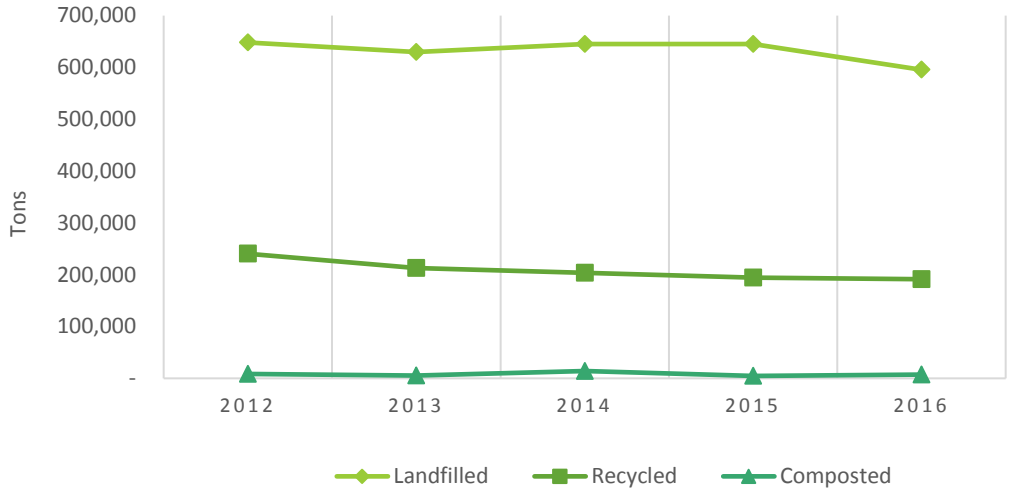
Table H-7.5 presents the commercial sector's waste diversion and disposal totals from 2012 to 2016. Commercial sector diversion has decreased from 2012 to 2016.

Table H-7.5. Commercial Sector Waste Reduction and Disposal: 2012-2016

Year	Landfilled	Recycling	Organics	Waste Diversion Rate
2012	648,076.46	240,424.77	8,303.20	27.73%
2013	629,503.72	213,145.98	5,286.37	25.76%
2014	645,333.02	203,334.84	14,162.36	25.21%
2015	645,086.41	194,134.05	4,706.11	23.56%
2016	595,499.86	191,332.69	7,230.37	25.01%

Trends in commercial sector diversion are identified more easily by presenting recycling and composting totals separately because organics totals can fluctuate based on weather-related events. **Figure H-7.4** presents trends in residential sector landfilling, recycling, and composting from 2012 to 2016.

Figure H-7.4. Commercial Sector Waste Management Trends: 2012-2016



Commercial sector recycling decreased annually since 2012; landfilling also decreased annually, with the exception of 2014. Composting totals fluctuated. While landfilling and recycling decreased from 2012 to 2016, recycling typically decreased at a greater rate than landfilling totals, as shown in **Table H-7.6**.

Table H-7.6. Commercial Sector Landfilling and Recycling Rate of Change: 2012-2016

Year	Landfilling	Recycling
2012-13	-2.9%	-11.3%
2013-14	2.5%	-4.6%
2014-15	0.0%	-4.5%
2015-16	-7.7%	-1.4%

Commercial sector recycling totals are directly related to the number of usable surveys received from the District's annual recycling survey. The survey is voluntary, so it is likely that commercial sector recycling is greater than the values reported on the Annual District Reports and thus, greater than the values presented in this Plan Update.

Current estimates indicate that 51,000 commercial/institutional establishments are located in Cuyahoga County. Many of the establishments are small; only 5,800 have 20 or more employees[7]. The District has finite resources to devote to surveying; due to staffing and time constraints, typically only establishments that have responded to the District's surveys in the past, or large establishments based on total number of employees are targeted for surveying activities. This results in a large portion of commercial sector establishments that might not be counted in the District's commercial sector recycling totals.

[7] Reference USA Database.

To further demonstrate this point, Cuyahoga County's 2016 R/C recycling total (30.36%) was notably lower than SWACO's (see **Table H-7.3**). SWACO, another Ohio urban solid waste district, historically compiled annual recycling totals using predominantly broker and processor data and virtually no generator data, while Cuyahoga County relied mostly on generator data and used broker/processor data sparingly. [Note: See **Section H-12** for a more in-depth discussion on the District's data collection efforts.]

2. R/C Strengths, Challenges, Opportunities, and Conclusions

Opportunities exist to improve actual and reported recycling quantities in the residential and commercial sectors in Cuyahoga. The residential sector is responsible for more diversion compared to the commercial sector. This may be due to the District's ability to collect a more complete data set from the residential sector versus the commercial sector. In 2016, yard waste, ferrous metals, and paper represented the materials most recycled by the R/C sector by weight.

R/C Strengths

- Residential sector recycling has increased annually 2012-2016.
- The District has a reliable survey process in place to capture residential recycling data on an annual basis.
- There are 58 curbside recycling programs, providing excellent access to recycling for the District's residents.
- There is good recycling infrastructure (programs, service providers) available to both residential and commercial sectors.
- R/C Residential/commercial recycling rates are above average compared to other urban and surrounding solid waste districts in Ohio.

R/C Challenges

- There are more than 51,000 commercial businesses in the District. The ability to accurately document commercial sector recycling is limited by the number of survey responses received from commercial generators.
- Collecting commercial sector survey data is time consuming and may not be the most effective use of District personnel and funds.
- Participation in the District's recycling survey is voluntary.

R/C Opportunities

THE OPPORTUNITIES FOR THE RESIDENTIAL AND COMMERCIAL SECTORS HAVE BEEN INCORPORATED INTO H-1 AND H-2 RESPECTIVELY TO REDUCE REDUNDANCY.

G. Industrial Sector

The District has consistently surpassed the State Plan goal of recycling at least 66 percent of the waste generated by the industrial sector.

1. *Analysis and Evaluation*

Industrial sector diversion rates in Cuyahoga County for 2012 through 2016 are shown in **Table H-7.7**. Diversion rates increased from 2012 to 2014, then decreased from 2014 to 2016.

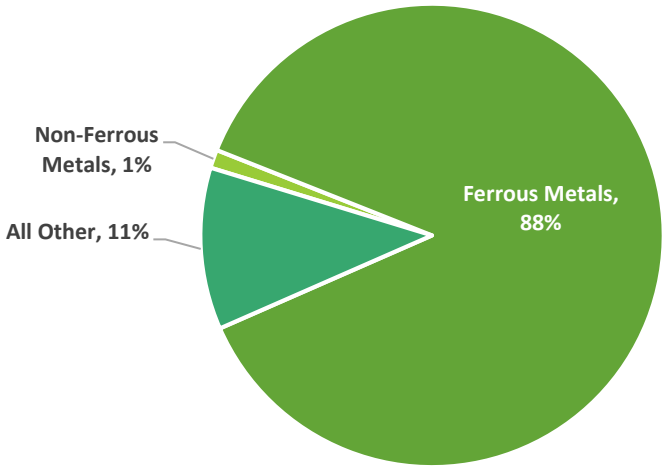
Table H-7.7. Industrial Recycling Rates for Cuyahoga: 2012 – 2016

Year	Diversion Rate	
	Percent (%)	Per Capita
2012	77.39%	3.87
2013	79.46%	4.57
2014	80.54%	4.19
2015	75.61%	3.94
2016	73.99%	3.75

Compared to the current Plan, which projected 650,280 tons of industrial recycling for 2016, the actual amount diverted in the 2016 reference year is 24% higher (approximately 205,000 tons). The current Plan also projected an industrial recycling rate of 77.2% for 2016, which is higher compared to the actual estimated recycling rate of 73.99%.

Ferrous metals represent the material type recycled in the greatest amount from industrial sources (**Figure H-7.5**). Years 2012 through 2015 show similar relationships concerning the types of materials recycled from the industrial sector.

Figure H-7.5. Industrial Material Types Recycled in Cuyahoga: 2016



The District's industrial recycling rate for 2016 was above average compared to urban and surrounding solid waste districts, as shown in **Table H-7.8**.

Table H-7.8. Industrial Diversion Rate Comparison

SWMD Name	Industrial Diversion Rate
Lucas	89.74%
Montgomery	88.05%
Hamilton	77.60%
Cuyahoga	73.99%
Average	**71.71%**
SWACO	71.17%
Lorain	62.53%
Summit-Akron	38.87%

Industrial sector diversion can vary greatly among solid waste districts due to the level and type of manufacturing activity present in the District. Industrial sector recycling totals are directly related to the number of usable surveys received from the District's annual recycling survey. The survey is voluntary, so it is likely that industrial sector recycling is greater than the values reported on the Annual District Reports and thus, greater than the values presented in this Plan Update. Current estimates indicate that 2,370 industrial establishments are located in Cuyahoga County. Many of the establishments are small; only 748 have 20 or more employees[8]. As discussed in the commercial sector analysis, the District has finite resources to devote to surveying; due to staffing and time constraints, typically only establishments that have responded to the District's surveys in the past, or large establishments based on total number of employees are targeted for surveying activities. This results in a large portion of industrial sector establishments that might not be counted in the District's industrial sector recycling totals.

2. ***Industrial Sector Strengths and Challenges***

Strengths

- The industrial sector has continued to surpass State Plan Goal #2.

Challenges

- Industrial sector diversion may be dependent upon economic swings. A reduction in manufacturing production may correlate to a reduction in recycling. The recycling rate for industrial facilities has been decreasing since 2014.
- Approximately 70% of the industrial sector establishments in Cuyahoga County are small businesses (less than 20 employees). Establishing comprehensive recycling programs in smaller establishments may be more challenging.
- The District's ability to achieve Ohio's 66% industrial recycling rate depends one industry (an integrated steel and mining company). If it were not for this one company, its industrial sector recycling rate would decrease from 73.99% to 52.80%.

Opportunities

THE OPPORTUNITIES FOR THE INDUSTRIAL SECTOR HAVE BEEN INCORPORATED INTO H-3 TO REDUCE REDUNDANCY.

[8] Reference USA Database.

SECTION H-8. SPECIAL PROGRAM NEEDS ANALYSIS

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

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

The District utilized generation fees to fund the following special program needs in the reference year:

- Section 3734.57(G)(3). Boards of Health, Solid Waste Enforcement
- Section 3734.57(G)(7). Enforcement of Anti-littering

H. Boards of Health, Solid Waste Code Enforcement

The District has historically provided funding to the Cuyahoga County Board of Health and the City of Cleveland Department of Public Health to enforce solid waste regulations. During the Reference Year (2016), the Cuyahoga County Board of Health received $185,000 and the City of Cleveland Health Department received $70,000. Note: the level of funding was reduced in 2018 to $160,000 for the County Board of Health.

1. Analysis and Evaluation

The District annually negotiates the scope and funds for health department agreements. Historically, the scope of services for both health departments included the following provisions:

- Inspection of solid waste transfer stations, construction and demolition (C&D) facilities, compost facilities, captive landfills and closed landfills within their jurisdiction.
- Providing quarterly financial reports documenting the use of District funds.
- Submittal of quarterly program reports to the District in a format prescribed by the District. Reports must include notices of violations, warnings or enforcement actions issued to a solid waste facility.
- Submittal of the Ohio EPA Annual Survey regarding the health department's performance to the District.

Cleveland Health Department

In 2016, the Cleveland Department of Public Health was responsible for the inspection of 1 transfer station, 1 construction debris disposal facility, 3 compost facilities, 1 industrial landfill and several closed landfills. Under the 2016 contract, they performed the following services:

- 27 total inspections
    - 4 full inspections at one public solid transfer station
    - 2 full and one partial inspections at two private C&D landfills
    - 9 full and one partial inspection at three compost facilities

- 4 full inspections at one industrial captive landfill
- 7 full inspections at two closed landfills including methane monitoring
- One violation was issued at a compost facility
- The Health Department also responded to numerous nuisance complaints related to open dumping.

Figure H-8.1. 2016 Cleveland Health Department Inspections

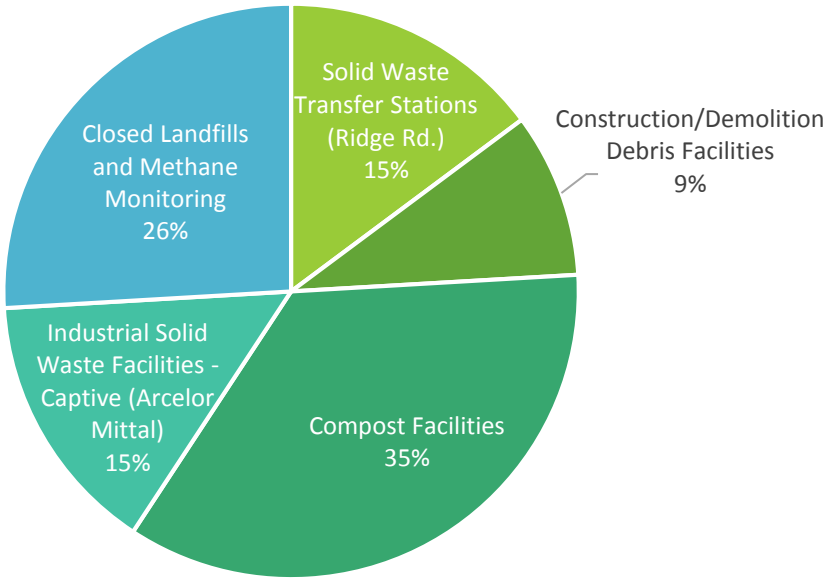
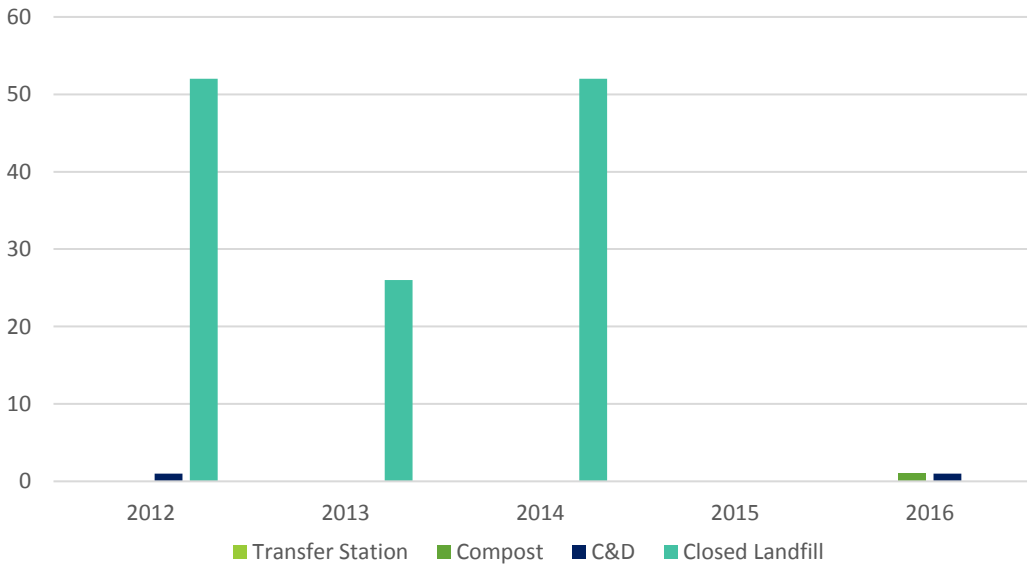


Figure H-8.2 compares the City of Cleveland Health Department citations by solid waste facility type between 2012 and 2016.

Figure H-8.2. 2012 - 2016 City of Cleveland Health Department Citations



As shown in **Figure H-8.2,** the Cleveland Health Department did not issue any citations to the Ridge Road Transfer Station during the last five years and only issued one citation to a compost facility. The Cleveland Health Department issued two citations to C&D facilities. The Cleveland Health Department issued almost 130 citations to closed landfills between 2012 and 2014, but issued none since 2015.

Cuyahoga County Board of Health

In 2016, the Cuyahoga County Board of Health was responsible for inspecting 9 transfer stations, 3 construction debris disposal facilities, 21 compost facilities, 1 operating landfill and several closed landfills. They performed the following services:

- 196 total inspections
  - 43 full inspections at nine transfer stations
  - 4 full inspections at one captive landfill
  - 45 full inspections at 15 compost facilities
  - 24 full inspections at five C&D landfills and recycling facilities
  - 80 full inspections at 19 closed landfills and methane monitoring
  - Responded to seven nuisance complaints

- 87 violations were issued in 2016, and the citations by solid waste facility type are as follows:
  - Transfer stations – 6 from two transfer stations
  - Compost facilities – 1 from one facility
  - C&D facilities – 42 from two facilities
  - Closed landfills- 38 from five facilities

Figure H-8.3. 2016 Cuyahoga County Board of Health Inspections

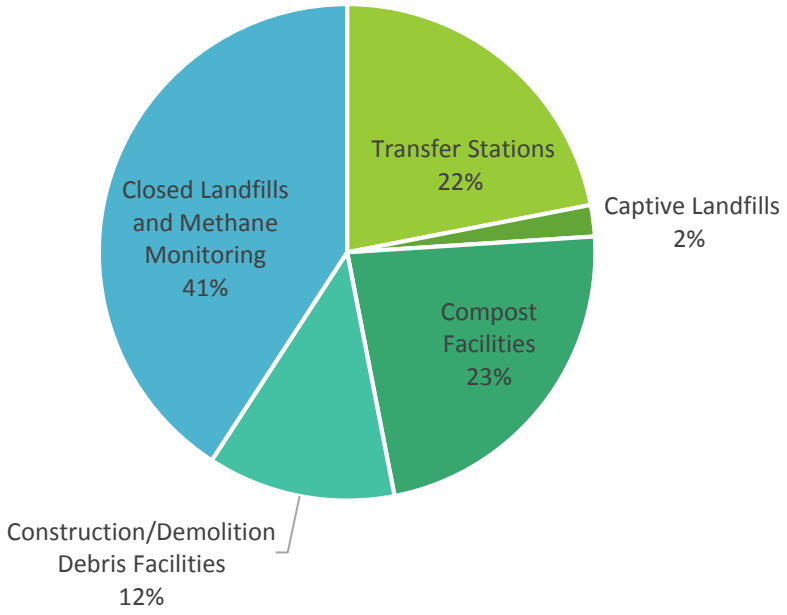
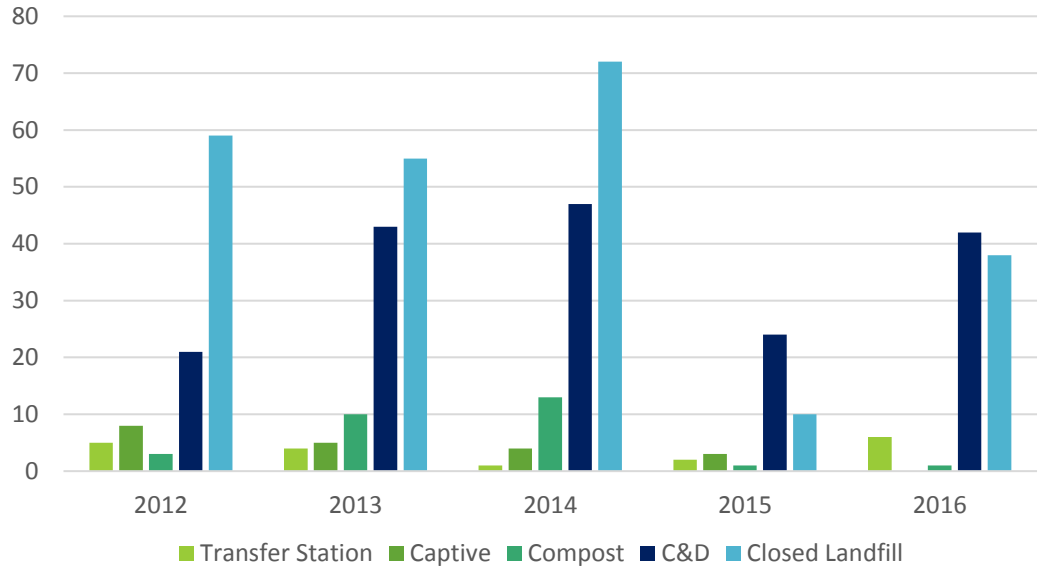


Figure H-8.4 compares the Cuyahoga County Health Department citations by solid waste facility type between 2012 and 2016.

Figure H-8.4. 2012 - 2016 Cuyahoga County Health Department Citations



As shown in **Figure H-8.4**, the Cuyahoga County Health Department issued the vast majority of citations to closed landfills, followed by C&D facilities, and closed landfills have the most number of unresolved violations.

The funding of health departments by solid waste districts across Ohio has been evaluated many times. The Hamilton County Solid Waste Management District published data on health department spending in 2014. Figures H-8.5 through H-8.7 summarize the results from the Hamilton County evaluation. Cuyahoga is the fourth highest District for funding to health departments but is the highest for a solid waste district without a landfill. The District historically allocated approximately 12% of its annual budget to funding health departments, which is shown in Figure H-8.7. This was significantly higher than the other urban solid waste districts without landfills. In 2018, health department funding was reduced to $230,000 and accounted for 10.74% of its annual budget.

Figure H-8.5. Solid Waste District Funding to Health Departments

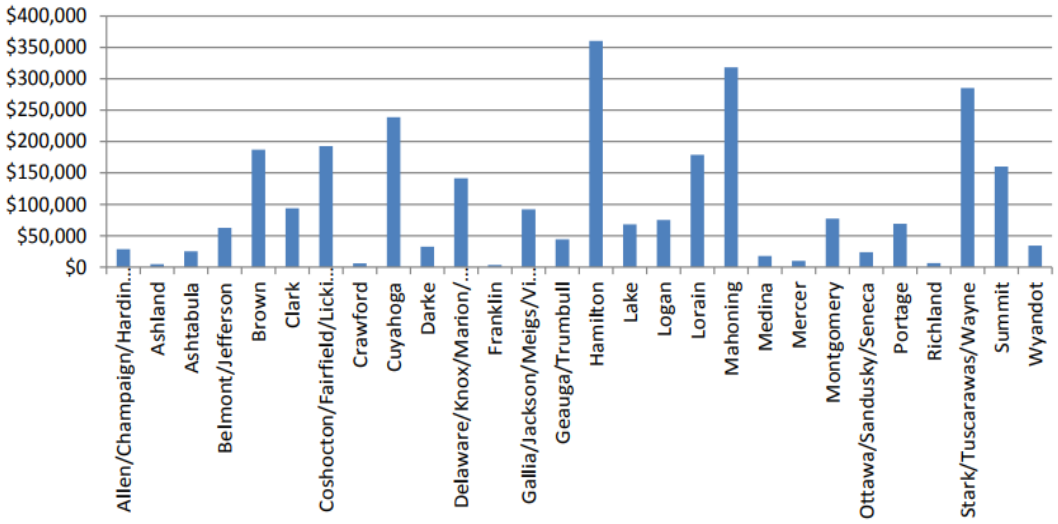


Figure H-8.6. Health Department Funding as Percentage of Total Expenditures

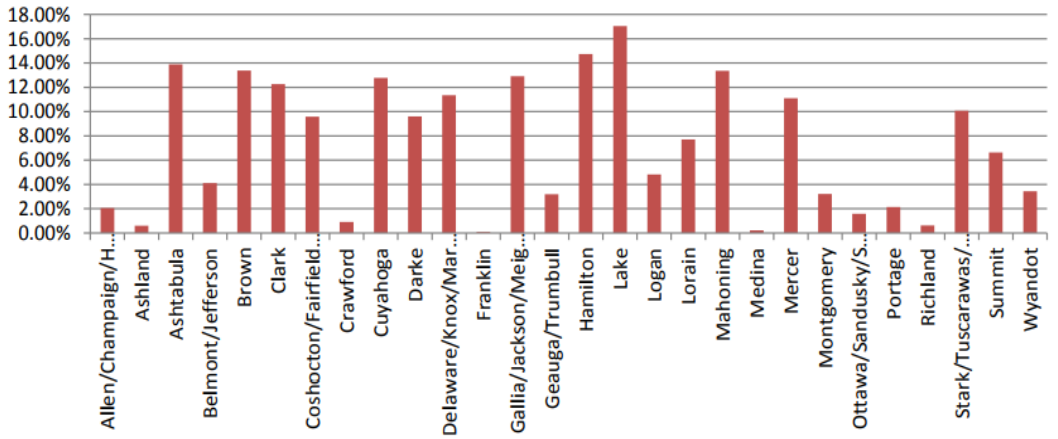
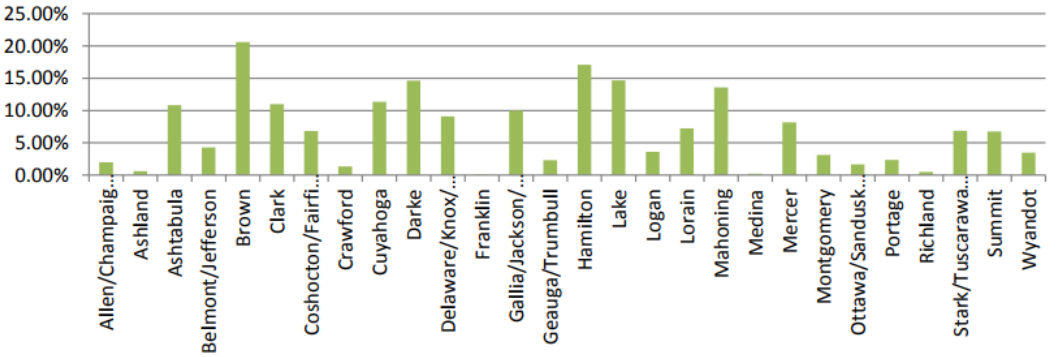


Figure H-8.7. Health Department Funding as Percentage of Total Annual Revenue



Health Dept. Strengths, Challenges, and Opportunities

The District is committed to funding the two health departments for services that benefit the District and its communities. The District continues to work with the health departments on resolving illegal dumping and to ensure that solid waste code enforcement services are conducted in a manner that efficiently and effectively protects the environment of Cuyahoga County.

The following section summarizes the strengths, challenges, and opportunities for health department agreements.

Health Dept. Funding Strengths

- The District annually executes an Agreement with the health departments that formalizes the scope of services and budget.
- Health departments have been amenable to adjusting work scopes and budgets as priorities and needs evolve.
- The health departments provide the District with quarterly reports that detail the number of inspections, notices of violations (NOVs), the resolution of NOV's and account for funds expended.
- The health departments have a formal procedure to issue NOVs to solid waste facilities to correct issues of non-compliance (also see challenges below).
- The number of citations at certain types of solid waste facilities has consistently decreased over the last five years, pointing to increased compliance for licensed facilities.
- The health departments partner with the District in the work of its Environmental Crimes Task Force. Investigating and eliminating open dumping has become a larger role beyond just solid waste facility inspections.

Health Dept. Funding Challenges

- The cost per inspection between the two health departments is wide and ranges significantly between two health departments.
- Both health departments issue the majority of citations to closed landfills which never get resolved because there is no revenue source to remediate them.
- The Cuyahoga County Health Department issued over 170 citations to C&D facilities during the last five years, but the District does not receive generation fee revenue from C&D waste to fund inspecting these facilities.
- While the health departments have a formal procedure to issue NOVs to solid waste facilities and property owners to correct issues of non-compliance, often the violations are not corrected.
- The District provides more funds to health departments than any other Ohio solid waste district without solid waste landfills.
- As discussed in Section H.6, Restricted and Difficult to Manage Wastes, illegal dumping of scrap tires and solid waste is prevalent throughout the District but current health department contracts do not include provisions to ensure that tire dealers are properly managing scrap tires.

Health Dept. Funding Opportunities

- **Include Scrap Tire Generator Inspections in Health Department Contracts**
  The District could renegotiate its contract with the health departments to focus less on inspecting licensed solid waste facilities that have not received citations over the last five years and focus more on inspecting scrap tire facilities. Inspections would verify that scrap tire generators are using licensed scrap tire haulers and properly storing and securing scrap tires.
- **Progress C&D Facility Regulations**
  The District could support State initiatives to promulgate C&D Processing Facility regulations that require the owners and operators of these sites to manage C&D in a manner that protects the environment of Cuyahoga County and does not create nuisances for local residents and businesses.
- **Develop a Clean-Up Fund for Open Dump Sites**
  The District could establish an Open Dump Remediation Fund to be used to clean-up open dumps. Funding could come from the payment of illegal dumping fines resulting from the work of the Environmental Crimes Task Force and supplemented with grants, a portion of the District's cash reserve or possibly a generation fee increase dedicated solely for this purpose.

  Another possible source of remediation funding could come from liens on properties. Applicable sites would only be remediated if a lien on the site could be obtained to recover the clean-up costs. Recovered costs would be directed to the District to replenish funds expended. Once a fund was established, it could be used to provide grants to local health departments to conduct clean-up projects.

  The development of the fund and the grant program would be researched, developed and established by a Grant Committee to be created by the District. Such a committee could consist of the District's Executive Director and representatives from the Environmental Crimes Task Force and Policy Committee. Sites would only be remediated in cases where a lien could be placed on the property to recover costs, or where there was no identified property owner to cite or in cases of dumping where the property owner was the victim. The grant criteria could mirror that which the Ohio EPA uses for its no-fault scrap tire abatement program and also include the following restrictions:
    - Funds can only be used to remediate properties located within the District.
    - All grant requests must demonstrate a deterrence strategy that either promotes or creates incentives to eliminate future or continued dumping at each designated site.
    - Grant could not be used to remediate any hazardous waste (as such term is defined in Chapter 3734 of the Ohio Revised Code) dump sites.

I. Cleveland-Cuyahoga Environmental Crimes Task Force

In 2013, the District facilitated the establishment of the Cleveland-Cuyahoga Environmental Crimes Task Force (ECTF). The ECTF is a coalition of public agencies working to end the problem of open dumping in Cuyahoga County by enforcing the criminal open dumping penalties contains in the Ohio Revised Code. Table H-8.1 identifies the Task Force partners.

Table H-8.1. ECTF Partners

Cleveland	County	State & Federal
Cleveland Police Department	Cuyahoga County Prosecutor Office	Ohio EPA
Cleveland Law Department	Cuyahoga County Sheriff's Office	Ohio Attorney General
Cleveland Health Department	Cuyahoga County Solid Waste District	US EPA
Cleveland departments of Building and Housing and Economic Development	Cuyahoga County Board of Health	

The ECTF partners meet regularly to confer on cases, develop operating protocols, and develop community outreach strategies.

Investigations are conducted by an Environmental Crimes Unit staffed by the Cleveland Police Department and the Cuyahoga County Sheriff's office. Together, four full-time enforcement officers work solely on open dumping investigations. The Cleveland Police Department provides three full-time detectives to the unit and the County Sheriff's office provides one full-time deputy to the unit.

Prosecutions are conducted by the Cuyahoga County Prosecutor's office staffed by two part-time prosecuting attorneys who prosecute open dumping cases and other environmental crimes indicted by the Unit. Until the ECTF was formed, enforcement was minimal, and the few cases went through municipal courts where penalties were not stringent enough to deter the crimes.

1. Analysis and Evaluation

In 2016, the ECTF continued its mission to work to aggressively identify, investigate and prosecute those responsible for the illegal dumping of solid waste, scrap tires and C&D and violating other environmental laws of the State of Ohio. Investigators followed up on all felony dumping cases and conducted inspections at local junk yards, scrap yards and tire shops. The use of 20 surveillance cameras greatly aided investigators in 2016. Statistics resulting from the 2016 investigations and inspections are listed below.

- 321 investigations

- 20 scrap metal facility inspections completed (included in case numbers)
- 100 tire shop inspections completed with Cleveland Health Department
- 18 search warrants executed
- 11 felony arrests
- 111 felony indictments / charges
- 11 felony convictions
- 5 misdemeanor indictments / charges
- 11 misdemeanor citations
- 13 misdemeanor convictions
- 5 vehicles forfeited, and 14 vehicles towed
- 3 cases pending indictment
- 4 suspects are capias
- 243 dump locations in the City of Cleveland were cleaned up

Court Fines

In 2016, fines totaling $15,750 were collected from court proceedings and ordered to be paid directly to the District. The District used the funds to purchase surveillance cameras and other equipment for use by task force investigators.

Legislative Initiatives

C&D

The absence of state and local laws and regulations on local recycling processing facilities, specifically C&D processing facilities, limit the ability of the ECTF to shut down sham facilities that accumulate large amounts of debris under the guise of recycling. As a result, the City of Cleveland and the Cuyahoga County Board of Health drafted ordinances and rules to regulate the establishment and operation of these facilities.

On the state level, SB 2 was passed in 2017 and contained provisions to regulation C&D processing facilities. The language was drafted by the Ohio EPA and the Construction and Demolition Association of Ohio with input from the District and the ECTF. The District is currently a participant on the committee that is promulgating the rules under this new legislation.

Scrap Tires

The District, working with the Organization of Solid Waste Districts of Ohio, convened a statewide scrap tire summit held in Columbus in the spring of 2016. The summit convened over 100 industries, retail merchants, solid waste districts and enforcement officials to review the scrap tire management program in Ohio and recommend improvements to curtail illegal dumping. Several subcommittees were created and worked to develop the recommendations. The District chaired the legislative committee which drafted 35 recommended legislative and rules changes and is working with Ohio EPA Scrap Tire Unit to further review and refine the recommendations.

Education Initiatives

The District and Cleveland Police conducted presentations at the Ohio Prosecuting Attorney's Association conference, the Regional Parks Conference and the Statewide Scrap Tire Summit regarding the efforts of our Task Force to increase awareness of Ohio environmental laws.

In July 2016, the ECTF investigators teamed up with the Cleveland Health Department to inspect nearly 100 scrap tire shops located within the City of Cleveland because of concerns over the spread of the Zika virus. Tire shops were presented with a brochure outlining scrap tire storage requirements and other information to help them comply with the state's scrap tire laws. The Health Department treated tire piles with mosquito larvicide and followed up on all NOVs. The ECTF followed up with all non-complaint tire shops and assured compliance. The owner of one tire shop was indicted and convicted and the shop was closed.

In 2016, the District contributed $29,734 to the ECTF. In 2014, the District contributed $51,800 and in 2015, $51,408. Funding is used for equipment purchases and training.

Strengths, Challenges, and Opportunities

The District is committed to continue funding of the ECTF. The following section summarizes the strengths and challenges for the ECTF.

Strengths

- The ECTF completes investigations and inspections on solid waste related issues in the District.
- The ECTF executes warrants, indicts and convicts felons and issues citations for misdemeanor violations for solid waste issues including open dumping.
- The District uses the fines collected through the ECTF for expanding their services.
- Continual training for investigators and inspectors is conducted to improve techniques and results.

Challenges

- Scrap tire dumping and open dumping remains a significant problem in Cuyahoga County.
- There is no full time dedicated county prosecutor assigned to environmental crimes cases.
- There is no dedicated Common Pleas court judge to preside over environmental crime cases.
- The open dumping penalty in Ohio is an unclassified felony which may be too severe for some cases.

Opportunities

- **Continue to Work with Health Departments to Conduct Scrap Tire Generator Inspections**

  The ECTF could continue to work with the District and Health Departments to conduct inspections of scrap tire generators to ensure that scrap tire generators are using licensed scrap tire haulers and recycling and disposal facilities.

- **Demonstrate Need for Dedicated Full Time County Prosecutor**

  The District could work with the ECTF and other stake holders to demonstrate the need for a dedicated county prosecutor that would be assigned to environmental crime cases.

- **Lobby for Dedicated Common Pleas Court Judge**
  The District could work with the ECTF and other stake holders to lobby for a dedicated Common Pleas court judge to preside over environmental crime cases. **OR**
- **Lobby to create an Environmental Court within the City of Cleveland**
  The District could work with its partners to seek a legislative change that would allow for the creation of an Environmental Court similar to the Franklin County Environmental Court. Such a court would be housed within the City of Cleveland Municipal Court and would hear Cleveland dumping cases, which are the majority of cases handled.
- **Seek a Legislative Change to the Open Dumping Statute**
  The District could work with its partners to seek a legislative change to the open dumping penalty contained in the Ohio Revised Code to give judges more leeway in sentencing.

J. Court Community Services Litter Collection Program

The District, under contract with Court Community Service Inc. (CCS), offered free litter collection services to District communities in 2016. CCS is a nonprofit agency that arranges community work for adult offenders from the Cuyahoga County Municipal and Common Pleas courts. This is the District's longest running service and supplements local litter removal efforts.

In order to participate, communities sign up and identify where crews are needed to work then CCS schedules a crew. Two crews are available to perform litter collection. Each crew consists of one supervisor and up to eight workers. After each collection day, a record is provided identifying the roadways or public areas that were cleaned and the number of bags of trash collected.

In 2016, the CCS program provided 14,112 hours of free litter collection to 55 participating communities and collected 9,881 bags of litter. The cost to the District was $97,407 and covered transportation expenses, supervisor salaries and collection supplies. **Table H-8.2** summarizes the past 5 years of expenditures on the CCS program. Cost increases of 1-2% per year cover cost of living increases. In addition, the CCS program provided services to RET3 Job Corp on eight occasions in 2016 with 204 hours spent handling electronics. The CCS program workers also provided 770 hours for 25 communities collecting scrap tires during the District's Scrap Tire Round-Up.

Table H-8.2. CCS Litter Program Expenditures

Year	Program Cost
2012	$89,575
2013	$91,409
2014	$93,320
2015	$95,319
2016	$97,407

Table H-8.3 identifies the communities served by the CCS program during the Reference Year, total man hours provided and total bags of litter collected:

Table H-8.3. CCS Litter Program Statistics				
Political Subdivision	# of Times Served	Man Hours	Total Bags Collected	Bags Collected Per Man-Hour Spent
Cities				
Beachwood	7	189	136	0.7
Bedford	9	332	313	0.9
Bedford Heights	7	290	235	0.8
Berea	9	336	149	0.4
Brecksville	8	252	176	0.7
Broadview Heights	8	270	190	0.7
Brooklyn	7	259	185	0.7
Brook Park	7	231	213	0.9
Cleveland	0	0	0	n/a
Cleveland Heights	8	276	239	0.9
East Cleveland	6	192	278	1.4
Euclid	7	173	155	0.9
Fairview Park	10	326	196	0.6
Garfield Heights	9	286	266	0.9
Highland Heights	6	165	109	0.7
Independence	8	225	238	1.1
Lakewood	8	308	216	0.7
Lyndhurst	8	275	184	0.7
Maple Heights	9	273	353	1.3
Mayfield Heights	8	266	202	0.8
Middleburg Heights	8	238	135	0.6
North Olmsted	9	357	241	0.7
North Royalton	8	308	184	0.6
Olmsted Falls	9	338	162	0.5
Parma	7	273	110	0.4

Table H-8.3. CCS Litter Program Statistics				
Political Subdivision	**# of Times Served**	**Man Hours**	**Total Bags Collected**	**Bags Collected Per Man-Hour Spent**
Parma Heights	6	186	101	0.5
Pepper Pike	6	165	67	0.4
Richmond Heights	8	332	175	0.5
Rocky River	6	143	108	0.8
Seven Hills	8	245	113	0.5
Shaker Heights	5	182	125	0.7
Solon	8	266	175	0.7
South Euclid	7	182	142	0.8
Strongsville	8	255	183	0.7
University Heights	7	217	219	1.0
Warrensville Heights	5	283	200	0.7
Westlake	9	177	135	0.8
Villages				
Bay Village	0	0	0	n/a
Bentleyville	7	182	150	0.8
Bratenahl	8	266	234	0.9
Brooklyn Heights	8	245	252	1.0
Chagrin Falls	0	0	0	n/a
Cuyahoga Heights	8	197	150	0.8
Gates Mills	9	273	196	0.7
Glenwillow	8	248	118	0.5
Highland Hills	8	301	196	0.7
Hunting Valley (adjusted)	8	224	72	0.3
Linndale	4	84	74	0.9
Mayfield	7	175	177	1.0
Moreland Hills	6	137	66	0.5
Newburgh Heights	7	199	131	0.7
North Randall	7	305	300	1.0
Oakwood	7	245	205	0.8
Orange	8	189	115	0.6
Valley View	8	259	204	0.8
Walton Hills	7	242	147	0.6
Woodmere	7	177	135	0.8
Townships				
Chagrin Falls Twp.	0	0	0	n/a
Olmsted Twp.	8	266	120	0.5

Litter Program Strengths, Challenges, Opportunities and Conclusions

Strengths

- Over 14,000 hours of free labor were utilized for litter collection, electronics and scrap tire collection in 2016.
- Based on a minimum wage of $8.15 per hour, the value of the free labor is $114,100.
- Over 9,700 bags of litter were filled using CCS workers providing beautification to District communities.
- Over 21,300 scrap tires were collected in this program in 2016.
- Most communities participate in the program.

Challenges

- A few communities do not take advantage of the program.
- Recyclables are not separated out from the litter.
- Some communities indicated a need for more communication with CCS to address the most problematic litter areas.
- The program cost is significant in light of the District's financial pressures.
- Some communities require more man-hours to collect less litter bags than others.

Opportunities

- **Facilitate Targeted Clean Ups**
  The District could facilitate more communication with CCS and the communities to target clean ups at the most problematic litter locations.
- **Collaborate with local KAB Affiliates**
  The District could collaborate with other partners working on litter issues to identify opportunities to partner and share information.
- **Increase collection frequency**
  The District could consider providing additional funds to allow communities to be services more frequently.

SECTION H-9. FINANCIAL ANALYSIS

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

A. Revenues

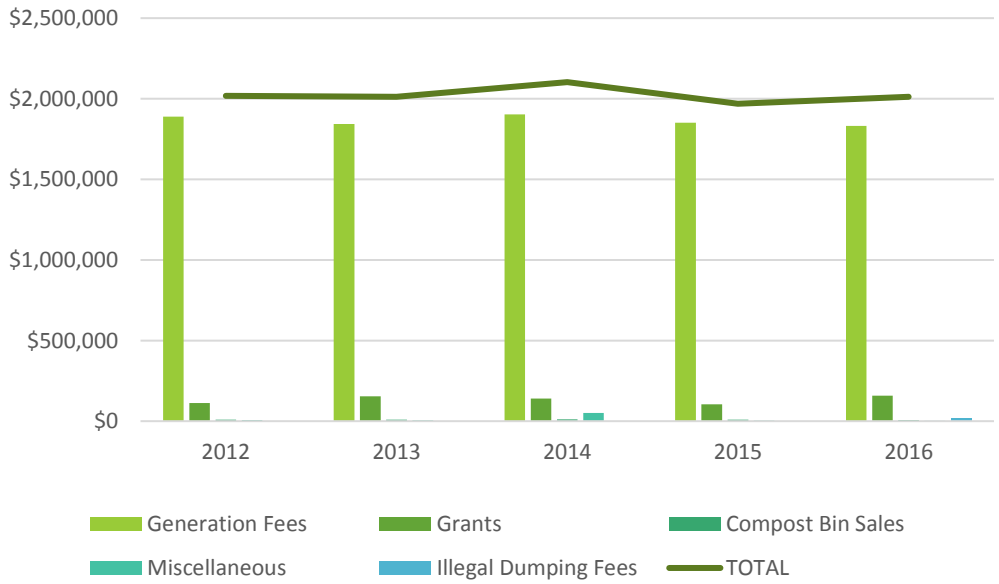
Generation Fee

The majority of District revenues comes from its generation fee. The District's generation fee is $1.50 per ton. It has been at that rate since 2007 when the fee was raised from the original $1.00 per ton which was established in 1995 with the adoption of the District's initial solid waste management plan. The District strives to operate efficiently in order to keep its fees low while still funding all plan elements. Its $1.50 per ton generation fee is $3.00 less than the statewide average of $4.50.

Additional Revenue Sources

- Grants
  - $1 million Supplemental Environmental Project (SEP) grant from the Northeast Ohio Regional Sewer District (NEORSD) to support the operation of the District's Special Waste Convenience Center
  - $12,000 Environmental Law Enforcement Training Grant in 2013
  - $40,000 Ohio EPA Scrap Tire Amnesty grant in 2015
- Compost Bin Sales
  - $50 per compost bin
- Miscellaneous Revenue
  - Recycled phone book sales in 2012 and 2013
  - Selling District roll-off containers in 2014
  - Periodically selling used oil from District Convenience Center
  - Court ordered fines from illegal dumping cases

Figure H-9.1. Sources of Revenue for the District: 2012 – 2016



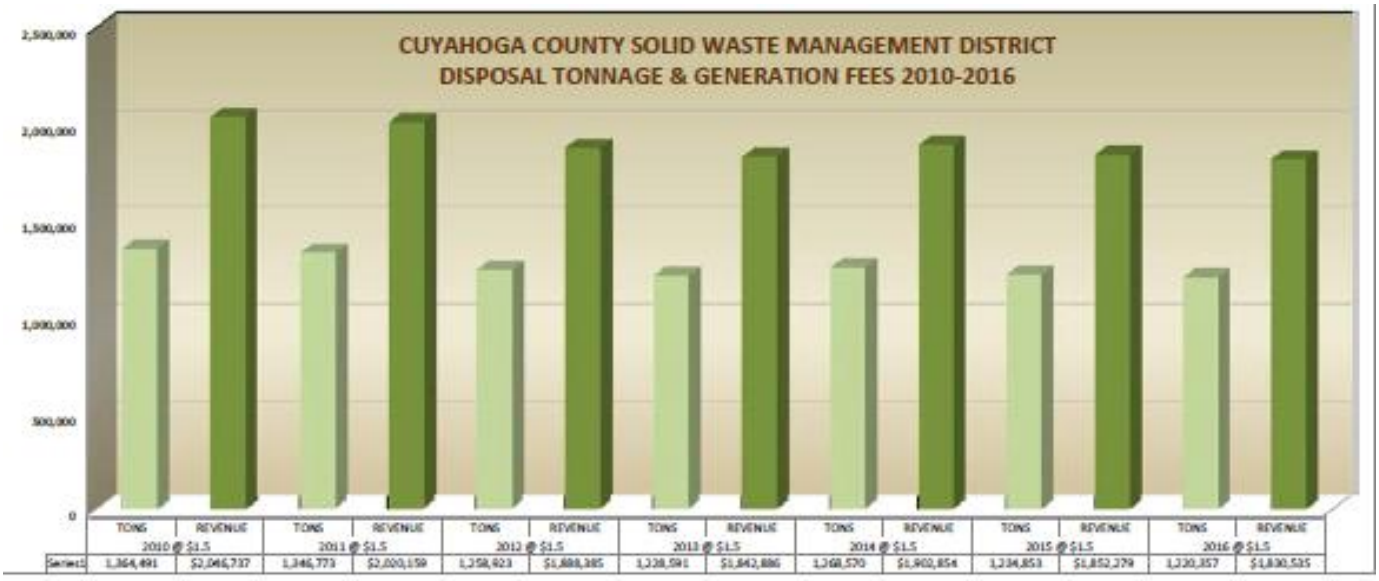
As shown in **Figure H-9.1**, the vast majority of District revenue, or 91%, was from generation fees followed by grants at 8%.

With respect to grants, the largest was a Supplemental Environmental Project (SEP) grant provided by the Northeast Ohio Regional Sewer District under a U.S. EPA consent decree order. This paid for half of the District's household hazardous waste disposal costs until the $1 million grant was spent. The grant revenue in any given year was based on the tonnage of HHW collected, so the amount of funds received varied from year to year. In the current approved plan, the District projected that this grant would have been spent by 2015. Due to lower than anticipated annual costs, this grant is still being spent down but will be exhausted within the first quarter of 2018. The NEORSD has agreed to continue to provide the District with $75,000 per year to help pay for ongoing HHW program costs through 2021.

Other grants, compost bin sales, and miscellaneous revenue are not guaranteed funding sources and the amount has varied significantly over the last five years, and the illegal dumping penalty fees are too new to predict a pattern. Therefore, for planning purposes and financial forecasting, the District conservatively limited future revenue sources to the generation fees and the SEP grant.

Generation Fee Revenue and Projections

The District's generation fee revenue fluctuates from year to year but is declining slightly over time and likely due to population loss as explained in Appendix D as well as increasing recycling. **Figure H-9.2** depicts this overall decline in generation fee revenue over the seven year period from 2010-2016. Further detail regarding historical generation fee revenue is provided in **Appendix O.**



To project future generation fee revenue, the District derived a per capita rate for generation fees using the 2017 population of 1,229,370 and generation fee revenue of $1,854,410 which yields a per capita rate of $1.51. This per capita rate was multiplied by the population to project the generation fee revenue in year 2018 – 2033. **Table H-9.1** shows the amount of generation fee revenue that the District could receive throughout the planning period if fees are kept at the current level which will require a continued draw down of its fund balance.

Table H-9.1: Actual and Projected Generation Fee Revenue at $1.50 / ton

Year	Population	Actual (A) Projected (P)	Generation Fee ($/ton)	Total Revenue from Generation Fee
2012		A	$1.50	$1,889,686
2013		A	$1.50	$1,842,887
2014		A	$1.50	$1,902,854
2015		A	$1.50	$1,852,278
2016	1,235,936	**A**	**$1.50**	**$1,830,535**
2017	1,229,370	A	$1.50	$1,854,410
2018	1,222,804	P	$1.50	$1,846,434
2019	1,216,238	P	$1.50	$1,836,519
2020	1,209,672	P	$1.50	$1,826,605
2021	1,203,568	P	$1.50	$1,817,388
2022	1,197,464	P	$1.50	$1,808,171
2023	1,191,360	P	$1.50	$1,798,954
2024	1,185,256	P	$1.50	$1,789,737
2025	1,179,152	P	$1.50	$1,780,520
2026	1,174,188	P	$1.50	$1,773,024
2027	1,169,224	P	$1.50	$1,765,528
2028	1,164,260	P	$1.50	$1,758,033
2029	1,159,296	P	$1.50	$1,750,537
2030	1,154,332	P	$1.50	$1,743,041
2031	1,149,766	P	$1.50	$1,736,147
2032	1,145,200	P	$1.50	$1,729,252
2033	1,140,634	P	$1.50	$1,722,357

B. Expenditures

As prescribed by Section 3734.573 of the Ohio Revised Code, the District can spend generation fees on the following allowable uses:

- Plan monitoring
- Plan implementation
- Health department enforcement
- County assistance
- Well testing
- Out-of-state waste inspection
- Open dump, litter law enforcement
- Health department training
- Municipal/township assistance
- Compensation to affected community.

As shown in **Figure H-9.3**, the District spent $2,286,502 on four of those categories during the reference year of which, 86.6% was spent on plan implementation.

Figure H-9.3. District Expenditures: 2016

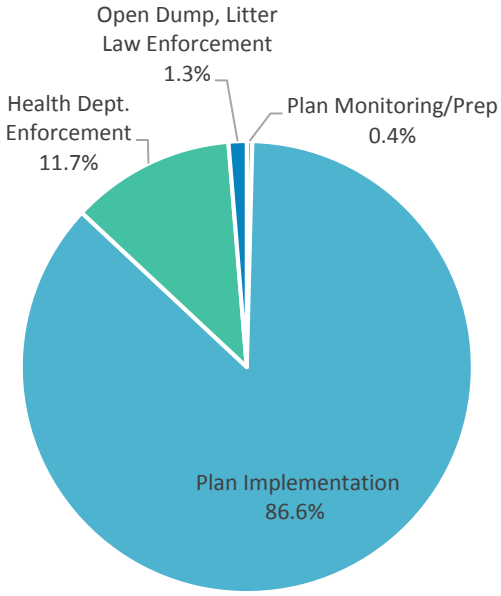
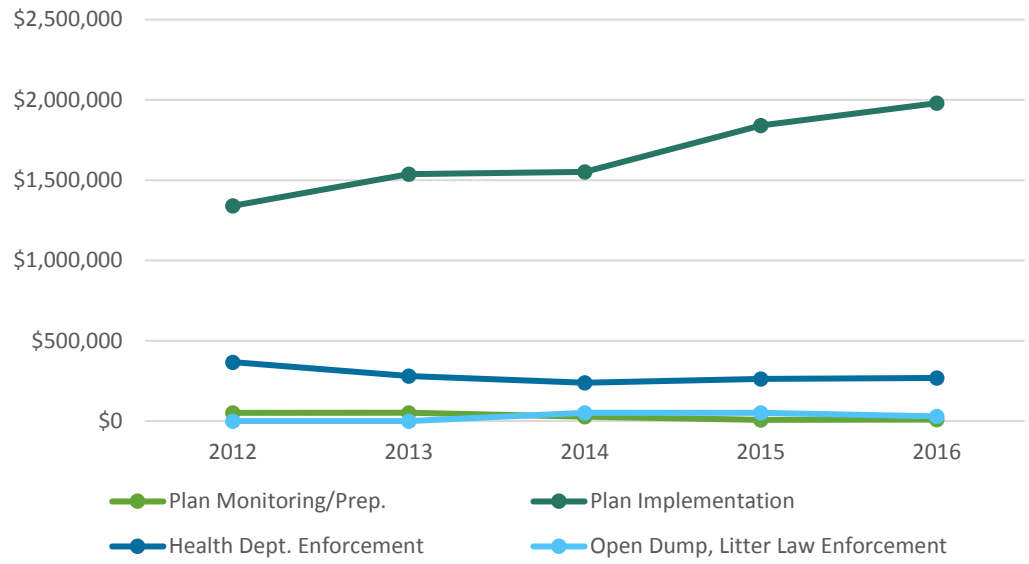


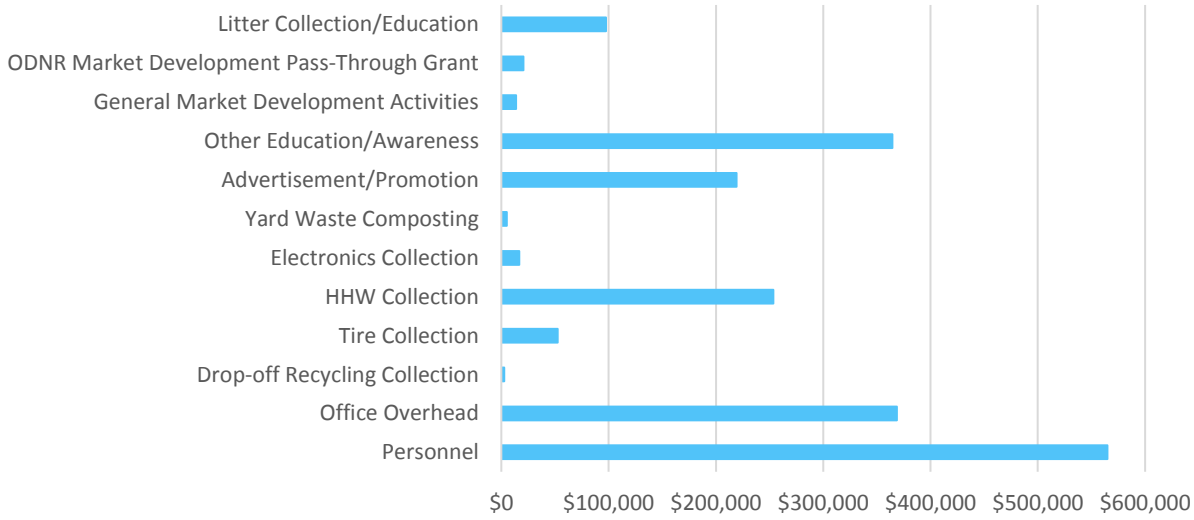
Figure H-9.4 shows the expenses the District incurred for each of these categories between 2012 and 2016. As presented, plan implementation costs have increased, but health department enforcement funding has decreased. As discussed in Section H-8, the District and health departments have worked together during the last five years to revise the scope of services for health department contracts and reduce costs.

H-9.4. District Expenditures: 2012 - 2016



Within plan implementation, the personnel and office overhead were the highest expenditures during the reference year **(Figure H-9.5)**[9]. However, **Figure H-9.5** only shows the contract and material costs associated with each individual program. All other program costs including staff time and building expenses are contained within personnel and office overhead. In addition, the District currently leases office space and rent has increased annually over the last five years.

Figure H-9.5. Implementation Expenditures: 2016



[9] Office overhead includes lease payments, utilities, supplies, fuel, magazine subscriptions/association memberships, office equipment rental (copy machine/postage machine), other equipment purchase or maintenance (District vehicles, tow motors), telephone/cell phones, postage, staff travel and training, printing, legal notices.

Table H-9.2 shows the amount spent on implementing the plan from 2012 through 2016.

Table H-9.2. 2012-2016 Plan Implementation Expenditures

Expense	2012	2013	2014	2015	2016
Personnel	$459,913	$467,647	$518,451	$543,359	$564,835
Office Overhead	$293,695	$310,239	$327,467	$382,445	$368,694
Drop-Off Recycling	$7,024	$21,313	$20,127	$12,063	$2,769
Tire Collection	$26,717	$18,975	$47,142	$54,032	$52,384
HHW Collection	$268,655	$347,026	$310,034	$338,892	$253,417
Electronics Collection	$23,078	$29,906	$20,835	$10,792	$16,873
Yard Waste/Other Organics	$0	$0	$0	$0	$5,019
Advertisement/Promotion	$3,650	$23,327	$20,297	$76,279	$219,321
Other Education/Awareness	$168,057	$228,347	$193,282	$224,722	$364,495
General Market Development Activities	$0	$0	$0	$16,200	$13,765
ODNR pass-through grant	$0	$0	$0	$85,735	$20,630
Litter Collection/Education	$89,575	$91,409	$93,320	$95,319	$97,407
Total	$1,340,363	$1,538,189	$1,550,956	$1,839,837	$1,979,610

C. Balances

Between the years 2012 and 2014, District revenues exceeded expenditures, and expenditures exceeded revenues during 2015 and 2016 (**Table H-9.3**). While this is mostly due to the one-time investment that the District made in the comprehensive *Cuyahoga Recycles* campaign, the District does need to be cognizant that revenues from generation fees could decrease to less than $1.8 million during the planning period. The District should determine the appropriate level of its fund balance it will need to maintain to ensure sound fiscal management and determine if a fee increase is needed.

Table H-9.3. District Annual Surplus/Deficit and Year-End Balances				
Year	Revenue	Expenses	Annual Surplus/Deficit	Balance
2011				$2,950,492
2012	$2,017,619	$1,758,784	$258,835	$3,209,327
2013	$2,011,627	$1,870,037	$141,590	$3,350,917
2014	$2,103,127	$1,869,295	$233,832	$3,584,749
2015	$1,968,921	$2,162,138	-$193,216	$3,391,533
2016	$2,012,463	$2,286,502	-$274,038	$3,117,495
2017	$2,094,521	$2,172,070	-$77,549	$3,039,946
2018	$1,974,214	$2,140,804	-$166,590	$2,873,356
2019	$1,942,019	$2,631,361	-$689,342	$2,184,014
2020	$1,932,105	$2,219,518	-$287,414	$1,896,600
2021	$1,847,888	$2,165,528	-$317,640	$1,578,960
2022	$1,838,671	$2,182,983	-$344,312	$1,234,648
2023	$1,829,454	$2,234,412	-$404,958	$829,690
2024	$1,820,237	$2,259,851	-$439,615	$390,075
2025	$1,811,020	$2,280,332	-$469,313	-$79,238

D. Strengths, Challenges, Opportunities and Conclusions

The following section summarizes the strengths, challenges, opportunities, and conclusions for the District's finances.

Strengths

- The District strives to keep its generation fee low by operating efficient programs and utilizing available private sector recycling services rather than duplicating services. This has allowed the District to minimize fee increases. The gen fee was increased just once since 1995.
- The District's $1.50 generation fee is $3.00 less than the statewide average.
- The District has collaborated with organizations such as the Northeast Ohio Regional Sewer District, local recyclers and health departments to reduce costs.
- The District secured a $1 million grant from the Northeast Ohio Regional Sewer District in 2011 which helped pay for one-half of the District's HHW program from 2011 through qtr. 1 of 2018. A smaller grant of $75,000 was secured for years 2018 – 2021 now that the original grant has been expended.
- The District maintained a fund balance of approximately $3 million through the reference year which provided the District with additional money to pay for its county-wide branding and education initiative and new website.

Weaknesses

- Generation fee revenue will likely fall below the current $1.8 million a year during the planning period. Maintaining the generation fee at the current level may not be possible as costs increase during the planning period.
- As shown on Table H-9.3, the District enters the next planning period with a fund balance of just over $2 million.
- The District will no longer be able to rely on the NOERSD SEP Grant to help fund its HHW program in the new planning period. This impact will be lessened with the award of a smaller grant of $75,000 annually through 2021.
- The District does not use a full cost accounting approach to allocate salaries and overhead costs to programs.
- During 2015 and 2016, District expenditures exceeded revenues for the first time.
- District rent has and most likely will continue to increase unless the District purchases its building.
- The District has only increased the generation fee once since its inception.
- The last time the generation fee was increased was in 2007 by $.50 per ton.

Opportunities

- Now that the District has started to draw down its fund balance, it should determine the minimum balance it needs to maintain to ensure sound fiscal management and prepare a contingent funding plan should the balance fall below that amount. This cash reserve could be in an amount equal to 6 -8 months of operating costs.
- The District could conduct a cost of service study to allocate salaries and overhead to programmatic cost centers.
- The District could consider purchasing its office space/facility to save on long term space costs.

Conclusions

Due to a decrease in population and increase in landfill diversion, the District will most likely receive less revenue from generation fees during the next planning period. The District has already demonstrated a commitment to reducing expenditures by making programs and contract services efficient and cost effective. This has allowed it to retain a significant cash balance to date even as it began to draw down the fund balance in 2015. However, going into the new planning period, the fund balance will continue to decline with projected increases in expenses. As shown in **Table H-9.3**, in the new plan period, the District will need to use its fund balance to make up the difference between revenues and expenditures – approximately $300,000 - $400,000 annually. This is projected to draw the balance down to under $1 million by the end of 2022. The District should determine the appropriate fund balance it needs to maintain in order to have the ability to encumber contracts, address variability and timing of expenditures and receipts, pay for unforeseen capital expenses, equipment repairs and emergencies and ensure overall financial resiliency. Once this level is determined it will have to address how to maintain that reserve with additional revenue.

SECTION H-10. REGIONAL ANALYSIS

The purpose of the regional analysis is to consider regional opportunities for collaboration and partnerships, and to consider how the District's decisions may affect other stakeholders in the region. This analysis may result in the creation of a systematic plan to communicate, collaborate and/or partner with the stakeholders identified through this process. This analysis may also indicate that the actions of the District and current regional initiatives are sufficient, and no further efforts are warranted.

The District considers recycling collection and processing by nature as regional. For instance, a material recovery facility (MRF) is not located within the District, but three single-stream MRFs in neighboring counties process all the curbside recyclables from the District. The District is also reliant on tire processing facilities located outside of the District. Finally, some yard waste and food waste is composted at facilities outside of the District, but still within the region.

The District views partnerships, collaboration and communication as a necessary process with its private sector partners as well as with its public-sector neighbors. This is very important to the District as the private sector is a significant service provider for solid waste management services within the District.

The following section details the current and past partnerships and collaboration efforts of the District and its partners.

A. Regional Partnerships, Communication and Collaboration

The District has historically been a leader in regional efforts, communication and collaboration regarding solid waste management. The following section summarizes the District's efforts to work with other interested parties for the management of solid waste and/or the sharing of expertise. These are categorized below to describe efforts within the District (intra-district) as well as efforts outside the district (inter-district):

Intra-District Collaboration

- In 1994, the District created a Paper Marketing Cooperative to collectively contract for newspaper recycling services on behalf of participating communities. This cooperative was expanded in 2003 to include all residential mixed paper. The District's purpose in forming the cooperative was to help communities obtain better pricing for the fiber they collected. Aggregating the volume from multiple communities resulted in payments back to the participants rather than recycling charges. The cooperative involved the District issuing an RFP on behalf of participating communities for paper recycling services. Those communities then entered into individual contracts with the successful contractor, Caraustar Recycling, and were paid directly. The District managed the procurement and record keeping process and facilitated community involvement and communications. When the communities switched to single stream collection rather than dual stream collection, a new, expanded recycling cooperative was created to contract for single-stream recycling services as described below.

- In 2007 the District developed a Waste Disposal Consortium and in 2010, a Recycling Consortium comprised of 15 District communities that collect waste and recyclables with municipal crews. These consortiums are still in place today. The District issues RFP's for waste disposal and recycling services on behalf of member communities in order to obtain

favorable volume pricing. Both consortiums have resulted in savings on waste disposal and recycling rebates for the members.

- The District serves or has served in leadership roles on numerous Ohio boards including the Solid Waste Association of North America – Ohio Buckeye Chapter, the Organization of Solid Waste Districts of Ohio and the Ohio Association of Litter Prevention and Recycling Professionals. These organizations work with their members to advance sustainable solid waste management practices and to network on solutions to solid waste management issues. The District has been especially active with organizing conferences and trainings that assist members in creating or improving solid waste management programs and initiatives.

- The District works with numerous local agencies, entities, non-profit groups and stakeholders as a part of implementing and developing its solid waste management plan.

- The District actively engages with local sustainability focused organizations to promote the role of waste reduction, recycling and composting within the broader sustainability framework. The District is active with the Cleveland Office of Sustainability, local college sustainability offices, Zero Waste NEO, local food rescue and reuse organizations, and more.

- The District provides direct services, such as HHW management, to all 59 political subdivisions, as well as grants, technical assistance, education and outreach support. The level of trust, communication and collaboration between the District and its member communities is unique amongst Ohio solid waste districts. The District also actively tracks each community's recycling performance and solid waste management contracts and operations. This information is shared with all communities through its Contracts and Practices Survey and its Residential Recycling Report. The Report is included in the District's Annual Report and mailed to all communities and other resident and business contacts.

- The District also engages with the public and businesses through its programs and social media platforms. The District's social media efforts reach approximately 40,000 people per month on average with messaging and information. The District has over 2,700 followers of its social media accounts, 79,000 users of its web site with over 234,000-page views annually.

Inter-District Collaboration

- In 1997, the District created the Northern Ohio HHW Cooperative to collectively bid and contract for HHW services on behalf of nine solid waste districts. This regional cooperative was successful in securing the most competitive pricing for the participating districts and their HHW collection events. The District continued facilitating the procurement process for the cooperative until 2010 when it began operating its year-round HHW collection program through the opening of its Special Waste Convenience Center.

- In the last plan update process, the District worked with several other Ohio solid waste districts to evaluate the cost of health department services for solid waste code enforcement services. A study was completed by the District and provided to all districts in Ohio.

- The District engaged with other Northeast Ohio solid waste districts on various matters over the years regarding illegal dumping, solid waste facility reporting and fees. Recently, the District had a sharing session about the operation of each district's permanent HHW center. The District has also met with its neighboring districts and staff to share information on how they run their various programs.

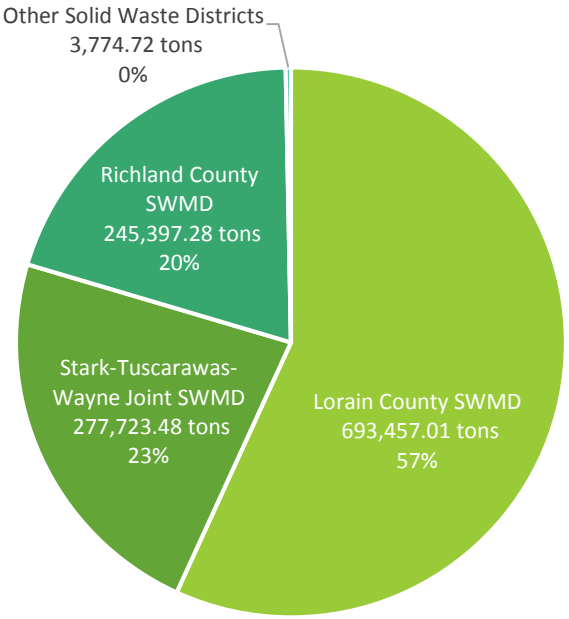
- The District collaborates with the Lorain, Summit, and Geauga-Trumbull solid waste districts and their health departments regarding illegal dumping and enforcement.

- The District has, in the past, entered into Joint Use Agreements with other solid waste districts for the joint use of facilities as opportunities have arisen that benefit those districts.

B. Regional Impact Considerations

The District comprises one of the largest "waste sheds" in Ohio and is heavily reliant on facilities located outside the District for landfill disposal and recycling processing. Since there are no operating MSW landfills located within Cuyahoga County, solid waste is exported to landfills located within other districts for disposal. Figure H-10.1 shows the quantity of waste that was disposed in other Ohio solid waste management districts during the Reference Year.

Figure H-10.1: Cuyahoga County Solid Waste District
2016 Waste Flow Analysis
Disposal Location by District[1]



[1] Total = 1,220,352.49 tons

In addition, since there are no single-stream material recovery facilities (MRF's) operating in the District, single stream curbside recyclables are exported to neighboring districts for processing as shown in Figure H.10-2. Nearly all of the landfills and all of the MRF's are privately owned and operated. As a result, the activities and decisions of these private facilities and neighboring solid waste districts can affect the availability and capacity of these facilities for Cuyahoga County waste generators. Conversely, the District is sensitive to the fact that its waste and recycling exports creates both opportunities and impacts for other solid waste districts.

Figure H-10.2: Cuyahoga County Solid Waste District
Single Stream Curbside Material Exports – MRFs

The following general policies of the District have been developed and practiced over the years with the above set of circumstances in mind:

- The District's policies are to support and promote an open market for solid waste management that reduces the need for public sector investment and involvement but relies on competition among private sector companies for price control and stabilization.
- The District's development of contracting consortiums (cooperatives) take into account competitive forces and the flow of solid waste and recyclables. The District's policy is to promote competition and foster cooperative initiatives, which limits opportunities for monopolies to develop.
- The District promotes competition to maintain good services and fair prices for solid waste services.
- The District does not designate where solid waste must be accepted in surrounding solid waste districts.
- The District is not considering developing a licensed solid waste management facility that could affect solid waste flow and competition in the region.

- The nine solid waste transfer stations that are located within the District are expected to continue operation throughout the planning period. The District does recognize that the disposal facilities used by each of the transfer stations may change over time due to contracting arrangements and bid processes.

C. Regional Analysis Conclusions

The District is confident that its past approach to regional collaboration and open market approach to solid waste management has served the District and its regional partners very well in the past. The approach has fostered competition, kept prices for services stable, supported private sector investment and job creation and has been a good value for waste generators.

The District has not identified any needed changes to this approach and all existing policies and approaches regarding engagement with regional public and private partners and solid waste management will continue in the next planning period where appropriate. The following regional policies and initiatives will continue in the new planning period.

1. Partnership Development, Engagement, Collaboration and Communication

The District will continue its current regional partnerships with public and private partners at the state and local levels and will seek new ones when it makes sense to continue best management practices for solid waste issues and management techniques.

2. Joint Use Agreements

The District will continue to reserve the right to enter into facility joint use agreements with other solid waste districts if and when an opportunity and/or issue presents itself that would benefit the District to consider such an arrangement.

3. Solid Waste Disposal and Recycling Impacts to Region

The District will continue to work within the region regarding solid waste issues, disposal impacts, and recycling impacts as the largest contributor to the regional waste shed. The District will take the lead, as appropriate, when either issues arise, or opportunities present themselves throughout the new planning period.

SECTION H-11. POPULATION ANALYSIS

Cuyahoga County's population in the 2016 reference year was 1,235,936. The County's population peaked in approximately 1970 (at 1.7 million residents) and has been declining ever since. Recent population change shows that the county's population declined by approximately 30,770 residents or 2.4% between 2010 and 2016. During the same period, the State of Ohio's population increased 0.67%.[10] As demonstrated in Appendix C, Table C-2, "Population Projections," the District's population is projected to decrease by 75,604 residents or 6.2% during the 2019-2033 planning period.[11] Detailed projections estimate population loss to range from 3,486 residents to 6,566 residents annually throughout the planning period, or an average annual population decline of 5,400 residents from 2019-2033.

Population decline was present in most Cuyahoga County communities, but the impact was concentrated in certain areas. Based on population changes from 2010 to 2016, population change was most significant in the following areas:

- Greatest loss of residents:
  - ✓ City of Cleveland: -10,888 residents
  - ✓ City of Parma: -2,176 residents
  - ✓ City of Lakewood: -1,852 residents
  - ✓ City of Cleveland Heights: -1,605 residents
  - ✓ City of Euclid: -1,545 residents
- Highest percentage of negative population change:
  - ✓ Village of Highland Hills: -15%
  - ✓ Village of Newburgh Heights and Village of Cuyahoga Heights: -4.1%
  - ✓ City of Lakewood: -3.6%
  - ✓ City of Cleveland Heights, City of Shaker Heights, and City of East Cleveland: -3.5%[12]

Despite notable decreases in population, the District does not anticipate that the change in population will greatly affect programming or infrastructure needs. Over time, population decline will likely affect waste generation totals and the amount of revenue the District will earn each year through generation fees. Financial considerations will be discussed in more detail in the Financial Analysis (Section H-9) of this appendix.

[10] Ohio County Profiles – 2017 Annual Edition. Ohio Development Services Agency. https://development.ohio.gov/reports/reports_countytrends_map.htm
[11] Population Projections: County Totals 2010-2040. Ohio Development Services Agency.
[12] Population Estimates. Cuyahoga County Planning Commission. http://www.countyplanning.us/resources/census-data/population-estimates/

SECTION H-12. DATA COLLECTION ANALYSIS

The State of Ohio classifies solid waste by three generation sectors: residential, commercial, and industrial. Solid waste districts are required to quantify the amount of solid waste that all generators source reduce, recycle, compost, incinerate, and dispose in order to establish a baseline and to demonstrate achieving Ohio's landfill diversion goals. Collecting data is challenging due to a variety of factors and takes considerable time and effort to gather and analyze. Regardless, the primary objective of the District is to divert materials from landfills, therefore data collection is important to measure results. The data collection process from beginning to end for each type of generator is described below.

Due to a robust commitment to obtaining and validating data, the District is able to demonstrate achieving Goal #2 of the State Plan, which requires a waste reduction and recycling rate of at least 25% for residential/commercial waste and a recycling rate of at least 66% for industrial waste. In the reference year, the District's residential/commercial sector achieved a 30.4% waste reduction and recycling rate and the industrial sector achieved a 73.9% recycling rate.

K. Residential Sector Data

The District's full-time principal planner collects and tabulates recycling totals from the 59 communities located in the District on an annual basis. The District compiles this data for its *Annual Report & Residential Recycling Report*, a publication created each year for communities, residents, and other interested parties. The District has established relationships with its communities, which is evident by the 100% reporting rate.

Residential sector recycling tonnages reported by communities includes data from curbside and drop-off recycling programs, yard waste collection programs, and special waste collection programs, such as HHW and scrap tires.

Communities also report disposal data, which provides the District with a more complete understanding of the recycling and disposal activities, as well as recycling rates, throughout a particular community. For example, if recycling tonnage decreases in a community, the District can evaluate whether recycling is truly decreasing, or whether a community lowered their overall waste generation total while maintaining or increasing the percentage recycled.

Data from District-sponsored programs, such as its Computer Round-Up, HHW Program, and Scrap Tire Round-Up, are included in residential sector recycling totals. The District's contractors provide these figures and they allocate the quantities by community.

The District obtains data from private recycling companies that operate programs independent of those provided by an individual community. An example of this is Royal Oak Recycling's Paper Retriever program. The District inventories the location of each paper drop-off site to assure that the correct community receives the recycling tonnage credit.

1. Residential Sector Data Gaps

The District is confident that the residential sector recycling data collected represents a nearly complete picture of the residential sector recycling activities that take place throughout the District. All major sources of recycling tonnage are captured by the District's current data collection activities. If there are gaps in data, the District estimates that they are negligible quantities.

2. *Residential Sector Data: Strengths, Challenges, and Opportunities*

Out of the three sectors of waste generators, the District is most confident with the residential sector recycling data. The District will continue its current efforts.

Strengths

- Confident with residential sector data.
- The District obtains data that is substantially beyond Ohio EPA requirements that allows highly valuable analysis of the community-specific waste management systems.

Challenges

- Due to the extensive amount of data collected from 59 communities, massive excel spreadsheets with hundreds of tabs are required. Spreadsheets of this size make data categorization and analysis challenging.

Opportunities

- The District could have a database software program designed for the unique solid waste conditions and reporting requirements in both Cuyahoga County and State of Ohio.

L. Commercial/Institutional Sector

Each year, the District's full-time principal planner conducts a survey to obtain recycling data as part of preparing the Annual District Report (ADR) for submission to Ohio EPA.

Generator Data

To obtain commercial/institutional recycling data for the reference year, two different sampling methodologies were used to mail/email 334 companies in Cuyahoga County. First, the primary subsample consists of all commercial and institutional entities that responded to the annual surveys conducted in 2010, 2011, 2012, 2013, 2014, 2015 and/or 2016. The District developed the original subsample survey list based on commercial and institutional SIC codes using the *Harris Directory*. The District mailed and/or emailed the survey to these companies again in 2017. There were 260 companies on these lists. These respondents are shown in **Table H-12.1** and labeled "2009, 2010, 2011, 2012, 2013, 2014, 2015 Survey Respondents" referencing the year the survey data was based, not collected.

Second, over the course of the survey years, the District identified commercial and institutional companies located in Cuyahoga County that were viewed as potential high recyclers. This list is referred to as "2017 CCSWD Boost" in **Table H-12.1** and includes 74 companies.
These establishments were identified using the following strategies:

- New entities are identified by the District's Business Recycling Specialist, which may learn about new businesses or institutions that recycle after they have participated in other District programs such as waste audits.
- The District uses business lists created by Crain's Cleveland Business to identify large or new companies operating in Cuyahoga County.

Table H-12.1. Survey Year 2017 Commercial/Institutional Sampling Survey

	Number of Companies in Sample
2009 Survey Respondents	2
2010 Survey Respondents	18
2011 Survey Respondents	16
2012 Survey Respondents	20
2013 Survey Respondents	22
2014 Survey Respondents	43
2015 Survey Respondents	139
2017 CCSWD Boost	74
Total	**334**

Survey recipients receive a cover letter explaining the purpose of the annual survey, a paper copy of the survey that could be submitted via mail, e-mail, or fax and a postage-paid business reply envelope. The cover letter also directs recipients to the District's online surveying platform, Re-TRAC, to complete the survey electronically. Examples of the envelope, cover letter, and business reply envelope are included at the end of this section in Attachment 1. In addition, the District sends an e-mail directing businesses that have provided a contact e-mail address to complete the survey online.

Out of the 334 commercial/institutional surveys mailed in 2017, 15 were identified as duplicates and five envelopes were returned as undeliverable. A total of 119 completed surveys were received, resulting in a response rate of 38%. **Table H-12.2** presents the calculations to derive survey response rates.

Table H-12.2. Survey Year 2017 Commercial/Institutional Survey Response Rate

Number of Surveys Mailed/Emailed	334
Total Mailed	**334**
Duplicates	15
Bad Address	5
Companies Out of Business	0
Total "Dead" Sample	**20**
Total "Live" Sample	**334 – 20 = 314**

Completes (entered into Re-TRAC)	**119**
Response Rate*	**119 / 314 = 38%**
Completion Rate (entered into Re-TRAC)*	**119 / 314 = 38%**

*Note that the Response Rate and Completion Rate are the same this year since all "completed" surveys were entered into Re-TRAC.

The District removes duplicate addresses when identified and revises bad addresses/returned envelopes for the next surveying cycle each year.

The District makes follow-up phone calls and sends e-mails as needed. For example, the District would follow-up if a survey is returned but incomplete or information included on the survey needs to be verified (i.e. a very large quantity or an amount which was significantly different from a survey returned from the same respondent in a previous year). The District also makes follow-up calls to non-respondents. The number of follow-up attempts vary based on whether the recipient previously provided data and the size of the business/organization.

The District is able to use survey responses for a three-year period on each Annual District Report (the survey calendar year and previous two years). However, the District chooses to supplement responses received for a calendar year with only one year of prior responses. The District feels that responses from two years prior are less reliable.

The District reviews responses from the year preceding the survey year to ensure each company/entity is only counted once and that entities were still operating during the current survey year. The District confirms operational status by online research, emails and/or phone calls.

Partnerships to Solicit Survey Responses

In addition to its surveying activities, the District collaborates with the Ohio Council of Retail Merchants, the Ohio Chamber of Commerce, the Ohio Manufacturers' Association, and the Ohio EPA each year in a statewide recycling survey. The survey targets commercial and industrial sector establishments. The District has received limited responses from this survey platform thus far.

Ohio EPA-Collected Data

The District utilizes data collected annually by Ohio EPA, including the *Material Recovery Facility and Commercial Recycling Data Report*, the *Compost Facility Report*[13], and the *Scrap Tire Report*.

The District typically uses yard waste data reported by political subdivisions in lieu of relying on the data reported by registered composting facilities for most organics diversion activities, but is careful to not double-count materials if data from both reporting sources are used.

[13] The District uses food waste composting data from the Compost Facility Report, but does not typically use yard waste data, as it obtains this data from political subdivisions.

Processor Data

Processor data is necessary to create a realistic snap shot of the recycling totals in a given survey year. The large quantity of individual commercial and institutional generators makes surveying all generators impractical and costly. Response rates also indicate that without processor data, the recycling conducted at many establishments would not be captured.

For survey year 2017, a total of 90 processors were mailed a paper copy of the survey. This list of processors was based on the list compiled to conduct the survey for the 2013 Plan Update as required by the Ohio EPA along with other known new processors. Each of the processors on this list was identified as possibly taking in recyclable materials from residents and/or businesses located in Cuyahoga County.

Overall, 32 processors completed the survey and indicated they took in recyclable materials from residents and/or businesses located in Cuyahoga County. Another three processors returned the survey but did not provide any information because they did not take in any materials from residents and/or businesses within Cuyahoga County. The remaining 46 processors did not complete the survey. The District received a 36.4% completion rate on the processor survey. This information is shown in the **Table H-12.3.**

Table H-12.3. Survey Year 2017 Processor Survey Response Rate

Number of Surveys Mailed	90
Bad Address (“Dead” sample)	2
Total “Live” Sample	**90 – 2 = 88**
Completes (took in materials from county)	32
Did not take in materials from county	3
Total “Responding”	**35**
Response Rate	**35 / 88 = 39.8%**
Completion Rate	**32 / 88 = 36.4%**

The processors surveyed were mailed a cover letter explaining the purpose of the annual survey, a paper copy of the survey that could be submitted via mail, e-mail, or fax and a postage-paid business reply envelope.

The District makes follow-up phone calls and sends e-mails as needed. For example, the District would follow-up if a survey is returned but incomplete or information included on the survey needs to be verified (i.e. a very large quantity or an amount which was significantly different from a survey returned from the same respondent in a previous year). The District also makes follow-up calls to non-respondents.

Measures to Combat Double Counting

Issues with double counting data can arise with processor data since the recyclable materials received at one reporting facility are often times sold or exchanged to another reporting facility. The District is careful not to double count this data by requiring the processors to provide the destination of their reported material tonnages. Issues with double counting data can also arise when data from generators is blended with processor data. The District only uses processor survey data for the commercial/institutional sector and only if the processor data is greater than the total reported by generators for a specific material. Tonnage data reported by commercial/institutional generators and processors is never blended.

M. Industrial Sector

The District employs nearly the same sources and methods used for commercial/institutional sector surveying to survey the industrial sector. Methodology is described above. The only exception is that no processor data is used to calculate industrial sector recycling totals; only generator data is used. The original subsample survey list for the industrial sector was developed based on manufacturing SIC codes (20 and 22-39) using the *Harris Directory*. This section will describe only statistics that are specific to the industrial sector survey.

During survey year 2017, the District surveyed 388 industries. **Table H-12.4** presents the source of survey respondents.

Table H-12.4. Survey Year 2017 Industrial Sampling Survey

Source	Number of Industries in Sample
2008 Survey Respondents	1
2009 Survey Respondents	11
2010 Survey Respondents	25
2011 Survey Respondents	18
2012 Survey Respondents	15
2013 Survey Respondents	35
2014 Survey Respondents	43
2015 Survey Respondents	226
2017 CCSWD Boost	14
Total	**388**

Survey recipients receive a cover letter explaining the purpose of the annual survey, a paper copy of the survey that could be submitted via mail, e-mail, or fax and a postage-paid business reply envelope. The cover letter also directs recipients to the District's online surveying platform, Re-TRAC, to complete the survey electronically. In addition, the District sends an e-mail directing businesses that have provided a contact e-mail address to complete the survey online.

Of the 388 commercial/institutional surveys mailed in survey year 2017, four were identified as duplicates, five envelopes were returned as undeliverable, and seven industries had closed or moved out of the Cuyahoga County. A total of 219 completed surveys were received, resulting in a response rate of 60%. **Table H-12.5** presents the calculations to derive survey response rates.

Table H-12.5. Survey Year 2017 Industrial Survey Response Rate

Number Mailed/Emailed	**388**
Duplicates	4
Bad Address	5
Business Closed / Moved Out-of-County	7
Total "Dead" Sample	**16**
Total "Live" Sample	**388 – 16 = 372**
Completes (entered into Re-TRAC)	**219**
Response Rate*	**219 / 372 = 60%**
Completion Rate (entered into Re-TRAC)*	**219 / 372 = 60%**

*Note that the Response Rate and Completion Rate are the same this year since all "completed" surveys were entered into Re-TRAC.

1. ***Commercial and Industrial Sector Data Gaps***

The District diligently works to improve data collection efforts each year by thoughtfully preparing the annual surveying list and updating it continually throughout the year on an as-needed basis. The District focuses on surveying commercial and industrial generators and processors. Obtaining data from processors tends to provide a more complete data set than relying strictly on generator data due to limited response rates among generators. However, generator data is valuable as well to the District. Generators are able to identify new brokers and processors that are being used to manage materials generated in Cuyahoga County. Individual generator data is also important to have because it gives the District a better idea about which businesses recycle and which businesses do not recycle. It can also indicate average volumes and materials generated by different types of establishments.

Although the District invests extensive effort in contacting and following up with generators and processors, some gaps in recycling data remain an issue. The most common cause for the data gaps is lack of response from businesses from the District's multiple surveying attempts. Most businesses do not give a reason for declining to participate in the survey. A small portion of businesses have expressed that they do not have time to participate in the survey. Some companies explain that tonnage information is either not tracked, or not in a way that is not usable to the District. For example, some processors track the totals tons recycled but are not able to break down tonnages by sector where the materials originated.

To close gaps in recycling data, District staff currently conduct site visits to attempt to obtain recycling data from known high-volume generators and recyclers of materials generated within the District's jurisdiction that do not respond to survey requests via e-mail, mail, or phone calls. During site visits, staff introduce the goals and purpose of the

District and provide the business or recycler with information about programs and opportunities that may benefit their establishment. The District attempts to use the visit to identify a contact person at the establishment, explain the purpose of the annual survey, and the importance of their participation in data reporting. The District's current strategy for site visits is to target specific businesses (mostly grocery stores) that are known recyclers but have not provided data in the past.

As a dynamic organization, the District regularly evaluates whether the data received from surveying efforts is adequate for its planning purposes. As the District's needs change, it may be beneficial to expand or modify the current surveying strategy.

B. Strengths, Challenges, and Opportunities

The District focuses on surveying generators and processors of recyclable materials. The District receives responses from the key processors, but small sample sizes and limited responses from generators may result in data gaps.

Strengths

- The District has a dedicated full-time staff member to manage data collection efforts.
- Existing relationships with political subdivisions and businesses that the District has worked with through other programs, such as those run by the Business Recycling Specialist, foster better response rates among recipients.
- Although there is always room for improvement, the District has not identified significant gaps in data that could influence the District's ability to achieve the goals of the State.

Challenges

- Mailing lists, while updated regularly, have not undergone a major overhaul since the last *Plan Update*. Since then, new business databases have become available, such as Reference USA. A search conducted in 2016 identified the following:
- More than 51,000 commercial/institutional entities (identified as SIC codes 40-67; 70-89; 91-99) are located in Cuyahoga County, of which 5,800 have 20 or more employees.
- More than 2,300 industries (defined as SIC codes 20; 22-39) are located in Cuyahoga County, of which 750 have 20 or more employees.
- Varying but sometimes significant amounts of time are required to solicit survey responses.
- Staffing changes at surveyed establishments such as losing a contact person can impede the District's ability to obtain data until a new relationship is established.
- Errors in reported values; responses from previous years are compared to current reported values (when possible) to identify significant increases or decreases in tonnage or the materials reported.

Opportunities

- ***Expand Survey List***
  The District could expand survey list in a targeted manner to include high volume generators using a variety of new resources such as Reference USA (business database) and information from County Auditor.

- ***Work with Targeted Businesses***
  The District could work with targeted types of businesses to gather a more complete dataset for selected SIC codes (such as grocery stores, department stores, and hospitals) and businesses with high numbers of employees, which generally tends to correlate with a greater amount of waste materials generated.

- ***Conduct Site Visits***
  The District could conduct site visits with the largest employers in the District to establish a relationship, educate about District programs, and obtain a commitment to participate in the District's annual recycling survey.

SECTION H-13. EDUCATION AND OUTREACH ANALYSIS

This section evaluates the District's existing education, outreach, and technical assistance efforts, which are described in detail in Appendix L. The purpose of the Appendix H, *Education and Outreach Analysis* is to determine whether the existing programs are effectively and adequately reaching each of the District's target audiences.

A. Minimum Required Education Programs

The *2009 State Solid Waste Management Plan* established nine goals for Districts to achieve. One of the goals (Goal #4) requires solid waste management districts (SWMDs) to provide education, outreach, marketing, and technical assistance regarding reduction, recycling, composting, reuse, and other alternative waste management methods to identified target audiences using best practices. The District has five target audiences, including: residents, schools, commercial businesses and institutions, industries, and communities and elected officials.

The Residential Recycling Outreach program is comprised of the following programs and resources:

- Website
- Comprehensive Resource Guides
- Infrastructure Inventories
- Speaker/Presenter

A.1. Website

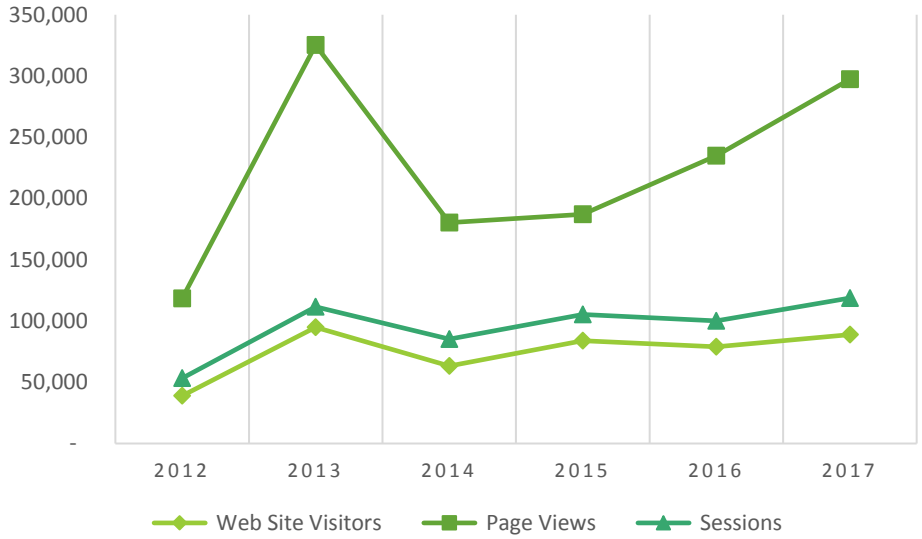
The District's website, CuyahogaRecycles.org, is a comprehensive resource for residents, businesses, communities, educators, elected officials and the public. This new website was launched by the District in April of 2016 to replace its former website, cuyahogaswd.org, which was outdated and stale.

The District's website had a new look launched in spring of 2016. This new site allowed for more flexibility and interaction with recycling resources. The District's goal was to streamline assistance to visitors to increase usability and share more information.

The website is the best tool to reach the largest audience with computer or mobile access. The website focuses on how to recycle or properly manage solid waste by material. This is done through the "What Do I Do With?" section and "Recycling in Your Community" feature. Drop-offs and other recycling locations (such as businesses that accept specific materials) are found under the material category rather than listing the materials under each location. This method allows visitors of the website to focus on the material they wish to recycle before determining the location.

Figure H-13.1 presents the total website visitors, pageviews, and sessions on the District website from 2012 to 2016. Website visitors refer to the number of individual users that have at least one session on the website. Pageviews are the total number of pages people visit on the website. Sessions refer to the number of times visitors are actively engaged on the website without taking a 30-minute break.

Figure H-13.1. 2012-2017 Website Statistics



The quantity of website visitors has fluctuated. Although the number of users since the website re-launch has not significantly increased, the quality of the users has improved significantly. The District is able to identify from Google Analytics that website users are staying longer on the site and consuming more pages. The bounce rate (when users do not stay on the website long enough to be considered a full visit) is lower, and more users are located in or near Cuyahoga County. Prior to the re-launch, the website was getting traffic from other countries, which is not the District's target demographic.

In 2013, pageviews peaked at more than 325,000. After reviewing historic documents from 2013, the District believes that the notable increase in pageviews in 2013 was the result of a new digital marketing campaign. Pageviews increased from 2014 to 2017. The year the website was re-launched, pageviews increased 26%; they increased 27% the following year.

The number of sessions annually has fluctuated; however, the average number of sessions per user has been increasing since 2015. The average sessions per user increased from 1.26 in 2015 to 1.34 in 2017.

The new website is set up to capture analytics which collect and measure user data for the purposes of understanding and optimizing the use of the District's webpage. Examples of information the District is able to track from the website's analytics include total pageviews, pageviews from unique users (IP addresses), length of stay on a webpage, most viewed pages, and most searched for words/phrases.

Website Strengths, Challenges, and Opportunities

Website Strengths

- The newly launched website is a streamlined design which organizes its contents by audience. It is user-friendly and compatible with mobile devices.
- The interactive categories allow visitors to navigate how and where to recycle materials.
- Website's search is organized by category allowing visitors to focus on the type of material they want to recycle or properly dispose.
- The District manages informational inquiries through the website, email, hotline calls and social media. This gives residents multiple opportunities to interact with District personnel.
- The District adds seasonal information such as tips for recycling campaign signs, holiday cards, lights, and trees.
- The newly launched website is able to capture significantly more web analytics than the previous website.
- Web analytics provide the District with a quantitative method for measuring the success of the website.
- The District's website is now receiving the right visitors. With an improvement in our outreach and marketing efforts, we are receiving better quality traffic with less junk visitors. The website is also now showing a lower bounce rate (traffic that visits and immediately leaves). As website visitors stay longer, it proves that the right audience is finding the information.

Website Challenges

- Keeping the website fresh so that residents will return to the site for new and updated information.
- Directing residents to the website to reduce the amount of calls and emails to which District staff must respond.
- The newly launched website has not shown an increase in visitors thus far.

Website Opportunities

- ***External Benchmarking***
  The District could contact other Districts to obtain website analytics to bench mark its progress and compare usage levels with those of other Districts. The District may analyze successful aspects of external websites to model and reproduce in the District if it is identified that any webpages or website features are performing significantly better than the District's website.
- ***Internal Benchmarking***
  The District can benchmark its posts/pages/blog entries to compare which sections of its site reach the largest audience. This will allow management to allocate resources to the most successful aspects of the website or identify ways to reach audiences with fewer page views.

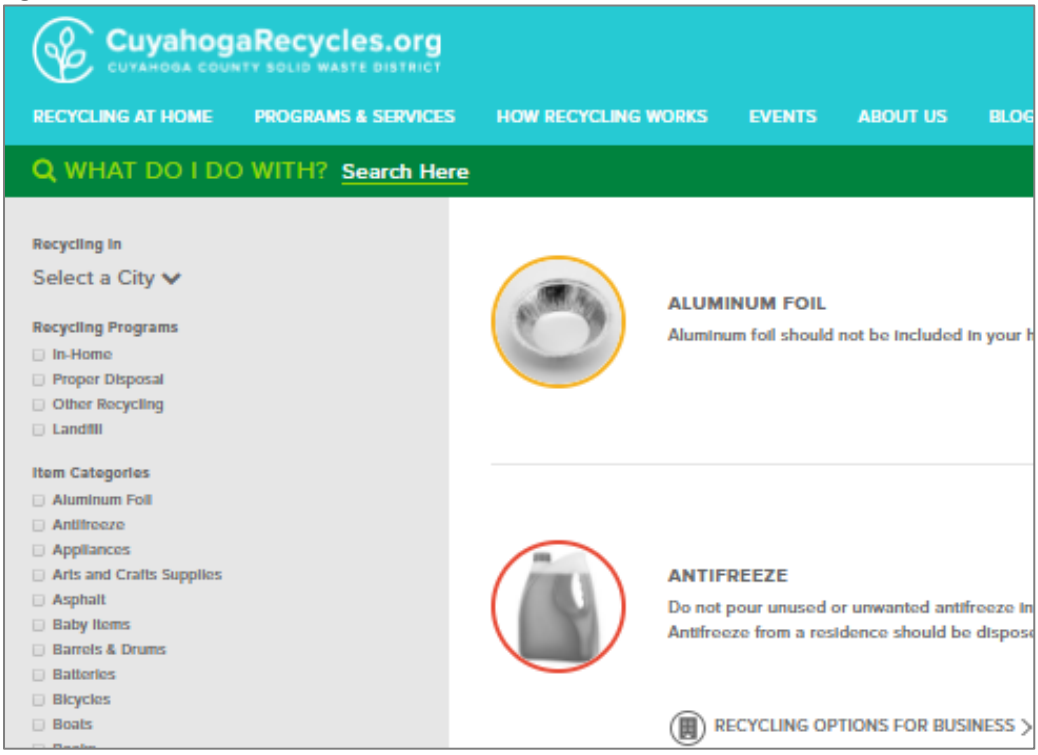
A.2. Comprehensive Resource Guides

The District maintains an up-to-date compilation of recycling and reuse outlets in Cuyahoga County. People without access to the digital information can contact the District and obtain the information they seek from a staff member.

a) What Do I Do With (WDIDW) search feature on CuyahogaRecycles.org

The District's website has a comprehensive, interactive "What Do I Do With?" section for Cuyahoga's residents under "Recycling at Home." This search feature allows residents to search by typing in the item or finding the item in the navigation panel on the left side of the screen, as shown in **Figure H-13.3**.

Figure H-13.3. What Do I Do With? feature of the District's website



b) Pass It On – A Resource-Full Guide to Donating Usable Stuff

This is one of the District's most popular publications in print and is also available on the website under the publications section. The donation index includes options for donating a wide variety of household goods such as baby items, art supplies, gardening supplies, sporting goods, tools, musical instruments toys and more.

c) Recycling Directory for Business and Industry

The District compiles a list of recyclers for waste streams that are specific to businesses and industry and that are not typically available to the public. The District posts the Business Recycling Directory information on its website. The list is broken out by the categories of items on the left side of the page. This list includes the recycler's address and phone number if available as well as a link to the company's website.

Resource Guides - Strengths, Challenges, and Opportunities

Resource Guides- Strengths

- The District provides comprehensive information of where to recycling in Cuyahoga County through both print and digital media.
- WDIDW is an interactive feature that enables website visitors to find outlets for recycling or reusing materials.
- The "Pass It On" guide is a popular tangible item available through the website which helps residents identify places to donate usable items. Residents can also search the website to find donation opportunities.
- The Recycling Directory makes finding recycling outlets for materials easy for businesses and industries.
- Having information available in multiple formats (electronic and printed) helps spread the District's message.

Resource Guides -Challenges

- It may be difficult for some users to find out how to order the print version of Pass It On from the website.

Resource Guides - Opportunities

- Due to the potential difficulty of finding the Pass It On book, the District may consider making this a web book and featuring it on its homepage.

A.3. Infrastructure Inventories

The District maintains up-to-date information about the solid waste management and recycling infrastructure within Cuyahoga County. This information available to the public through its website and its staff.

The infrastructure inventory is kept up-to-date by District staff. These inventories include:

- MSW Landfills
- Transfer Stations
- C&DD Landfills
- Scrap Tire Facilities
- WTE Facilities
- Compost Facilities
- Curbside Recycling Services
- Donation Locations
- Drop-off Recycling locations
- Material Recovery Facilities
- PAYT
- Recycling Centers
- Yard Waste Collection Programs

Some of the facility lists are located on the "Waste Disposal Facilities" page under "Programs & Services" on the District's website. These lists include:

- Licensed Solid Waste Transfer Stations
- Licensed Construction & Demolition Debris Landfills
- Registered Compost Facilities

Information about other types of waste management infrastructure is available in the WDIDW database. These inventories are useful to residents and businesses since information includes whether the facility is open to the public.

Infrastructure Inventory Strengths, Challenges, and Opportunities

Strengths

- Infrastructure inventories capture facilities that are available to manage waste materials.
- Making the information public on the website increases transparency.
- The website provides the public with details about the solid waste management infrastructure in Cuyahoga County.

Challenges

- All the facilities for infrastructure inventory are not linked to one location on the website.

Opportunities

- The District may organize infrastructure inventories in one location on its website to allow the reader to easily access information.

A.4. Speaker/Presenter

The District has speakers available for all audiences. The Education Specialist offers classroom presentations, activities, and a variety of youth programs that focus on recycling, waste reduction, litter, and overall environmental education. The education program also includes sponsoring assemblies and special projects. The Business Recycling Specialist offers workplace recycling seminars, waste audits, lunch and learn employee presentations, and other presentations to assist workplace recycling efforts. In addition, the District offers Backyard Composting Seminars and Bin Sales in conjunction with host cities and provides general recycling presentations for adult audiences and clubs. In 2016, 83 presentations were given as follows:

- 26 schools/organizations reaching 1,924 students
- 40 adult presentations reaching 1,868 people
- 11 compost seminars reaching 276 people;
- 6 business presentations reaching 172 people;
- 17 workshops reaching 465 people from 111 businesses.

During the last planning period, the District's education program predominantly focused on youth education; the District's current education program includes youth education but focuses strongly on adult education. In 2016, approximately 69% of presentations were given to adults. The following describes in detail the District's presentations.

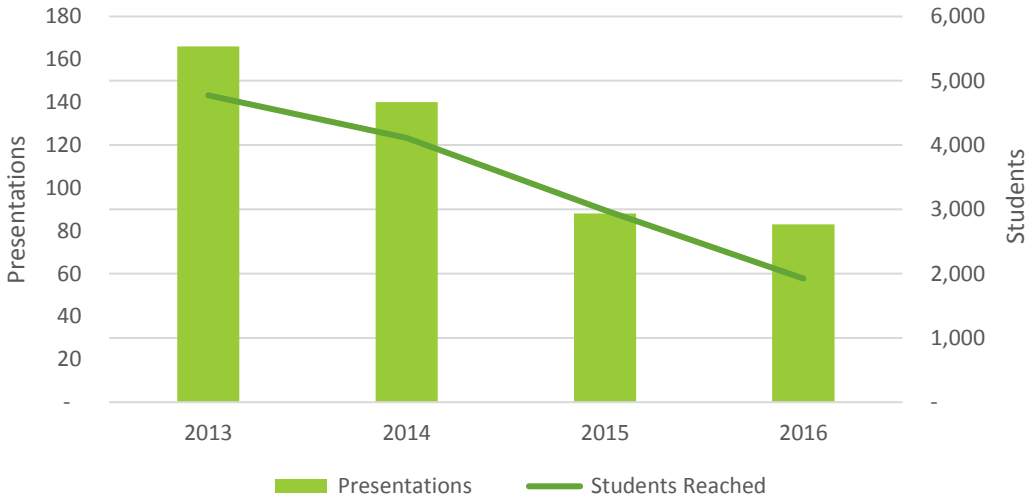
a) Youth presentations – classroom and other

The Education Specialist offers classroom presentations, assemblies and a variety of youth programs. These presentations give a focus on recycling, waste reduction, litter and environmental education. **Figure H-13.4** shows that the number of students reached is in direct correlation to the number of presentations given. Since 2013, the number of presentations has been reduced by 50%. Possible reasons for the decrease include the following:

- Changes in science curriculum standards.
- Focus for Education Specialist has shifted from providing classroom presentations to providing more consulting services to educators, which leaves less time for classroom activities.
- Education Specialist's duties have expanded to include managing the Master Recycler program and volunteers, which reduces time for classroom presentations.
- "Green" and "Sustainability" related news stories have decreased since the peak year for classroom presentations (around 2010) when the District received an overwhelming amount of requests.
- Bulk communications are increasingly being done electronically, so the District's electronic promotion of contests and presentations through e-newsletters and the website may be losing potency.

The District conducted a survey amongst Cuyahoga County educators in 2018 to attempt to identify other reasons for the decrease and how the District can better serve the community. Information received will be used to improve program delivery.

Figure H-13.4. School Presentations

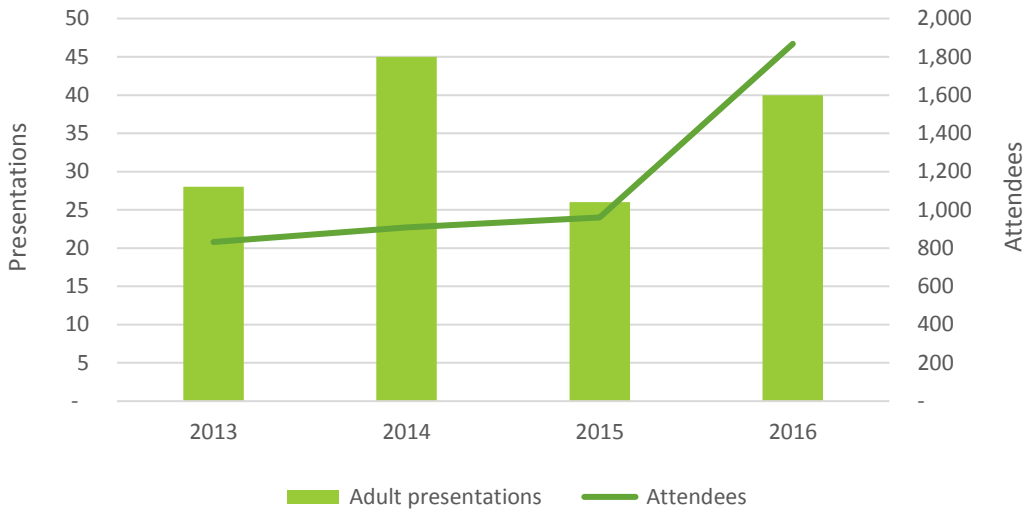


b) Adult presentations

The District offers recycling presentations tailored to the specific interests and needs of groups in Cuyahoga County. Presentations have been given to civic organizations, church groups, parent-teacher organizations, and garden clubs. **Figure H-13.5** presents the total number of adult presentations given and the total attendees reached from 2013 to 2016. The following presentations are available for general adult audiences:

- Recycle More, Recycle Better presentation
- How Recycling Works presentation
- Waste: Reduce & Reuse presentation
- Recycling & Sustainability presentation
- Green Cleaning presentation
- Workplace Recycling presentation

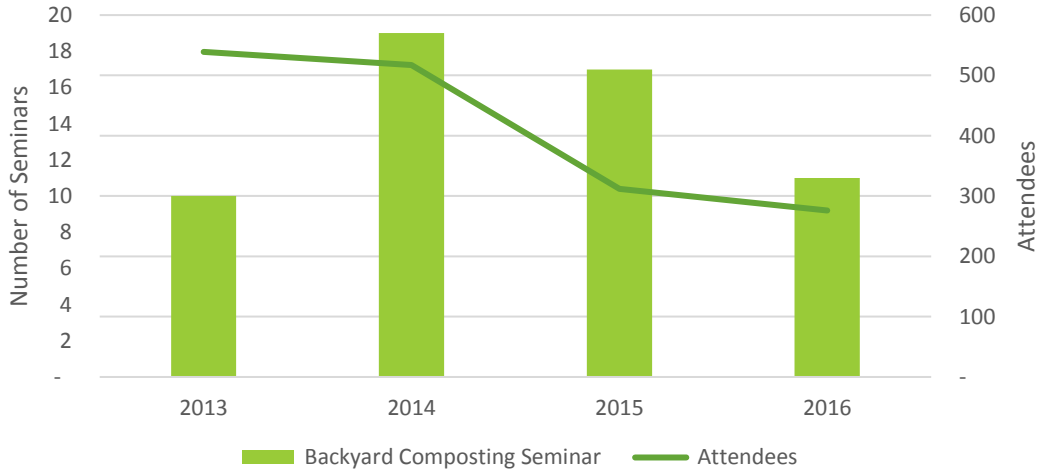
Figure H-13.5. Adult Presentations



c) Composting seminars

The District holds yard waste and food waste composting seminars for Cuyahoga County residents and sells affordable compost bins. Seminars are held in spring and fall throughout Cuyahoga County.

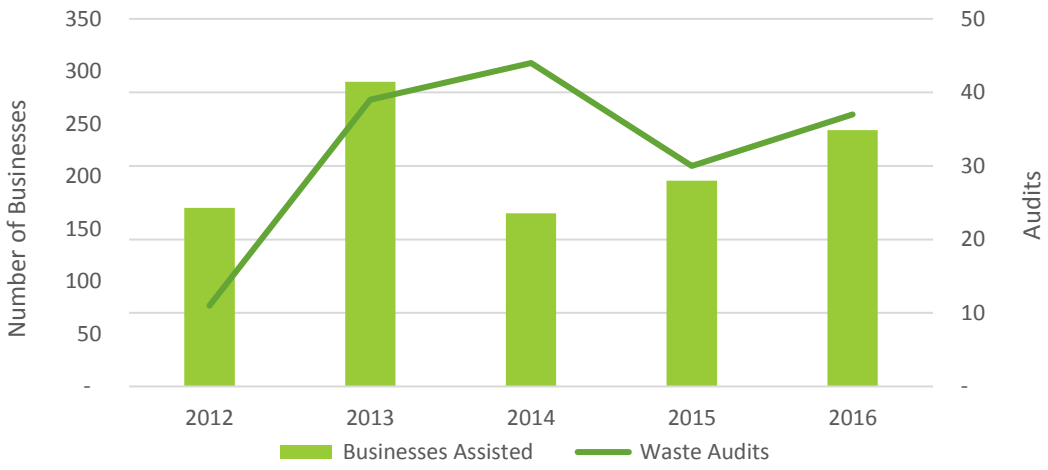
Figure H-13.6. Backyard Composting Seminars



d) Business recycling seminars and presentations

The District offers free recycling and waste reduction seminars for businesses, schools and organizations. The seminar *Waste & Recycling Sense for Business* is comprised of two sessions. The two sessions, *Successful Recycling in Your Workplace* (1.5 Hours) and *Contracting for Waste & Recycling Services* (1 hour) are taught back-to-back. In addition to recycling and waste reduction education, the District offers waste assessments for businesses. These audits help businesses expand or improve their recycling programs and initiatives.

Figure H-13.7. Businesses Assisted and Waste Audits



The District also offers a Recycling Roundtable discussion and a Workplace Recycling Success presentation. Some audiences which may benefit from a Recycling Roundtable discussion include:

- Public venues
- Hotel chains
- Manufacturing facilities
- Universities
- Schools
- National parks
- Places of worship
- Non-profits
- City and local government
- Hospitals
- Property management and real estate development firms
- Small businesses
- Start-ups

Speaker/Presenter Strengths, Challenges, and Opportunities

Strengths

- The District providing presentations to schools, groups, and businesses increases visibility and awareness for the District and the recycling programs and opportunities in Cuyahoga County.
- The presenter/speaker opportunities are available for a variety of audiences. The District presentations are flexible for meeting the needs for the requested audience.
- The number of business assisted has increased.
- Recycling Roundtable discussions have reached diverse types of businesses.
- The District offers waste audit assistance.

Challenges

- The number of school presentations has decreased by 50% over the past 4 years due to a variety of factors.
- Presentations are often at schools with no recycling program which does not allow for students to actively apply the skills taught by the presenter.
- Achieving school district buy-in to recycling programs/education.

Opportunities – addressed below under Section B for the various target audiences

B. Outreach and Marketing

a) Target Audience #1: Residents

The District has a comprehensive program to conduct outreach to its 1.2 million residents to help them understand how to recycle more and how to be an informed recycler. This includes the following elements: (1) CuyahogaRecycles.org website and blog, (2) marketing, media relations, social media and advertising (3) Talking Trash e-newsletter, (4) printed materials, (5) presentations and tabling events, and (6) recycling hotline.

CuyahogaRecycles.org Website and Blog

As mentioned above in Section A, the District's website targets residents as its primary audience. The website is a great tool for reaching and connecting with the residential audience. The site provides a comprehensive resource guide and a variety of tools designed to inform residents on how to recycle or properly dispose of different materials. This District uses Google Analytics to identify what is being looked at on the website.

Paid Advertising: This form of marketing strategy allows the District to focus on their targeted audience. The District can reach its residents though digital (including social media), print, and broadcast methods. These are primary sources to target the residential audience by choosing paid time slots to get the most views. The District is able to do targeted and trackable advertising campaigns using geofencing.

Marketing Activities: Social media outlets include Facebook, Twitter and Instagram. The District has a content schedule for organic posts on these networks, plus the District can schedule sponsored posts that appeal to a wider audience of more than just the District's current followers and help expand the reach of the District's message.

Media Relations: Monthly news releases help promote the District's programs to local media outlets. Successful outcomes include follow up interviews on local television, radio and print articles. These news releases help target the residential audience by showcasing current programs and demonstrating how the District is involved in the community.

Talking Trash E-Newsletter

The District sends out a monthly e-newsletter to residents whom have subscribed to receive the publication. E-newsletters provide residents with interesting, useful, and local information about reducing, reusing, recycling, composting. They promote upcoming District programs, such as workshops, and provide links to useful resources on the website. In 2016, more than 3,000 residents were subscribed to the Talking Trash E-Newsletter.

The District is able to collect and track e-newsletter analytics, such as open rates, click rates, and most clicked links. The analytics enable the District to compare the success of different newsletters to better identify which subjects or subject lines are received the best amongst subscribers. These analytics can help the District continually improve its e-newsletters.

Printed Materials

The District publishes many printed materials which are also available on its website. These publications are accessible for residents through the on-line request form, the recycling hotline, and through events and presentations. Though these materials are posted on the

website, a tangible publication in the hands of a resident helps increase awareness and outreach for the targeted audience. The increase of distributed materials provides the opportunity to have publications as a resource in residents' homes.

Presentations and Tabling Events

Presentations and participation in public events are a large part of the District's marketing outreach efforts. District staff and its Master Recyclers regularly address residents at presentations and events throughout Cuyahoga County. Presentations are focused on the adult resident audience. Special events that the District attends typically have an environmental focus; other events such as county fairs are not as valuable to the District because the main goal of people's attendance is recreation rather than learning or focusing on environmental issues. The District has had some success at non-environmental events when the District was able to customize its message, such as utilizing its recycling roulette wheel at an event held at a racino.

Master Recycler Program

The Master Recycler program is a 9-week course designed to educate residents about all aspects of reduce, reuse, recycle and composting as well as District programs and services. After completing the course, Master Recyclers become certified to represent the District at events. Typically 20 residents per year go through the course and are available to help the District with its outreach efforts.

Recycling Hotline

Residents can reach District staff at (216) 443-3749. The District does not use an automated system to answer calls, which allows residents to have a one-on-one personalized experience and talk to a real person about recycling questions or concerns.

Strengths

- The District has provided a variety of recycling information options with the website, as well as individualized attention with the Recycling Hotline.
- There is a balance of printed and online materials available for residents.
- Media outlets allow the district to focus on the residential audience for advertising.
- Presentations puts the District in the "limelight" to share their knowledge with the community and help improve residential programs.

Challenges

- Measuring the effectiveness of the programs.
- The District does not have participation rates for its residential sector recycling programs (i.e. set-out rates for curbside recycling programs, drop-off user frequency).
- The District only runs the Master Recycler program if there are 10 or more applicants. Some years, the District struggles to get applicants. The District has not tried targeting communities with underperforming recycling programs, but it may help bolster numbers of participants. Having recycling champions in underserved communities could be a benefit by using grassroots education.

Opportunities

- ***Participation Rates***
  The District could more effectively target residential communities for educational campaigns by obtaining user participation rates by program. Ongoing monitoring of targeted educational campaigns and whether they affect participation rates may be possible in some circumstances; however, changes in participation rates can be dependent on many factors and it may be difficult to isolate the impact of marketing and outreach efforts. Participation rates may be challenging to obtain, but the District has had some success by tasking Master Recyclers with completing participation micro-studies, which measure the participation in communities on a micro-scale, such as a particular street or sub-division.

- ***Recruit Master Recycler Applicants and Green Teams from underperforming communities***
  The District can recruit Master Recycler applicants from communities that have below average recycling rates. Targeting can be done using paid advertising on social media platforms, using geofencing in advertising, or other means as deemed appropriate. Master Recyclers are certified to represent the District; having a District representative in under-performing communities may help improve recycling rates. Master Recyclers from underperforming communities may be able to provide a different perspective to the District about barriers to recycling that exist in their community and how the District can most effectively address those barriers.

b) Target Audience #2: Schools

Students

The District has a full-time Education Specialist dedicated to student outreach. As mentioned above in section A, the Education Specialist provides classroom presentations and a variety of youth programs including summer camps and after-school sessions. These focus on recycling, waste reduction, litter and environmental education.

The District has early education worksheets available for preK-2nd grades and distributes the Mission Recycle newspaper to grades 3-4 in Cuyahoga County. The newspapers are designed to grab students' attention and provide a chance to bring recycling and environmental awareness home. Early educators to high school educators have access to lesson plans on District website to educate on Compost, Recycling, Litter, Pollution, and Trash.

Teachers/Professors/Educators

The Education Specialist manages teacher/professor/educator relations. A bi-monthly e-newsletter, *Resources for Educators*, is distributed to more than 900 subscribers. The District shares many resources with educators such as worksheets and lesson plans to easily incorporate more recycling education into the classrooms. The District is available to host workshops for teachers, youth leaders, and non-formal educators to increase environmental knowledge and professional development.

Administrators and Support Staff

The District uses targeted LinkedIn campaigns to reach school administrators with programming about starting a recycling program at school. The Education Specialist

serves on several boards and committees to connect with this audience. The District often works with support staff (e.g. librarians, office staff, janitorial and cafeteria staff, etc.) when conducting waste audits or serving in a consulting role for improving recycling or composting programs. Gaining visibility with this audience allows for stronger support for recycling programs to start and continue in schools.

Strengths

- Classroom presentations grab students' attention due to a break from the normal schedule. Take home information has the potential to spread information into communities.
- E-newsletters allow for District to share information with educators.
- LinkedIn is an effective social media platform to target school staff as is Facebook and participating educator associations.

Challenges

- Reaching new student populations in different school districts that have not previously participated in District programming.
- Electronic communication has become the dominant method for communicating. Currently all *Resources for Educators* E-Newsletters are electronic which may have reduced its effectiveness compared to printed materials.
- Recycling is not in the STEM curriculum. District is not involved at the Board level to influence recycling and sustainability as part of the curriculum, but would like to have a seat at the table in STEM curriculum discussions.

Opportunities

- **School Presentations**
  The District should decide if school presentations are a top priority. The District may focus on schools that are located in municipalities with underperforming curbside recycling rates. In some instances, education in schools is brought home to family. Students can learn some in class and bring home a target message for their parents, which may improve or change recycling behavior at home. This targeted approach may increase the understanding of recycling in schools.
- **Reach New Student Populations**
  The District has many recurring presentations with the same school districts. The District may dedicate time to research and advertise its education programs to different schools that it has not previously assisted and develop a strategy for reaching new student populations.
- **Print Educator Newsletter**
  The District can test the audience reach for printing the Resources for Educators Newsletter rather than distributing it electronically. E-mails are often unread, deleted, and/or marked as spam. The District may reach a larger audience with a printed version.
- **STEM Curriculum**
  The District could develop STEM based activities for educators to use that teach sustainable solid waste principles.
- **Target School Administrators to Establish Recycling Programs**

The District could target school administrators to obtain support for setting up school recycling programs on a district-wide basis. School presentations would benefit the start-up of new programs and can be focused on whole schools rather than individual classrooms.

- **Use Results of Educator Survey to Improve Education Programming**
  The educator survey aimed to gain information from formal and informal educators about a variety of topics, including but not limited to whether educators would participate in webinars, whether their organization has recycling, what barriers exist to implementing a recycling program if one is not currently in place, issues that have prevented educators from using more of the District's education services and resources in the past, and if the District is missing opportunities to interact with students. The District will assess the results of the survey after they are available to identify if there are additional initiatives that can be implemented to further improve the services and resources available to educators.

c) Target Audience #3: Commercial/Institutional Sector

The District has an existing outreach program which provides services and assistance to the commercial and institutional sectors in order to implement waste reduction, recycling and composting programs. This includes the following subsectors: (1) nonprofit organizations and institutions and government offices (2) commercial business and multi-family property owners, (3) non-residential quarters, (4) special event/sports venues, and (5) transportation centers.

Nonprofit Organizations and Institutions – schools, churches, hospitals, government offices

The District's Business Recycling Specialist and Education Specialist interact with non-profits and institutions such as schools, churches, hospitals to provide recycling assistance, literature and industry information. The District offers this sector the opportunity to apply for a Recycling Container Grant to purchase recycling containers for their facilities. Grant recipients are required to attend a recycling training and to file a follow-up report of the progress.

Further outreach to this audience includes featuring nonprofits in the District's book *Pass It On, a Resource-full Guide to Donating Usable Stuff*. The District's Programs and Communications Officer manages updating and publishing the pamphlet and maintains relationships with participating nonprofits. Staying connected with this audience is mutually beneficial to the District and the nonprofit.

Commercial Business and Multi-Family Property Owners

The District's Business Recycling Specialist oversees relationships with this target audience. Communication with this audience is promoted through presentations and attendance at chamber of commerce and trade association events. All assistance is designed to help business owners and property owners/managers establish recycling programs for their tenants.

The District uses targeted LinkedIn campaigns to reach building owners and managers with programming about starting a recycling program. The District often works with businesses when conducting waste audits or serving in a consulting role for improving recycling or composting programs.

Non-residential Quarters (nursing homes, prisons)
These subsectors will continue to be served by the District's Business Recycling Specialist. Presentations specifically designed for nursing homes *entitled Waste and Recycling Sense for Skilled Nursing Facilities* are presented at local nursing homes. This outreach will be continued as requested during the planning period. The District has worked with the Northeast Ohio Reintegration Center for Women to help them improve their recycling program and present to inmates at the center for after they are released. This relationship will continue upon request from the center. Promoting outreach to these audiences increases continuity throughout the District.

Special Event/Sports Venues
The District works with the Zero Waste NEO's working group and attends special events. This outreach focuses on recycling and waste reduction in densely populated events and increases District visibility outside of the home, school, and business.

Transportation Centers (airports, public transportation)
The Business Recycling Specialist works with the sustainability staff at both Cleveland Hopkins International Airport and the Regional Transit Authority (buses and trains) providing presentations and recycling assistance, negotiating waste hauling contracts, participating in roundtable discussions and work groups, and giving presentations to constituent groups. This audience can be a great hub for increasing awareness for those who are commonly in the county as well as visiting. This outreach will continue as needed/requested by the entities.

Strengths

- LinkedIn is used to reach businesses
- District staff assist this sector with technical assistance and speakers.
- District offers Recycling Container Grants for nonprofits and institutions.
- The District works with multi-family property owners and has helped start recycling programs at apartment complexes.
- Including non-residential quarters as an audience helps show the community that the Districts serves all sectors in Cuyahoga County.
- District offers waste audit assistance as needed.

Challenges

- Measuring success of outreach.
- Reaching this sector on social media.
- Service gap for residents of multi-family houses due to closure of many Cleveland drop-offs.

Opportunities

- **Continue to Use LinkedIn to Build Business Audience**
  LinkedIn provides a narrower, more sought-after audience than other forms of social media. LinkedIn provides the District with the ability to target apartment managers, teachers, superintendents, bartenders, etc. The District will prioritize types of businesses it would like to educate and develop specific materials with which it can target to businesses using LinkedIn. This type of advertising is significantly more costly than advertising on Facebook. For this reason, the District will track and monitor its LinkedIn advertising campaigns closely to maximize the effectiveness of its advertising budget.

d) Target Audience #4: Industries

The Business Recycling Specialist maintains a targeted email list for distribution of industrial-related recycling topics.

Business Recycling Assistance Program

The Business Recycling Specialist maintains a targeted email list for distribution of industrial-related recycling topics. The District also maintains a Green Business Group on LinkedIn. The District uses LinkedIn to focus on the industrial audience. The outreach tools used to reach the manufacturing sector are also those used to reach out to the commercial/institutional sectors described above. The District offers information and assistant on:

- Business Recycling Directory
- Deconstruction
- Educational Seminars for Organizations and Businesses
- Food Donation
- Recycling Equipment & Labels
- Helpful Links and Resources
- Paper Shredding & Document Destruction
- Paper Recycling Drop-offs
- Tips to Green Your Office
- Workplace Recycling Behaviors
- Zero Waste Goals

Challenges

- Industries have not expressed much interest in waste audits.
- Measuring effectiveness of the technical assistance from the District.

Opportunities

- **Waste Audit Fees**
  Industries do not have buy-in for waste audits since they are performed free of cost. The District should consider a refundable retainer to ensure commitment from a company receiving waste audit services. Many businesses that had waste audits performed in the past did not implement suggestions from the audit.
- **Zero Waste Planning**
  The District can help businesses consider the development of a zero-waste plan. This would include establishing a business green team and the development of recommendations for the industry's waste streams.

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

e) Target Audience #5: Communities and Elected Officials

The District regularly communicates with its 59 cities, villages and townships and their elected officials through email, its *Trash Heap* newsletter, and mailings. The District finds that connecting with this audience through emails and mailing is the best form of communication. These methods of communication relay information about District programs, collection statistics, recycling trends and more. Depending on the topic, communications may go to the mayor, council members, communications director, economic development director and/or service director. Occasionally, the District hosts a Trash Talk lunch to engage local officials on new topics as needed and to provide networking opportunities. By offering face-to-face opportunities, the District can engage and increase visibility with this audience.

Strengths

- Hosting luncheons helps keep local officials' knowledge of recycling issues current and provides face-to-face opportunities to interact with the District.
- The District provides presentations to the elected officials and community representatives which establishes and maintains the District's relationships with individuals in this target audience.

Challenges

- The District meets with service directors face-to-face, but it is unknown whether the information is relayed to council representatives and mayors.

Opportunities

- **Efficient Information and Communication**
  The District could distribute information to council representatives and mayors. Information may be emailed or handed out to service directors. The District's goal is to have information easily passed on from the service directors to the council representatives and mayors in the communities which the District meets.
- **Educational Tours**
  The District could arrange for an educational tour of District's solid waste and recycling infrastructure. The purpose is to present and show the operations of recycling, composting, HHW collection, transfer, and landfill facilities. Many elected officials are not aware of the complex operations for managing the waste stream. This would provide the District with significant opportunities to network with city and county officials. For examples, the District sponsored a Tour Your MRF event several years ago. This could be hosted again for public officials.

SECTION H-14. PROCESSING CAPACITY ANALYSIS

This section outlines the current evaluation for recycling processing facilities within the District to meet the need for implementing initiatives to recover more material through existing or new services. [Note: the processing capacity for organics is discussed in Appendix H-4 and not covered in this section.]

A. Processing Capacity

In-District: In-District processing capacity is extensive. Numerous in-District specialty recyclers process materials mostly from commercial and industrial sources. Some source-separated residential material is also processed within the District such as e-waste, appliances and paper. While there are no single-stream processors located within the District to process commingled residential recyclables, ample processing capacity exists through material recovery facilities (MRFs) located in neighboring counties (see below).

In-District recyclers typically specialize in handling one or two homogeneous recycling streams. Below are the recyclers operating *within* the District that processed a significant quantity of District-generated recyclables in 2016, including:

- *Ferrous Processing & Trading*: 153,692 tons (primarily scrap metal)
- *Tyroler Scrap Metals*: 100,389 tons (primarily scrap metal)
- *Gateway Products Recycling*: 37,117 tons (primarily office paper and cardboard)
- *Recycle-it LLC*: 36,120 tons (variety of materials from commercial generators)
- *Caraustar Recycling*: 16,501 tons (primarily paper and cardboard)
- *PSC Metals*: Did not report, but based on historic information, this scrap metal processor accepts a significant quantity of materials.

Out-of-District: Other notable facilities, including MRFs, are located in neighboring counties that processed a significant quantity of District-generated recyclables (single stream recyclables and fiber) during the reference year. These facilities include:

- *Kimble MRF* (Summit County): 53,078 tons[14] (single stream curbside materials)
- *Waste Management MRF* (Summit County): 29,859 tons (single stream curbside materials)
- Republic MRF (Lorain County): 17,989 tons (single stream curbside materials)
- River Valley Paper (Summit County): 25,627 tons (mixed paper and paperboard)

The facilities listed above do not represent the total number of processors and recycling companies serving the District. A more comprehensive list of 65 brokers, processors, scrap yards, buy backs, drop-offs, haulers, reuse facilities, and end users servicing the District is provided in Appendix B, **Table B-7**.

[14] Tonnage reported by communities that have curbside recycling programs serviced by Kimble. Total tonnage processed by Kimble may be greater if tonnage is collected from commercial institutions.

Some facilities listed in **Table B-7** are processors and scrap yards that accept specific types of materials. The majority of single stream materials collected by residential/commercial recycling programs and sources are managed through MRFs, which are the focus of this analysis.

Waste Management – Akron MRF

This facility is located in Summit County, which borders the District to the south. This facility has the capacity to process up to 15,000 tons of material each month or 180,000 tons annually. Based on totals reported in Ohio EPA's 2016 *Material Recovery Facility and Commercial Recycling Data Report*, the facility processed 95,759 tons in 2016 of which 29,859 tons originated in Cuyahoga County. This facility has ample processing capacity.

Republic Lorain County Resource Recovery Complex

This facility is located in Lorain County, which borders the District to the west. It is designed to process 35 tons per hour and can process 150,000 tons of recycling annually. Based on totals reported in Ohio EPA's 2016 Material Recovery Facility and Commercial Recycling Data report, the facility processed 54,449 tons in 2016 of which 17,989 tons originated from Cuyahoga County. This facility has ample processing capacity.

Kimble Recycling Facility

This facility is located in Summit County, which borders the District to the south. It is designed to process 25 tons per hour and typically processes 300 tons a day running two, shifts or 124,800 tons per year based on 312 operating days. Kimble reported that this facility is not running at maximum processing capacity, which means it could process more recyclables by extending the hours and/or days the facility operates. Actual tons processed in 2016 was not available.

Cuyahoga County is fortunate to be located in a region with healthy competition amongst haulers and recycling processors, so the cost of transporting recyclables to a processing facility and the current cost of processing recyclables do not pose a barrier to improving the recovery of recyclable materials.

B. Single Stream Processing Costs

Processing costs vary based on contract terms and service agreements. Information on processing costs for commercial recycling services is not available. Information on processing costs for municipal recycling services varies by city. In general, for cities that contract for waste collection and recycling services, the processing fee is part of the total contract cost and no separate fee is charged.

For communities that collect their own recyclables and deliver them to a MRF, there is no fee charged up front for recycling processing for those that participate in the District's Recycling Consortium. Thus, while processing costs for single stream recyclables by Consortium members is $69.50 for the 2015 to 2018 contract term, Consortium members do not directly pay this fee. Rather, the processing fee is deducted from the total value of the sale of recyclables. The MRF then rebates the net revenue to the city as part of a revenue sharing formula, which is currently is a 50/50 split between the Recycling Consortium member and the MRF.

Under the terms of the current contract's revenue sharing provision, the Recycling Consortium members receive a minimum payment of $0.50 per ton even if the processing costs exceed revenue from the sale of recyclables. The Recycling Consortium includes the following communities: Beachwood, Cleveland Heights, Highland Hills, Independence, Lyndhurst, Moreland Hills, Pepper Pike, Shaker Heights, Solon, University Heights, and Woodmere.

For comparison purposes, processing fees and revenue sharing options were proposed by two Ohio-based MRFs for the City of Ann Arbor, Michigan in July of 2017. **Table H-14.1** shows that processing costs for single stream recyclables ranged from $128 to $157 per ton.

Revenue sharing provisions were different between the two companies depending on the average commodity revenue (ACR). ACR per ton is revenue a MRF receives for sorted and processed recycled commodities. WM offered a full credit for ACR up to $132/ton and a revenue share of 60% for ACR above $132/ton. Recycle Ann Arbor/Rumpke proposed a full credit for ACR up to $80/ton for single stream recycling, and a revenue share of 25% for ACR above $80/ton.

Table H-14.1. Summary Proposal Comparison

Parameter	Waste Management	RAA/Rumpke
Single Stream Handling	• Baled • Akron, OH (192 miles)	• Loose • Cincinnati, OH (237 miles)
Commercial OCC Handling	• Baled • Saginaw, MI (94 miles)	• Baled • Taylor, MI (24 miles)
Processing Fee	• $128.75/ton (all materials)	• $157.30/ton (single stream) • $87.54/ton (commercial OCC) • $148.58/ton (average)
Revenue Share/Credit to City	• Full Value for ACR ≤ $132.00/ton • 60% for ACR > $132.00/ton	• Single Stream - Full Value for ACR ≤ $80.00/ton - 25% for ACR > $80.00/ton • Commercial OCC - Full Value for ACR ≤ $87.54/ton - 50% for ACR > $87.54/ton
Annual Escalations	• Base Fee = CPI (Water/Sewer/Trash) • Glass = actual increase • Residue = actual increase	• Base Fee = 3% • Glass = fixed price for 2 years • Residue = fixed price for 2 years
Aluminum/Steel Revenue	• Chicago Region (low)	• Chicago Region (average)
Glass Revenue (Cost)	• ($22.00/ton)	• ($12.50/ton)
Residue Revenue (Cost)	• ($45.41/ton)	• ($22.00/ton)
Residue Amount	• Actual amount	• Commitment not-to-exceed 10%
Fuel Escalator	• Yes	• No

A national study on the state of MRFs identified the average processing cost at single-stream MRFs to be approximately $85/ton.[15] Though the District has not collected extensive data on processing costs, competition in the region appears to keep processing costs below the national average and below processing costs in other areas of Ohio. For example, one of the few communities in Cuyahoga County that pays a fee for recycling processing is Brook Park, which pays a $40 per ton processing fee to Republic Services. However, these contracts are several years old and processing fees may be higher in new contracts due to international trade conditions.

C. Conclusions

Numerous high-volume specialty recyclers and single material recycling processors and MRFs are located in the District or in neighboring counties which have provided ample processing capacity at competitive prices for most materials generated in Cuyahoga County. Impacts from increased contamination because of the expansion of automated collection, trade policies that impose restrictions on importation of recyclables and ever-changing market conditions may lead to material-specific processing capacity deficiencies and changes in contract pricing. The District can mitigate potentially negative impacts on processing capacity by obtaining more information via a processor survey. In the event that contract pricing for communities changes to include fee-based recycling, proactively addressing public perception issues on the value of recycling services should minimize negativity toward new contracts.

D. Strengths, Challenges, Opportunities, and Conclusions

The following section summarizes the strengths and challenges related to recycling processing capacity for the District.

Strengths

- There are several high-volume specialty recyclers and MRFs located in the District and in neighboring counties that provide capacity and competition for District-generated materials.
- In general, the District has adequate processing capacity for current and projected volumes of recyclables throughout the planning period.

Challenges

- The expansion of automated collection of recyclables that are contained in carts, has increased the quantity of residential recyclables recovered between 2012 and 2016. However, MRFs are reporting an increase in contamination.
- Cities currently view recycling as “free” since very few pay upfront recycling processing fees. This is likely to change when new contracts are put in place.
- Impacts from trade policies that impose restrictions on importation of recyclables, such as the *Chinese National Sword*, could affect markets for certain recyclables and processing costs. For instance, markets and economic viability of recycling mixed plastics is likely to be affected.

[15] Robinson, Susan. Waste Management. State of MRFs in 2016: Current trends and conditions. October 17, 2017.

- MRF costs are low due to high competition, but this may change during the planning period due to changing markets and possible impacts from international trade policies.

Opportunities

- **Conduct MRF Site Surveys**
  Contamination and more stringent market conditions will most likely increase the cost of recycling for District communities. To assess if there are certain District communities where contamination is more prevalent, the District could conduct a site survey at the MRFs to quantify contamination associated with District-generated recyclables. This could be accomplished by working more closely with the MRFs to identify communities with higher than average contamination issues and work to increase education within those communities. The District could also conduct waste sorts at the MRFs to obtain detailed data on contamination from either specific communities or a composite of communities within the District.

- **Educate Communities on Cost of Processing**
  The District can develop a strategy to address public perception that recycling is "free" to mitigate negativity concerning new contracts if recycling becomes fee-based.

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APPENDIX I: Actions, Priorities and Program Descriptions

A. Conclusions and Priorities from Appendix H

In **Appendix H**, the District's consultants completed fourteen comprehensive analyses which reviewed the District's existing recycling infrastructure and all of its programs and services. The analysis then identified strengths, challenges and opportunities. This process identified over 80 potential improvements, initiatives and/or strategies to be considered for implementation in the new planning period. The complete list of recommendations can be found in **Appendix H.**

To determine the programs and actions to be implemented in the planning period, staff completed a prioritization process which ranked each recommendation on a scale of 1-5. A ranking of 1 or 2 meant the recommendation would not be implemented. A ranking of 3 meant the District may implement the recommendation. A ranking of 4 or 5 meant the District will implement the recommendation.

The analyses in Appendix H revealed that the District has a well-established and mature recycling infrastructure featuring district-wide curbside recycling, multiple drop-off opportunities, a robust network of recycling and reuse facilities, long standing and well utilized District programs for special wastes, and model education and outreach programs. With this recycling framework in place, most of the recommendations from Section H offered suggestions for improving or tweaking existing programs rather than implementing new programs. The recommendations were designed to improve efficiency, maximize staff resources, increase landfill diversion, address infrastructure gaps and reduce costs.

Appendix I, herein, describes programs and actions that the District will implement during the planning period or may implement during the planning period. The program descriptions are contained in **Section B** below and are organized under the following categories:

I. Residential Waste Reduction and Recycling Programs (curbside, drop-off and multi-family)

II. Commercial, Institutional and Industrial Waste Reduction and Recycling Programs

III. Restricted and Difficult to Manage Wastes (HHW, scrap tires, and e-waste)

IV. Programs for Organic Wastes and Hard to Recycle Wastes

V. Economic Incentives (Grants and PAYT)

VI. Special Program Needs (health departments, law enforcement and litter)

VII. Market Development Programs and Actions

VIII. Data Collection Programs and Actions

IX. Education and Outreach Programs and Actions

B. Program Descriptions

This section outlines the existing programs available to residents, communities, businesses, and institutions during the planning period as well as new programs or changes that will be implemented.

I. RESIDENTIAL WASTE REDUCTION AND RECYCLING PROGRAMS

Table I.1. Summarizes the programs and actions for the planning period that will expand residential recycling opportunities and performance. The District's priority for curbside recycling is to increase participation and recycling rates while reducing contamination. The priority for drop-off and multi-family recycling is to identify and increase access to recycling in areas that are underserved. *Note:* the educational components related to residential recycling are covered under **Section IX** below.

Table I.1. Summary of Programs and Actions for Curbside, Drop-Off and Multi-Family Recycling

#	ID	Program / Action Name	Start Date	End Date	Goal(s)
Curbside Recycling					
1	NSC1-57	Non-Subscription Curbside Recycling Programs	Existing	Ongoing	1, 2
2		Curbside Recycling Technical Assistance and Contracting Services	Existing	Ongoing	2,4,6
3		Municipal Contracting Consortiums	Existing	Ongoing	2,4,6
4		Special Assistance For Low Performing Communities	2020	Ongoing	2,4,6
Drop-Off Recycling					
5	FTU1, FTU82, FTU90 - FTU100	Multi-Material Recycling Drop-Offs	Existing	Ongoing	1,2
6	OFTU1-27, OFTR1-7	Limited Material Recycling Drop-Offs	Existing	Ongoing	1,2
7		Survey Recycling Drop-Off Users	TBD	TBD	1,2,4
Multi-Family Recycling					
8		Investigate Public-Private Partnership to Establish Fiber Drop-Offs in High Multi-Family Communities	2019	2022	1,2
9		Create MFH Recycling Guide	2020	2020	4
10		Model Ordinance to Require MFH Recycling For New Construction	2019	2020	1,2
11		Technical Assistance to Support MFH Recycling Programs and Consortiums	Existing	Ongoing	1,2,4

1. **Non-Subscription Curbside Recycling Programs**
   The District expects all of the 57 non-subscription curbside recycling programs operating in the reference year to continue along with one additional program added since the reference year (Maple Heights). These publicly-sponsored programs are either operated by the community or contracted for by the community and provide single stream collection of cans, cartons, glass, paper and cardboard, and plastic containers. See **Table B-1 in Appendix B** for a complete list of programs.

2. **Curbside Recycling Technical Assistance and Contracting Services**
   The District provides technical assistance to help communities evaluate how automated collection and cart-based recycling collection can reduce costs and increase recycling. It also helps communities contract for curbside recycling and switch to cart-based collection. These services will continue with emphasis on helping the remaining communities that have blue bag recycling programs convert to carts, increasing participation and reducing contamination. In the next plan period the District will help the one remaining community in Cuyahoga County without curbside recycling to implement a program.

3. **Municipal Contracting Consortiums**
   The District currently manages two contracting consortiums for communities – one for solid waste transfer and disposal and one for recycling processing. These consortiums help participants obtain competitive pricing and are expected to continue.

4. **Special Assistance for Low Performing Communities**
   The District will identify communities with curbside recycling rates lower than the national average of 300 lbs./hh/year and develop a program to provide special assistance to help those communities improve. This could include conducting focus groups to identify causes, focusing education initiatives and digital advertising to those communities and provide grant funds intended to increase education. The District could select one or two communities per year to assist in this manner.

5. **Multi-Material Recycling Drop-offs**
   The District expects the multi-material drop-offs identified above to continue. These publicly-sponsored drop-offs are provided by the cities of Brecksville, Cleveland, Highland Hills, Lakewood, Mayfield Heights, North Olmsted, North Royalton, Olmsted Township, Orange Village, Pepper Pike, Richmond Heights, Solon, Strongsville, University Heights and Warrensville Heights. These sites accept the following materials at a minimum: aluminum cans, steel cans, glass, plastic containers, mixed paper and cardboard. See **Table B-2a in Appendix B** for the list of locations and materials accepted.

6. **Limited Material Recycling Drop-Offs**
   The District expects the limited material drop-offs identified above to continue. These publicly-sponsored drop-offs are provided by the cities of Bay Village, Beachwood, Bedford, Bedford Heights, Broadview Heights, Brook Park, Brooklyn Heights, Cuyahoga Heights, Fairview Park, Gates Mills, Lyndhurst, Maple Heights, Middleburg Heights, North Randall, North Royalton, Oakwood Village, Orange Village, Parma, Parma Heights, Rocky River, Strongsville, Valley View and Walton Hills. These sites typically accept aluminum cans or fiber. See **Table B-2b in Appendix B** for the list of locations and materials accepted.

7. **Survey Drop-Off Recycling Users**
   The District may survey participants at certain community drop-off sites to ascertain why they use the site, how they learned about the site, the generator type (single-family, MFH, business), how far they traveled and other recycling habits. This information could be used to help develop the fiber drop-off program described below or help with education to reduce contamination and illegal dumping.

8. **Investigate Public-Private Partnership to Establish Fiber Drop-Offs in High Multi-Family Communities**
   In order to expand recycling opportunities for residents living in multi-family housing (MFH), the District will investigate the feasibility of partnering with a local paper recycler to locate fiber-only drop-off containers in communities with limited or no drop-off recycling infrastructure or a high percent of MFH establishments. Collecting just paper and cardboard would reduce the illegal dumping problems associated with multi-material drop-offs but still capture the largest component of the residential waste stream. The containers could be staged at municipal locations.

9. **Create MFH Recycling Guide**
   The District will survey the 52 MFH properties that implemented a recycling program during the last planning period to obtain best practices and assemble into a recycling guide to help MFH building owners and managers establish recycling programs.

10. **Develop model ordinance to require MFH recycling**
    The District will draft a model ordinance to require space to be dedicated for recycling in all new commercial building projects. This could be incorporated in the Sustainable Cuyahoga ToolKit.

11. **Technical Assistance to Support MFH Recycling Programs and Consortiums**
    The District will continue to work with property owners and managers to help establish recycling in MFH and identify opportunities to facilitate cooperative contracting among multiple MFH properties where feasible.

II. COMMERCIAL/INSTITUTIONAL AND INDUSTRIAL REDUCTION AND RECYCLING PROGRAMS

Table II.1. Summarizes the programs and actions for the planning period that will help expand waste reduction and recycling programs in businesses, institutions, schools and industry. The District's priority for these sectors is to employ a strategic approach to offering its technical assistance in order to maximize opportunities for diversion. This could be accomplished by targeting its largest employers, highest waste generators or working with school districts instead of individual schools. Its other priority is to expand partnerships with various trade organizations to enhance staff outreach efforts. *Note:* the educational components related to residential recycling are covered under **Section IX** below.

Table II.1. Summary of Programs and Actions for Businesses, Institutions, Schools and Industry

#	ID	Program/Action Name	Start Date	End Date	Goal(s)
12		Waste Audits and Assessments for Business, Industry and Schools	Existing	Ongoing	2,4,6
13		Technical Assistance, Presentations and Zero Waste Planning Services for Business, Industry and Schools	Existing	Ongoing	2,4,6
14		Recycling Sense for Your Business Workshops	Existing	Ongoing	2,3,4,6
15		Targeted Assistance for High Waste Generators	2019	Ongoing	4,9
16		Contracting Assistance	Existing	Ongoing	2,4,6
17		Collaborate with Local Economic Development Partners to Promote Waste Reduction and Recycling	Existing	Ongoing	2,4
18		Promote The Ohio Materials Marketplace	Existing	Ongoing	2,4
19		Target Small Industries for Assistance	2020	Ongoing	2,4

12. Waste Audits and Assessments for Business, Industry and Schools

The District's Business Recycling Specialist and Education Specialist will provide waste assessments for commercial businesses, institutions, schools and manufacturing facilities as requested to identify opportunities for waste reduction, recycling and education.

13. Technical Assistance, Presentations and Zero Waste Planning Services

The Business Recycling Specialist and Education Specialist will provide technical assistance and offer presentations for commercial businesses, institutions, schools and manufacturing facilities to facilitate waste reduction and recycling program implementation, improvements and employee education. The District will also assist with contracting for recycling services and developing zero waste plans upon request. Contracting assistance will also be provided as needed.

14. Recycling Sense for Your Business Workshops

The Business Recycling Specialist will host periodic workshops for schools, businesses and industry to focus on program implementation, contracting for recycling services and employee education.

15. **Targeted Assistance for High Waste Generators**
    The District will develop a plan for targeting businesses and manufacturers for assistance. This will help maximize District resources by identifying companies with the greatest opportunity to recycle. Having a strategic approach such as targeting large companies, institutions or public venues or high fiber generators such as retail establishment will help the District get the greatest return on its assistance services. The District could meet with fiber recyclers face-to-face to discuss opportunities for expanding fiber-collection infrastructure to the commercial sector.

16. **Contracting Assistance**
    The District will help commercial businesses, institutions, schools and manufacturing facilities procure solid waste collection and recycling services as needed and will review existing solid waste contracts to identify opportunities for savings that could be used to help pay for recycling services.

17. **Collaborate with Local Economic Development Partners to Promote Waste Reduction and Recycling and District Services:**
    a. Economic Development Directors in Communities
       The District will meet with economic development directors to learn more about commercial and industrial sector generators, their challenges and their needs. Meetings will educate economic development directors about District services so they may help promote the District's programs to their constituents. Developing a relationship with a network of economic development directors throughout Cuyahoga County could also help the District stay informed about major changes in the commercial/industrial landscape.

    b. Commercial Trade Associations
       The District will collaborate with local commercial trade organizations to reach more generators, distribute information, conduct seminars and obtain information about various businesses and issues affecting them. Examples of commercial trade organizations include Ohio Grocers Association, Ohio Landscapers Association, and Ohio Retail Merchants.

    c. Industrial Retention Organizations
       There are several industrial support organizations in Cuyahoga County that the District can become involved with to learn more about the industrial sector and its challenges and needs related to recycling. These organizations include WIRE-NET, MAGNET and CIRI (The Cleveland Industrial Retention Initiative)

18. **Promote The Ohio Materials Marketplace**
    The District will work with Ohio EPA to promote the exchange of used materials through The Ohio Materials Marketplace. The District will promote the marketplace on its web site, arrange speaking opportunities for Ohio EPA and distribute information to its businesses and manufacturers.

19. **Target Small Industries**
    The District will target small manufacturing facilities for assistance to include creating industrial green teams, developing recommendations for the industry's waste streams, and educating employees. Smaller industries are more likely not to have an existing waste reduction program in place and may be more in need of the District's assistance. In order to determine this, the District could conduct a survey of small industrial facilities to determine the scope of any existing recycling

programs, their waste streams, and their interest in participating in workshops that focus on small-industry recycling strategies.

III. RESTRICTED AND DIFFICULT TO MANAGE WASTES

Table III.1. summarizes the program and actions during the planning period that will provide opportunities for residents to recycle restricted and difficult to manage wastes. The District's priority for these waste streams is to maximize residents' use of available programs while reducing or stabilizing its program costs.

Table III.1. Summary of Programs and Actions for Restricted and Difficult to Manage Wastes

#	ID	Program / Action Name	Start Date	End Date	Goal(s)
Household Hazardous Waste					
20		Year-Round HHW Collection Program	Existing	Ongoing	1,2,5
21		Education to Promote HHW Reuse, Reduction and Green Alternatives	2019	Ongoing	4
22		Obtain HHW participation data	2019	2019	4,5
23		Evaluate Feasibility of a CESQG and Universal Waste Program	2022	2024	1,5,8
Scrap Tires					
24		Education of Residents – Proper Scrap Tire Disposal	2020	Ongoing	1,2,4,5
25		Outreach to Scrap Tire Generators	2020	2022	4,5
26		Scrap Tire Round Up – Evaluate Phase Out and Scrap Tire Disposal Consortium	2020	2021	1,2,5
27		Evaluate Need for a Regional Scrap Tire Transfer Facility	TBD	TBD	1,2,8
Computers/E-Waste					
28		Computer Round Up Promotions	Existing	Ongoing	1,2,5
Other Wastes					
29		Promote Existing Pharmaceutical Collections	Existing	Ongoing	1,4,5
30		Promote Existing Battery Recycling Locations	Existing	Ongoing	1,4,5

20. Year-Round HHW Collection through SWD Special Waste Convenience Center

The District will continue to operate its year-round HHW collection program at its Special Waste Convenience Center. The Center will accept HHW collected from participating communities two times per month. This program provides communities with training and supplies so they can collect HHW from their residents and then deliver the materials to the Center. The District pays for all costs associated with HHW management once it is delivered by the communities and sorted, transported and disposed through its hazardous waste contractor.

21. Education To Promote HHW Reuse, Reduction and Green Alternatives

The District will work to educate residents about ways it can minimize the creation of HHW through an education campaign using social media and community outreach. The campaign could focus on green cleaning and buying and using household products smartly to reduce waste and save money.

22. Obtain HHW Participation Data

The District will work with its communities that participate in the HHW program to survey participants to better understand how and why they use the program and how often and to educate residents about HHW reuse and reduction.

23. Evaluate Feasibility of Offering a Conditionally Exempt Small Quantity Generator (CESQG) and Universal Waste Program

The District may conduct a market assessment to determine the regulatory and operational aspects of developing a CESQG and/or Universal Waste Collection program for small businesses, institutions, and governments generating hazardous waste and universal waste. This could be a way for the District to maximize the use of its facility, offer a needed service and generate additional revenue.

24. Education of Residents – Proper Tire Disposal

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

25. Outreach to Scrap Tire Generators

The District will develop a list of tire retailers, dealers and repair shops that generate scrap tires for the purpose of communicating information about Ohio scrap tire laws and placing information in stores about tire disposal.

26. Scrap Tire Round Up and Scrap Tire Disposal Consortium

The District will conduct its annual Scrap Tire Round-Up while it works to reduce reliance on the program through the education initiatives described above. This program may be gradually phased out if the District determines it is no longer necessary to subsidize scrap tire disposal. If the program is phased out, the District will develop a municipal scrap tire disposal consortium among communities, if needed, for those communities that will still collect tires from residents.

27. Evaluate the Need for a Regional Scrap Tire Transfer Facility

The District may conduct a feasibility study to assess the need for a scrap tire transfer station to provide a local drop-off option for scrap tires. The purpose of the study will be to determine the

feasibility of developing a centralized or decentralized facility(s) to collect and transfer scrap tires from residents and businesses to a licensed recycler or disposal facility.

28. **Computer Round-Up Events**
    The District will continue to promote local computer Round-Up Events held by communities as well as other e-waste recycling opportunities offered by local e-waste recyclers and retail stores. Communities in the District hold Recycle Your Computer Month events in April and August and many communities collect computers year-round. The District will continue to promote all local collections through social media, digital advertising and on its website. Since the management of CRT glass is a costly problem for many local recyclers, the District will work with its e-waste recycler RET3 job corp. to determine the best options for managing this glass which may include charging fees.

29. **Promote Local Pharmaceutical Collections**
    The District will promote existing pharmaceutical collections offered by the Cuyahoga County Sheriff through its Drop Box program located at local police stations. The District will also promote collection events held by the Northeast Ohio Regional Sewer District.

30. **Promote Battery Recycling Locations**
    The District will promote proper disposal of rechargeable batteries using the retail drop-offs participating in the Call 2 Recycle program. Lead-acid batteries will continue to be accepted in the Districts HHW program.

IV. PROGRAMS FOR ORGANIC WASTES AND HARD TO RECYCLE WASTES

Table IV.1. summarizes programs and actions during the planning period that will help expand recovery and recycling of organic waste and hard to recycle wastes. The District's priority is to support more organics diversion since it comprises one of the largest portions of the waste stream.

Table IV.1. Summary of Programs and Actions for Organic Wastes and Hard to Recycle Wastes

#	ID	Program / Action Name	Start Date	End Date	Goal(s)
31		Yard Waste – Evaluate Composting Infrastructure and Contracting Consortium Opportunity	2021	2023	1,2,5,8
32		District Compost Bin Sales	Existing	Ongoing	2,4,5
33		Food Waste - Engage Stakeholders to Expand Food Rescue Programs and Local Composting Infrastructure	Existing	Ongoing	1,2,4,5
34		Hard to Recycle Materials Drop-Off at SWCC	Existing	Ongoing	12,,4,5

31. Evaluate Feasibility of A Municipal Yard Waste Contracting Consortium

Evaluate whether there is interest in establishing municipal yard waste contracting consortium to help communities manage leaves and brush and obtain longer contracts and stable pricing. If communities express interest, the District would facilitate the development of the consortium and handle the bid in the same way it developed its disposal and recycling consortiums. Part of the evaluation would include a capacity analysis of existing compost facilities to determine if there are gaps or threats to the composting infrastructure.

32. Compost Bin Sales

The District will continue to offer backyard composting bins and food waste digesters for sale to the public at its office and through composting seminars.

33. Engage Stakeholders to Expand Food Rescue Programs and Local Composting Infrastructure

Facilitate collaboration among entities that generate food waste and those that rescue food waste or compost food waste through meetings or workshops. The goal would be to connect groups that provide food rescue or food waste composting with generators that need their services.

34. Hard To Recycle Material Drop-Off

The District will continue to use its Special Waste Convenience Center as a drop-off for hard to recycle materials. The items currently accepted include election signs, small appliances, small electronics, and certain Terra Cycle programs for cereal bags and cosmetic containers.

V. ECONOMIC INCENTIVES AND GRANTS

Table V.1. summarizes programs and actions during the planning period that will provide an economic incentive for recycling. The District's priority for all of its technical assistance is to demonstrate an economic benefit for recycling such as reduced tipping fees through landfill diversion. District grant programs offer an additional incentive by subsidizing some of the cost of establishing and promoting a recycling program.

Table V.1. Summary of Programs and Actions for District Grants and PAYT

#	ID	Program / Action Name	Start Date	End Date	Goal(s)
35		District Community Recycling Awareness Grant	Existing	Ongoing	4,6
36		District Recycling Container Grant	Existing	Ongoing	4,6
37		PAYT Opportunities	2023	2023	4,6

35. Community Recycling Awareness Grant

The District will continue to offer its annual Community Recycling Awareness Grant to assist communities with producing recycling awareness materials, conducting shredding events and purchasing public space recycling containers. The District may also offer additional funding for select

communities with low curbside recycling rates to help those communities improve (see program #4 above).

36. Recycling Container Grant

The District will continue to offer its annual Recycling Container Grant to help schools and not-for-profit organizations purchase recycling containers and expand its recycling efforts.

37. PAYT Opportunities

The District did not determine much opportunity for introducing PAYT programs in Cuyahoga County since curbside recycling programs and billing systems are well established. However, some potential communities were identified and the District may work to educate these communities about the potential benefits of PAYT and assist any with implementing a program if interested.

VI. SPECIAL PROGRAM NEEDS – HEALTH DEPARTMENTS, LAW ENFORCEMENT AND LITTER

Table VI.1 summarizes programs and actions during the planning period that will help ensure compliance with Ohio environmental laws and regulations and reduce illegal dumping and litter. The District's priority is to reduce illegal dumping of solid waste, C&D debris by supporting local law enforcement investigations and prosecutions of dumpers.

Table VI.1 Summary of Programs for Code Enforcement, Open Dumping and Litter Collection

#	ID	Program / Action Name	Start Date	End Date	Goal(s)
38		Health Department Code Enforcement Funding	Existing	Ongoing	
39		Facilitate Environmental Crimes Task Force	Existing	Ongoing	
40		Evaluate Options to Establish Open Dump Remediation Fund	TBD	TBD	
41		Pursue Legislative Changes to Open Dumping statutes and Help Create Local Environmental Court or Docket	Existing	Until Completed	
42		Litter Collection Program	Existing	Ongoing	

38. Health Department Code Enforcement Funding

The District will continue to provide an annual subsidy to the Cuyahoga County Board of Health and the Cleveland Department of Public Health to inspect licensed solid waste facilities, inspect tire generators, respond to nuisance complaints and participate on the Cleveland-Cuyahoga County Environmental Crimes Task Force.

39. Facilitate Environmental Crimes Task Force

The District will continue to facilitate the Cleveland-Cuyahoga County Environmental Crimes Task Force which works to investigate and prosecute illegal dumping cases and other environmental crimes. Partners include the Cuyahoga County Prosecutor, Cleveland Police Department, local health

departments and City of Cleveland. The District will coordinate task force meetings, purchase equipment such as cameras, conduct training on Ohio's environmental laws and provide funding to the environmental crimes unit within the Cleveland PD.

40. Evaluate Options to Establish Open Dump Remediation Fund and a "Report a Dumper" Web Site

The District may evaluate options to establish an Open Dump Remediation Fund to be used to clean-up open dumps. Funding could come from the payment of illegal dumping fines resulting from the work of the Environmental Crimes Task Force and supplemented with grants, a portion of the District's cash reserve or liens on properties. The development of the fund and the parameters would be researched, developed and established by a Grant Committee to be created by the District.

41. Pursue Legislative Changes to Open Dumping statutes and Help Create Local Environmental Court or Docket

The District will work with its Environmental Crimes Task Force partners to seek legislative changes that would facilitate the creation a City of Cleveland environmental court, similar to Franklin County and would change the open dumping penalty statute to give judges more leeway in sentencing.

42. Litter Collection Program

The District will continue to fund litter collection services provided through Court Community Service. Under an annual grant with CCS, two supervised litter crews clean up roadways and public areas throughout Cuyahoga County.

VII. MARKET DEVELOPMENT PROGRAMS AND ACTIONS

Table VII.1 summarizes programs and actions during the planning period that will expand local markets for recyclables. The District's priority is to support local recyclers by serving as a facilitator to connect them with waste generators, state funding opportunities and other resources to help ensure their success.

Table VII.1 Summary of Programs to Support Recycling Market Development

#	ID	Program / Action Name	Start Date	End Date	Goal(s)
43		Ohio EPA Market Development Support and Administration	Existing	Ongoing	1,8
44		Recycling and Sustainable Business Assistance	Existing	Ongoing	1,8

43. Ohio EPA Market Development Support and Administration

The District will identify local recyclers that could benefit from an Ohio EPA Market Development Grant to expand local processing capacity and markets for materials. Assist with the development of the application and the application process. Administer the grant upon award and track progress.

44. Recycling and Sustainable Business Assistance

The District will work with local recycling and reuse companies to develop local markets, expand local recycling infrastructure and increase local manufacture of recycled products. Added attention will be placed on expanding local markets for food waste, glass and scrap tires.

VIII. DATA COLLECTION PROGRAMS AND ACTIONS

Table VIII.1 summarizes programs and actions during the planning period that will enable the District to document compliance with State of Ohio recycling goals. The District's priority is to continue to expand its survey lists to obtain the most accurate picture of recycling as possible.

Table VIII.1 Summary of Data Collection Programs and Actions					
#	ID	Program / Action Name	Start Date	End Date	Goal(s)
45		Annual Survey of Recycling Processors, Commercial Businesses and Manufacturers and Expand List	Existing	Ongoing	9
46		Annual Survey of Communities and Compile into Residential Recycling Report	Existing	Ongoing	9
47		Database to Organize District Data.	2020	2022	9
48		Utilize WARM Model	Existing	Ongoing	9

45. Annual Survey of Recycling Processors, Commercial Businesses and Manufacturers and Expand List
The District will continue to conduct annual surveys of processors, businesses and industry using Re-TRAC™ for annual reporting purposes to Ohio EPA and tracking the status of Plan implementation. The District will work to expand its survey list in a targeted manner to include high volume generators using resources such as Reference USA, a business database and conducting site visits with large employers.

46. Annual Survey of Communities and Compile into Residential Recycling Report
The District will continue to survey all communities to obtain curbside and drop-off recycling data. This information will be used to complete the ADR and also to prepare the annual Residential Recycling Report that is distributed to communities and helps document the progress of residential recycling programs.

47. Database to Organize District Data
The District will hire a software developer to create a database software program to help organize and utilize District data and streamline data management.

48. Utilize WARM Model
The District will run the US EPA WARM model to determine the impacts of its various programs towards greenhouse gas reduction.

IX. OUTREACH AND EDUCATION PROGRAMS

Table IX summarizes lists all of the education and outreach programs that will be offered by the District during the next planning period. The District has three full-time staff devoted to the activities below – a marketing specialist, a business recycling specialist, and an education specialist. Other staff assist by answering residents' questions, making presentations or working tabling events. Since the education and outreach programs are described in **Appendix L**, detailed descriptions have not been included below.

Table IX. Summary of Education and Outreach Programs					
#	ID	Program / Action Name	Start Date	End Date	Goal(s)
49		Web Site – CuyahogaRecycles.org	Existing	Ongoing	1,2,3,4
50		Comprehensive Resource Guides	Existing	Ongoing	1,2,3,4
51		Speakers and Presenters	Existing	Ongoing	1,2,3,4
52		Residential Recycling Outreach – Recycle More, Recycle Better Campaign	Existing	Ongoing	1,2,3,4
53		Children's Education Program and Targeted Assistance	Existing	Ongoing	1,2,3,4
54		Business and Industry Education Program	Existing	Ongoing	1,2,3,4
55		Municipal Outreach and Communications	Existing	Ongoing	1,2,3,4
56		Recycling Education ToolKit	Existing	Ongoing	1,2,3,4
57		Public Official Facility Tours – Tour Your MRF	2020	2020	1,2,3,4

49. Web Site – CuyahogaRecycles.org

50. Comprehensive Resource Guides

- WDIDW search feature on CuyahogaRecycles.org
- Pass It On: A Resource-Full Guide To Donating Usable Stuff
- Business Recycling Directory

51. Speakers and Presenters

- Youth presentations – classroom and other
- Adult presentations
- Composting seminars
- Business recycling seminars and presentations

52. Residential Recycling Outreach – Continue Recycle More, Recycle Better Campaign

- Marketing, Media Relations and Advertising
- Talking Trash E-Newsletter
- Printed Materials – brochures, etc.
- Presentations and Tabling Events
- Recycling Hotline

53. Children's Education Program

- Classroom Presentations and Other Youth Presentations
- *Mission Recycle* Student Newspaper
- Resources and Workshops for Teachers and Educators
- STEM curriculum
- Targeting Schools for Assistance
  The District has many recurring presentations with the same school districts in Cuyahoga County. The District may dedicate time to research and advertise its education programs to different schools that it has not previously assisted.

54. Business and Industry Education Program

- Business Presentations
- Workshops
- Marketing, Media Relations and Advertising
- LinkedIn page and blog

55. Municipal Outreach and Communications

- Annual Report
- Trash Talk Lunch seminars
- Trash Heap e-newsletter

56. Recycling ToolKit (recycling templates for communities to use)

57. Public Official MRF and Landfill Tours

The District will work with local Material Recovery Facilities and landfill to offer facility tours for local public officials. The purpose is to increase understanding of solid waste facility operations. Many elected officials are not aware of the complex operations for managing the waste stream. This would provide the District with significant opportunities to network with city and county officials. The District sponsored a Tour Your MRF event several years ago which was very successful and could be hosted again.

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

This Appendix presents the District's waste reduction and recycling rates from 2016 to 2033, which demonstrates that it achieved Goal 2 of the 2009 State Solid Waste Management Plan in reference year 2016 and will continue to achieve Goal 2 throughout the entire planning period.

In the current approved Plan Update (2013-2028), the District chose to show compliance with Goal 2 of the State Solid Waste Management Plan, which states that *The SWMD shall reduce and recycle at least 25% of the solid waste generated by the residential/commercial sector and at least 66% of the solid waste generated by the industrial sector*. Through the implementation of waste reduction and recycling programs and conducting annual surveying to gather waste generation data, the District has been able to demonstrate that it has consistently exceeded the 25% residential/commercial and 66% industrial waste reduction and recycling rates. Therefore, the District is once again opting to demonstrate achieving Goal 2 throughout the 2019-2033 planning period.

During the reference year (2016), approximately 30 percent of the District's residential/commercial sector waste stream was either recycled or composted and was equivalent to 2.06 pounds per person per day (PPD). This was the same rate projected for this sector in the current approved Plan Update.

Residential sector recycling through curbside, drop-off, and special waste programs and yard waste composting made up 36 percent of the total residential solid waste generated in the reference year and approximately 57 percent of residential/commercial sector solid waste recycled. Commercial sector recycling through businesses and institutions made up 25 percent of total commercial solid waste generated in the reference year and 43 percent of residential/commercial sector solid waste recycled.

Projections presented in **Table K-1** show that the District anticipates continuing to exceed the state 25% recycling goal throughout the planning period. The programs and activities presented in **Appendix I** outline how the District will continue to achieve the state goal throughout the planning period.

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

First Year of Planning Period	Year	Population	Recycled	Disposed	Total Generated	WRR Rate	Per Capita WRR Rate (PPD)
x	***2016***	***1,235,936***	***463,995***	***1,064,234***	***1,528,229***	***30.36%***	***2.06***
	2017	1,229,370	465,557	1,065,557	1,531,114	30.41%	2.08
	2018	1,222,804	465,070	1,059,866	1,524,936	30.50%	2.08
	2019	1,216,238	464,584	1,054,175	1,518,759	30.59%	2.09
	2020	1,209,672	464,111	1,048,484	1,512,595	30.68%	2.10
	2021	1,203,568	463,638	1,043,193	1,506,832	30.77%	2.11
	2022	1,197,464	463,152	1,037,903	1,501,055	30.86%	2.12
	2023	1,191,360	462,666	1,032,612	1,495,278	30.94%	2.13
	2024	1,185,256	462,180	1,027,321	1,489,501	31.03%	2.14
	2025	1,179,152	461,694	1,022,031	1,483,725	31.12%	2.15

Table K-1. Annual Rate of Waste Reduction: Residential/Commercial Solid Waste							
	2026	1,174,188	461,208	1,017,728	1,478,936	31.19%	2.15
	2027	1,169,224	460,723	1,013,426	1,474,148	31.25%	2.16
	2028	1,164,260	460,237	1,009,123	1,469,360	31.32%	2.17
	2029	1,159,296	459,751	1,004,820	1,464,572	31.39%	2.17
	2030	1,154,332	459,266	1,000,518	1,459,784	31.46%	2.18
	2031	1,149,766	458,780	996,560	1,455,341	31.52%	2.19
	2032	1,145,200	458,295	992,603	1,450,898	31.59%	2.19
	2033	1,140,634	457,810	988,645	1,446,455	31.65%	2.20

Source of Information: Appendix G, Table G-2

Sample Calculations:
WWR Rate = (tons recycled ÷ tons generated) x 100
Per Capita WRR Rate (PPD) = ((tons recycled x 2000) ÷ 365) ÷ population

Table K-2 presents the industrial sector waste reduction and recycling rate projections from 2016 to 2033. According to Ohio EPA's Plan Format v4.0, if a solid waste district met the industrial reduction/recycling goal of 66% during the reference year, it is acceptable to project a constant quantity of industrial material to be recovered at the reference year quantity throughout the planning period. During the 2016 reference year, the industrial sector exceeded the reduction/recycling goal of 66% and achieved a 74 percent recycling rate. Tonnage is projected as a constant rate for the remainder of the planning period based on 2016 tonnage. The programs and activities presented in Appendix I outline how the District will continue to achieve the state goal throughout the planning period.

Table K-2. Annual Rate of Waste Reduction: Industrial Solid Waste					
First Year of Planning Period → x	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
	2016	***855,612***	***300,704***	***1,156,316***	***73.99%***
	2017	855,612	300,704	1,156,316	73.99%
	2018	855,612	300,704	1,156,316	73.99%
	2019	855,612	300,704	1,156,316	73.99%
	2020	855,612	300,704	1,156,316	73.99%
	2021	855,612	300,704	1,156,316	73.99%
	2022	855,612	300,704	1,156,316	73.99%
	2023	855,612	300,704	1,156,316	73.99%
	2024	855,612	300,704	1,156,316	73.99%
	2025	855,612	300,704	1,156,316	73.99%
	2026	855,612	300,704	1,156,316	73.99%
	2027	855,612	300,704	1,156,316	73.99%
	2028	855,612	300,704	1,156,316	73.99%
	2029	855,612	300,704	1,156,316	73.99%
	2030	855,612	300,704	1,156,316	73.99%

Table K-2. Annual Rate of Waste Reduction: Industrial Solid Waste					
	2031	855,612	300,704	1,156,316	73.99%
	2032	855,612	300,704	1,156,316	73.99%
	2033	855,612	300,704	1,156,316	73.99%

Source of Information: Appendix G, Table G-2

Sample Calculations:
WWR Rate = (tons recycled ÷ tons generated) x 100

The projections presented in **Table K-3** show that the District will continue to exceed the waste reduction and recycling rates established in Goal 2 of the 2009 State Plan for all sectors throughout the planning period. By 2027, the District anticipates that its overall waste generation will be reduced by more than half. This will be achieved through the District's current programs and activities, along with implementation of new programs which are described in **Appendix I**.

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

First Year of Planning Period → / x	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
	2016	***1,319,607***	***1,364,938***	***2,684,545***	***49.16%***
	2017	1,321,168	1,366,261	2,687,429	49.16%
	2018	1,320,682	1,360,570	2,681,252	49.26%
	2019	1,320,196	1,354,879	2,675,075	49.35%
	2020	1,319,723	1,349,188	2,668,911	49.45%
	2021	1,319,250	1,343,897	2,663,147	49.54%
	2022	1,318,764	1,338,606	2,657,371	49.63%
	2023	1,318,278	1,333,316	2,651,594	49.72%
	2024	1,317,792	1,328,025	2,645,817	49.81%
	2025	1,317,306	1,322,734	2,640,040	49.90%
	2026	1,316,820	1,318,432	2,635,252	49.97%
	2027	1,316,334	1,314,129	2,630,464	50.04%
	2028	1,315,849	1,309,827	2,625,676	50.11%
	2029	1,315,363	1,305,524	2,620,888	50.19%
	2030	1,314,878	1,301,222	2,616,100	50.26%
	2031	1,314,392	1,297,264	2,611,657	50.33%
	2032	1,313,907	1,293,307	2,607,214	50.40%
	2033	1,313,422	1,289,349	2,602,771	50.46%

Sources of Information: Appendix K, Table K-1 and Table K-2

Sample Calculations:
WWR Rate = (tons recycled ÷ tons generated) x 100

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APPENDIX L: Outreach and Marketing Plan and General Education Requirements

This appendix explains how the District provides the four minimum required education programs and explains its existing strategies for providing education, outreach, marketing, and technical assistance to five target audiences including (1) residents, (2) schools, (3) institutions/commercial businesses, (4) industries and (5) communities/elected officials.

A. MINIMUM REQUIRED EDUCATION PROGRAMS

Goal 3 of the 2009 State Plan requires solid waste districts to provide four minimum education resources including a website, comprehensive resource guide, infrastructure inventory and speaker/presenter. The District has always offered these resources to residents, even its original web site which was one of the first Solid waste district web sites in Ohio. Section A below describes each of these resources which are intended to provide all target audiences with detailed, accurate and helpful information about how, what, why and where to recycle, donate, compost and reduce waste in Cuyahoga County.

A.1 Web Site

Name	Start Date	End Date	Goal
www.CuyahogaRecycles.org	Existing	Ongoing	3

The District's web site - CuyahogaRecycles.org is a comprehensive resource for residents, businesses, communities, educators, elected officials and the general public. This new web site was launched by the District in April of 2016 to replace its former web site cuyahogaswd.org which had been in place since the 1990's and had become stale.

CuyahogaRecycles.org was developed by a Cleveland web design firm and is beautifully designed, mobile compatible, functional, and easy to navigate. It was developed in such a way as to allow the District to control the content and make most needed changes. The new site is receiving more engaged visitors who stay longer on the site. The District is able to track all web users through Google analytics which provides much useful information for the District which are used to inform its marketing and outreach strategies.

The District uses its web site to provide up to date recycling information to the community. It is updated daily by the District's marketing coordinator. All of the District's marketing and advertising efforts, are designed to let the public know that CuyhogaRecycles.org is the best source for recycling information within Cuyahoga County. Below are some of the key features:

- *What Do I Do With?* search bar where visitors can enter an item to learn how to reduce, reuse, recycle or properly dispose the item. There are 102 searchable items in this directory.
- *Business Recycling Directory* identifying recycling locations for 47 materials specific to business and industry.
- *Community recycling pages* for each of the 59 communities in Cuyahoga County that provides curbside, and drop-off recycling information specific to each city.

- *Teacher Resources* section including lesson plans, activities and recycling facts.
- *Recycling Tool Kit* resource for communities with downloadable recycling brochure templates designed by the District.
- *Event*s page promoting the District's upcoming workshops and seminars.
- A *How Recycling Works* section that explains important information about the recycling process.

The following shows the main navigation on CuyahogaRecycles.org

RECYCLING AT HOME	**PROGRAMS AND SERVICES**	**HOW RECYCLING WORKS**	**ABOUT US**
Recycling in Your Community	Business Services	How to Recycle	Solid Waste Plan
Composting & Yard Waste	Contests & Special Projects	The Recycling Process	Publications
Household Hazardous Waste Disposal	Event Calendar	Reduce, Reuse, Recycle	E-newsletters
Latex Paint Disposal	For Schools & Youth	Recycling Facts	Social Media
Recycling at the District	Grants	Learn About Landfills	About Us
Computer Recycling	Master Recycler Program	Frequently Asked Questions	
Party and Event Recycling	Municipal Support		
Life Hacks to Recycle the Holidays	Presentations & Workshops		
What Do I Do With?	Business Recycling Seminars		
School Green Tips	Recycling Presentations		
	Composting Workshops		
	School Age & Youth Lectures		
	Teacher Workshops		
	Day Camp & Scout Programs		
	Waste Disposal Facilities		

A.2 Comprehensive Resource Guides

Name	Start Date	End Date	Goal
WDIDW search feature on CuyahogaRecycles.org	Existing	Ongoing	3
Pass It On: A Resource-Full Guide To Donating Usable Stuff	Existing	Ongoing	3
Business Recycling Directory	Existing	Ongoing	3

The District maintains an up to date compilation of outlets for recycling and reuse in Cuyahoga County. These are made available to the staff and to the public to find out where to recycle particular materials. The District has learned that publishing a printed guide is not the best way to provide the information because the information becomes out of date very quickly. Therefore, not all of its resource guides are printed but are available on-line. People without access to the digital

information can contact the District and get the information they seek from a staff member. The following describes the District's three main resource guides:

Web Site - What Do I Do With (WDIDW) search feature.

On CuyahogaRecycles.org there is a bar where residents can type in an item they wish to recycle, donate or dispose and find out how to recycle, donate or properly dispose that item. This comprehensive list of items helps answer residents "what do I do with?" questions. The District maintains an inventory of recycling and reuse centers for each items and updates the list frequently. Below is the list of the recyclable items for which residents can find information:

Aluminum Foil, Antifreeze, Appliances, Arts and Crafts Supplies, Asphalt, Baby Items, Barrels & Drums, Batteries, Bicycles, Boats, Books, Bricks, Cameras & Photography Supplies, Campaign Signs, Cans, Car Batteries, Car Seats, Cardboard, Carpet & Carpet Padding, Cartons, Cassette Tapes, CDs, DVDs, and Video Games, Cell Phones, Cereal Bags, Christmas Trees, Cleaning Supplies, Clothing, Computers & Electronics, Concrete, Construction Materials, Cosmetics, Cups (Plastic and Paper), Drink Pouches, Eyeglasses, Fire Extinguishers, Flags, Flares, Fluorescent Bulbs, Food, Fryer Oil, Furniture, Gardening Supplies, Gasoline/Kerosene, Glass, Grease, Hearing Aids, Helium & Oxygen Tanks, Holiday Lights, Household Goods, Household Hazardous Waste, Industrial Filters, Jewelry, Latex Paint, Litho Film & X-Ray, Mattresses, Medical Equipment & Supplies, Medications, Mercury, Motor Oil, Musical Instruments, Needles and Sharps, Office Furniture and Equipment, Oil-Based Paint, Oils & Oil Filters, Packing Peanuts, Pallets, Paper & Boxes, Paper Shredding Services, Pens, Pet Food & Supplies, Phone Books, Photographic Chemicals, Plastic Bags, Plastic Bottles & Containers, Propane Tanks, Rechargeable Batteries, Refrigerant, School Supplies, Scrap Metal, Shredded Paper, Shrink Wrap, Smoke Detectors, Solvents, Sporting Goods, Styrofoam™ Blocks, Styrofoam™ Containers, Tanglers, Tape Dispensers, Televisions, Textiles, Thermostats, Tires, Toiletries, Toner Cartridges, Tools & (usable) Building Materials, Toys and Games, Transparency Film, Trash Disposal, Tyvek Envelopes, VCR Tapes, Vehicles, Wood & Lumber, Yard Waste

Pass It On – A Resource-Full Guide to Donating Usable Stuff

This District has been publishing this book since 1997 and recently published its 7th edition. This book lists over 120 community services organizations that use donated items to support their work. The organizations accept donations to serve the homeless, youth seniors, animals and others in Cuyahoga County. The donation index includes options for donating a wide variety of household goods such as baby items, art supplies, gardening supplies, sporting goods, tools, musical instruments toys and more. This is one of the District's most popular publications. Residents may download the book from the District's web site, order a hard copy, or search for items using the *What Do I Do With* search feature.

Business Recycling Directory

The District compiles a list of recyclers for waste streams that are specific to businesses and industry that are not typically available to the general public. This Recycling Directory for Business and Industry used to be published as a printed guide but the information became outdate very quickly and became too costly and time consuming to keep it in a printed format. Instead the District has posted the Business Recycling Directory information on its web site. This way the information can be updated immediately as recycler information changes. The list is kept current by the District's Business Recycling Specialist. Below is the list of the recyclable items contained in the directory for which a list of local recyclers is provided.

Antifreeze, Asphalt, Barrels & Drums, Batteries, Books, Bricks, Cans, Cardboard, Carpet & Carpet Padding, CDs, DVDs, Computers & Electronics, Concrete, Construction Materials, Industrial Filters, Fire Extinguishers, Fluorescent Bulbs, Food, Fryer Oil, Glass, Grease, Litho Film & X-Ray, Mattresses, Mercury, Office Furniture And Equipment; Oil-Based Paint, Oils & Oil Filters, Packing Peanuts, Pallets, Paper & Boxes, Plastic Bottles & Containers, Propane Tanks, Refrigerant, Scrap Metal, Shrink Wrap, Solvents, Styrofoam™ Containers, Styrofoam™ Blocks, Televisions, Textiles, Thermostats, Tires, Toner Cartridges, Transparency Film, Tyvek Envelopes, VCR Tapes, , Wood & Lumber, Yard Waste.

A.3 Infrastructure Inventories

The District maintains up-to-date information about the solid waste management and recycling infrastructure within Cuyahoga County and makes this information available to the public through its web site and its staff. The following explains how the District maintains up to date lists and makes the inventory information available.

Solid Waste Management and Disposal Infrastructure Inventory		
Facility	**Source of Information**	**Availability**
MSW Landfills	The statewide list of licensed landfills is downloaded annually from the Ohio EPA web site and maintained on the District's computer network for staff to reference. The list of landfills used by the District for disposal is published annually in an annual waste flow analysis	Staff provide the information if requested.
Transfer Stations	The statewide list of licensed transfer stations is downloaded annually from the Ohio EPA web site and maintained on the District's computer network for staff to reference. The list of transfer stations used by the District for disposal is published annually in an annual waste flow analysis	A list of transfer stations located in Cuyahoga County is posted on CuyahogaRecycles.org and staff provide the information if requested.
C&DD Landfills	The statewide list of licensed construction and demolition debris landfills is downloaded annually from the Ohio EPA web site and maintained on the District's computer network for staff to reference.	A list of C&DD landfills in Cuyahoga County is posted on CuyahogaRecycles.org and staff provide the information if requested.
Scrap Tire Facilities	The statewide list of registered scrap tire transporters and licensed tire facilities is downloaded annually from the Ohio EPA web site and maintained on the District's computer network for staff to reference.	A list of local scrap tire transporters and facilities is posted on CuyahogaRecycles.org and staff provide the information if requested
WTE Facilities	There is only one waste to energy facility located in the District – Quasar Energy.	The facility is posted on CuyahogaRecycles.org
Waste Reduction and Recycling Infrastructure		
Facility/Program	**Source of Information**	**Availability**
Compost	The statewide list of registered compost	A list of composting facilities in

Facilities	facilities is downloaded annually from the Ohio EPA web site and maintained on the District's computer network for staff to reference.	the District is posted on CuyahogaRecycles.org and staff provide the information if requested.
Curbside Recycling Services	The District annually surveys its communities for curbside recycling data and regularly updates information on municipal collection methods and contract pricing and terms. This is compiled into a Contracts & Practices spreadsheet maintained on the District's computer network for staff to reference.	Information about each curbside recycling program in the District is posted on CuyahogaRecycles.org An annual *Residential Recycling Report* is published and contains recycling rates for each city.
Donation Locations	The District updates its list of donation centers for household goods and other usable items annually.	A list of donation locations is posted on CuyahogaRecycles.org in the WDIDW search feature
Drop-off Recycling locations	The District regularly updates the list of drop-off recycling locations provided by communities and the private sector as the information changes.	The list of recycling drop-offs is posted on CuyahogaRecycles.org under the Recycling In My Community tab or in the WDIDW search feature.
Material Recovery Facilities	The District maintains up to date information on the four MRF's servicing Cuyahoga County and is in contact with its representatives.	Staff provide the information if requested.
Recycling Centers	A comprehensive inventory of recycling facilities in Cuyahoga County is maintained regularly, many are surveyed annually for data as part of the ADR report.	A list of all Cuyahoga County recycling centers is posted on CuyahogaRecycles.org in both the Business Recycling Directory and in the WDIDW search feature. Staff provide the information if requested.
Yard Waste Collection Programs	The District annually surveys its communities for yard waste recycling data. This is compiled into a Contracts & Practices spreadsheet maintained on the District's computer network for staff to reference.	Information about each community's yard waste program is posted on CuyahogaRecycles.org An annual *Residential Recycling Report* is published and contains yard waste recycling rates for each city.

A.4 Speaker/Presenter

Name	Start Date	End Date	Goal
Youth presentations – classroom and other	Existing	Ongoing	3
Adult presentations	Existing	Ongoing	3
Composting seminars	Existing	Ongoing	3
Business recycling seminars and presentations	Existing	Ongoing	3

The District has five staff available to give presentations to residents, businesses, communities, schools and other groups in Cuyahoga County. Its Education Specialist offers classroom presentations, assemblies and a variety of youth programs that focus on recycling, waste reduction, litter and overall environmental education. Its Business Recycling Specialist offers workplace recycling seminars, waste audits, lunch and learn employee presentations, and other presentations to assist workplace recycling efforts. In addition, the District offers Backyard Composting Seminars and Bin Sales in conjunction with host cities and general recycling presentations for adult audiences and clubs. The District strongly believes that its direct communication with the public through its presentations are one of the best ways of educating children and adults about recycling.

B. OUTREACH AND MARKETING PLAN

The District employs a variety of outreach and marketing tactics designed to reach the 5 target audiences and more. The following describes the District's current marketing and outreach strategies which will continue in the next planning period. These use many of the best practices for effective communication outlined in the format book and are designed to change behavior rather than to simple increase awareness.

The District uses a variety of tools to track the effectiveness of its outreach and education programs and uses this information to continually improve. For instance its web site is set up to capture analytics which collect and measure user data for the purposes of understanding and optimizing its use. Examples of information the District is able to track include total pageviews, pageviews from unique users (IP addresses), length of stay on a webpage, most viewed pages, and most searched for words/phrases. Once we understand what information people seek from our web site, we can adjust our social media posts and digital marketing to address their questions. The District's use of social media is effective at providing immediate feedback on user questions. By reading a resident's responses to our posts, we can better understand and answer their recycling questions. That is a direct way to change behavior and be impactful.

In Appendix H-13, the District offers a complete analysis of each of its marketing, education and outreach tools and programs. Please refer to this appendix for information how the District tracks the effectiveness of each program and uses that information to continually improve. The primary goal of the District is to change recycling behavior by teaching proper recycling behaviors.

The District's outreach priority, both currently and in the next planning period, is to help residents "Recycle More, Recycle Better". This campaign message applies to all target audiences whether they are recycling at home at work or at play.

Target Audience #1: Residents

Name	Start Date	End Date	Goal
Residential Recycling Outreach	Existing	Ongoing	Goal 3

The District has a comprehensive program to conduct outreach to its 1.2 million residents to help them understand how to recycle more and how to recycle better. This includes the following elements: (1) CuyahogaRecycles.org web site and blog, (2) marketing media relations and advertising (3) Talking Trash e-newsletter, (4) printed materials, (5) presentations and tabling events, and (6) recycling hotline. All of these are components of an intensive marketing education campaign launched by the District in 2016 to help residents understand how to recycle properly. The campaign was named Cuyahoga Recycles "recycle more, recycle better." This campaign established the foundation for the District's expanded outreach efforts going forward and each of the 5 elements will be continue through the new planning period. With a rich recycling infrastructure in Cuyahoga County the District is well-positioned to continue to successfully market its "recycle more, recycle better" message. All of the above supports the residential recycling message and includes people living in single family homes as well as in multi-family facilities. However with multi-family facilities, the District also focuses on reaching out to building owners and managers. Please refer to the section Target Audience 2.3 for a description of outreach to these commercial property owners.

1) CuyahogaRecycles.org

The center of the District's outreach is its website CuyahogaRecycles.org. Most of the District's marketing efforts are designed to drive people to the web site where they can find answers to all of their recycling questions. The web site will serve as a comprehensive resource guide for residents to learn how to recycle in their community and how to recycle elsewhere. Included in the web site is a blog that will provide updates on recycling and fresh content to push through social media. Website visitors can take many actions on the site, including signing up for an e-newsletter, requesting materials, signing up for workshops and seminars and connecting with social media. In 2016, 78,848 visitors consumed 234,926 website pages.

2) Marketing, Medial Relations and Advertising

To push out the recycle more, recycle better message throughout Cuyahoga County, the District will continue a marketing campaign to consist of paid advertising, marketing activities and media relations.

- Paid advertising will include digital, print, and broadcast methods along with paid social media ads.
- Social media will include frequent posts FaceBook, Twitter and Instagram. The posts will occur daily or weekly depending on the media. Social media has proven to be a highly effective and engaging way to reach new people. It is also a free or low cost method. The District can be found on social media using the following handles.
  Facebook /cuyahogarecycles
  Twitter @RecycleCuyahoga
  Instagram /cuyahoga_recycles

- Media relations will include monthly news releases to promote District programs to local media outlets. The District distributes its new releases to dozens of media contacts and has had success with follow up interviews on local television, radio and in print.

3) Talking Trash E-Newsletter

Another way the District will reach out to residents is through its Talking Trash monthly email newsletter. There are currently 4,122 subscribers that receive the publication which provides timely information about reducing, reusing, recycling, and composting and upcoming District programs. The District will continue to distribute this e-newsletter through the plan period and sign up new subscribers.

4) Printed Materials

The District produces a wide array of printed educational materials to use at public events and to mail to people that request them. In 2016, 19,021 publications were distributed. Many were given out at public events across the county. In 2016, CCSWMD employees staffed 36 booths and public events where they reached 4,708 residents. The District publishes and will continue to publish the following printed materials and makes them available to the public though on on-line request form, its recycling hotline, and through events and presentations.

- Annual Report & Residential Recycling Report
- Guide to Backyard Composting
- Cuyahoga Recycles Info Card
- District Services Cards featuring District products and services titled

* About the District
* 3 R's Education: Reduce, Reuse, Recycle (Programs for Youth and Schools)
* Recycling Assistance for Businesses and Institutions
* Household Hazardous Waste Disposal
* Composting Seminars and Bin Sales

- Pass It On: A Resource-Full Guide to Donating Usable Stuff
- Recycling Spinner
- What About Plastic?
- Mission Recycle student newspaper

5) Presentations and Tabling Events

Presentations and participation in public events are a large part of CCSWMD's marketing outreach efforts. Three employees including the executive director, education specialist and business recycling specialist regularly address residents at seminars at the District as well as across the county. Forty presentations reached 1,868 adults in 2016. These activities will continue and will be supported by the District's Master Recyclers. The Master Recyclers include individuals who have become certified to represent the District at events by participating in an 8-week course designed to educate them about all aspects of reduce, reuse, recycle and composting as well as District programs and services. Typically 20 students per year go through the course and are available to help the District with its outreach efforts.

6) Recycling Hotline

The District will continue to answer the public's recycling questions directly through its recycling hotline which is also the main number for the District (216) 443-3749. This is staffed during business and all calls are answered directly by a staff member instead of an automated attendant. We do this to be as responsive to the public as we can be. In 2016, employees answered 2,920 phone calls.

Target Audience #2: Children, Educators, Schools

Name	Start Date	End Date	Goal
Children's' Education Program	Existing	Ongoing	Goal 3

The District's outreach to schools includes students, teachers and administrators and other staff. This outreach is ongoing and will continue through the plan period as described below.

1) Students

The District has a full-time education specialist dedicated to student outreach. The education specialist reaches students in myriad ways. In 2016, the education specialist conducted 84 classroom presentations reaching 1,924 students. Programming also included summer camps and after-school sessions. Also in 2016, the District distributed 25,000 Mission Recycle student newspapers to grades K-4 in Cuyahoga County. The Mission Recycle newspaper will be produced annually with the help of the environmental education firm -Eco Partners Inc.

2) Educators/Teachers/Professors/Instructors

The education specialist handles management of teacher/professor/instructor relations. The District reaches out to teachers with a bi-monthly e-newsletter to 900 subscribers. Teachers also enjoy lesson plans, creative ideas and worksheets that are provided for download via

CuyahogaRecycles.org. The District promotes access to these materials via paid Facebook advertising targeted specifically at teachers and educators in the county. Paid, targeted emails are also used to reach this audience with information about programming.

3) Administrators and Support Staff

Targeted LinkedIn campaigns are used to reach school administrators with programming about starting a recycling program at school. In addition, the education specialist serves/served on many boards and committees to connect with this audience including the Green Schools Committee of the U.S. Green Buildings Coalition, the Cleveland Regional Science Teachers organization and the Environmental Concerns Committee of Northeast Ohio. The District often works with support staff (e.g. librarians, office staff, janitorial and cafeteria staff etc.) when conducting waste audits or helping to design a recycling or composting program.

Target Audience #3: Commercial/Institutional Sector

Name	Start Date	End Date	Goal
Business Recycling Assistance Program	Existing	Ongoing	Goal 3

The District has an existing outreach program that will continue to provide services and assistance to the commercial and institutional sectors in order to implement waste reduction, recycling and composting programs. This includes the following subsectors: (1) nonprofit organizations and institutions and government offices (2) commercial business and multi-family property owners, (3) non-residential quarters, (4) special event/sports venues, and (5) transportation centers

1) Nonprofit Organizations and Institutions – schools, churches, hospitals, government offices

The District's business recycling specialist and education specialist interact with non-profits and institutions such as schools, churches, hospitals to provide recycling assistance, literature and industry information. Outreach is achieved though meetings, on-site visits, waste audits, presentations, and appearances at events. The District also offers this sector the opportunity to apply for a Recycling Container Grant to purchase recycling containers for their facilities. Awardees are required to attend a recycling training and to file a follow-up report of the progress.

In addition, nonprofits are also prominently featured in the District's book, "Pass It On, a Resource-full Guide to Donating Usable Stuff." The marketing staff manages updating and publishing the book and maintains relationships with participating nonprofits.

2) Commercial Business and Multi-Family Property Owners

The District's business recycling specialist oversees relationships with this target audience. In 2016, the business recycling specialist conducted 17 workplace recycling seminars for 111 attendees. She also assisted 244 businesses and conducted 37 waste audits. All assistance is designed to help business owners and property owners/managers establish recycling programs for their tenants and residents. Communication with this audience is also promoted with presentations and attendance at chamber of commerce and trade association events.

The District's business recycling specialist, manages outreach and relationships with multi-family facility owners and managers through a membership with the Northern Ohio Apartment Association (NOAA) and through an email list, presentations, on-site meetings and through

targeted LinkedIn advertising promoting business recycling. In 2016, 14 new apartment complexes began recycling.

3) Non-residential Quarters (nursing homes, prisons)

These subsectors will continue to be served by the District's business recycling specialist. Presentations specifically designed for nursing homes entitled, "Waste and Recycling Sense for Skilled Nursing Facilities" are presented at local nursing homes. Nursing home administrators from across the county are invited. This outreach will be continued as requested during the plan period. The District has worked with the Northeast Ohio Reintegration Center for Women to help them improve their recycling program and presented "How to Recycle" to inmates at the center for when they were released. This relationship will continue upon request from the center.

4) Special Event/Sports Venues

The District works with the Zero Waste NEO's working group to conduct outreach and education for special events and venues. Outreach is achieved though distributing the group's Zero and Reduced Waste Event Planning Guide which is published by the District and downloadable from CuyahogaRecycles.org. A training for the public on hosting zero waste events is held annually. This outreach is expected to continue. In addition, District staff attend special events and festivals with its booth as well as environmentally themed events such as the Cleveland Cavaliers Green Week and at the Cleveland Indians' Green Games.

5) Transportation Centers (airports, public transportation)

The business recycling specialist works with the sustainability staff at both Cleveland Hopkins International Airport and the Regional Transit Authority (buses and trains) providing presentations and recycling assistance, negotiate waste hauling contracts, and participates in roundtable discussions and work groups as well as gave presentations to constituent groups. This outreach will continue if needed/requested by the entities.

Target Audience #4: Industries

Name	Start Date	End Date	Goal
Business Recycling Assistance Program	Existing	Ongoing	Goal 3

The business recycling specialist maintains a targeted email list for distribution of industrial-related recycling topics. Emails are distributed on an as-needed basis. The District also maintains a Green Business Group on LinkedIn. The outreach tools used to reach the manufacturing sector are also those used to reach out to the commercial/institutional sectors described above.

Target Audience #5: Communities and Elected Officials

Name	Start Date	End Date	Goal
Municipal Outreach and Communications	Existing	Ongoing	Goal 3

The District regularly communicates with its 59 cities, villages and townships and their elected officials through email, its Trash Heap newsletter, and mailings. These communications relay information about District programs, collection statistics, recycling trends and more. Depending on the topic, communications may go to the mayor, council members, communications director,

economic development director or and/or service director. Occasionally the District hosts a Trash Talk lunch to engage local officials on new topics as needed and to provide networking opportunities. These outreach methods will continue throughout the plan period.

We communicate with other local officials and community leaders in much the same way using email newsletters and snail mail news and updates depending on the topic. The District often keeps up with individuals in this group via phone calls, policy committee meetings, board meetings and the illegal dumping task force meetings with other public officials and agencies. The District is also a member of the Northeast Ohio Service Director Association and gives presentations for mayors and managers association meetings.

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
Lorain County Landfill – Republic Services	Lorain County, Ohio	10.5
Noble Road Landfill – Rumpke Waste	Richland County	8.5
American Landfill - Waste Management	Stark County, Ohio	85.6
Kimble Landfill – Kimble Companies	Tuscarawas County, Ohio	32.05
Countywide Landfill – Republic Services	Stark County, Ohio	77.2

Source of Information: 2016 Ohio Facility Data Report Tables (Table 13) published by Ohio EPA.

The landfills listed in Table M-1 accepted a combined 99 percent of the District's landfilled waste and includes both waste directly hauled to landfills and waste routed through transfer stations. These five landfills have an average of 43 years of remaining disposal capacity. The landfills utilized by the District are all owned and operated by the private sector companies noted in the table.

Of all the District's solid waste that was disposed in publicly-available landfills in 2016:

- 57% of the waste was disposed in the Lorain County Landfill
- 20% was disposed in the Noble Road Landfill in Richland County
- 14% was disposed in the American Landfill in Stark County
- 8% was disposed in the Kimble Landfill in Tuscarawas County.
- 1% was disposed in the County-wide Landfill in Stark County.

Not listed in the table are six landfills that accepted the remaining waste from the District in 2016 (less than one percent). In addition to accepting such small quantities of waste, many of those facilities are too distant to be likely recipients of significant quantities of waste in the future.

Future of Disposal Capacity

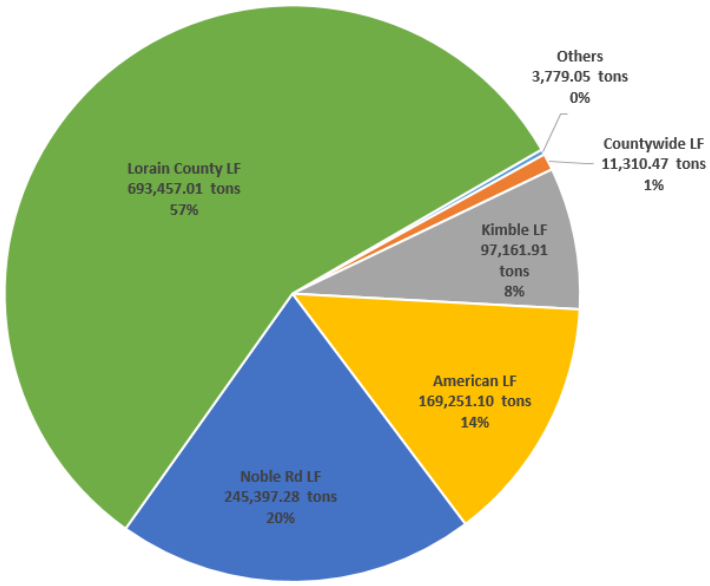
As can be seen from the pie chart below, the District sent 77% percent of its waste to the Lorain County and Noble Road landfills in 2016. Of those two landfills, the Lorain County Landfill was the only facility with enough capacity to continue accepting waste for the first eight years of the planning period.

At the end of 2016, the Lorain County Landfill had almost 10.5 years of remaining capacity based on waste receipts in that year. Republic operated the facility at 60% of its approved authorized maximum daily waste receipt level (AMDWR) in 2016. The Noble Road Landfill had a little less than nine years of remaining capacity left. At the

current rate of waste acceptance, Rumpke will exhaust the landfill's remaining capacity by 2023, the fifth year of the planning period.

Based on correspondence with Ohio EPA, it is the District's understanding that Rumpke is actively developing plans to expand the Noble Road Landfill. Those plans likely will include both vertical and horizontal expansions. Because Rumpke has not submitted a permit application to Ohio EPA, it is not known how much additional operating life the expansions would provide. At this time, Ohio EPA was not aware of any issues that would prevent Rumpke's ability to expand the facility. Therefore, the District anticipates that Rumpke will continue to operate the Noble Road Landfill throughout the planning period and will accept waste from the District commensurate with quantities accepted in the reference year.

Cuyahoga County Solid Waste District
2016 Waste Flow Analysis
Tonnage By Landfill
Total Tons = 1,220,356.82



Regional Capacity Analysis

If unforeseen circumstances prevent Rumpke from securing additional disposal capacity, then the Lorain County Landfill is the most likely destination for waste displaced from the Noble Road Landfill. At less than 40 miles from the center of Cuyahoga County, it is the District's closest landfill. The cities that operate transfer stations that currently send waste to Noble Road would likely divert their waste to the Lorain County Landfill.

Rumpke itself could choose to transport waste from its transfer stations to one of its other landfills to avoid relying on a competitor's facility but since the next closest Rumpke landfill - the Pike Sanitation Landfill – is 200 miles away, that is an unlikely scenario.

The Noble Road Landfill is approximately 70 miles from Cuyahoga County. Both the American Landfill in Stark County (approximately 64 miles away) and the Kimble Sanitary Landfill (approximately 80 miles away in Tuscarawas County) are close enough to be potential destinations for more District waste. Both facilities have more than adequate capacity to accept waste displaced from the Noble Road Landfill. In 2016, the American Landfill operated at 18 percent of the its total permitted AMDWR, and the Kimble Sanitary Landfill operated at 31 percent of its total AMDWR. Either landfill can easily accept all of the displaced waste without noticeable impacts on the facilities' operating lives.

B. Access to Captive Landfill Facilities

Table M-3 Remaining Operating Life of Privately-Available Landfills

Facility	Location	Years of Remaining Capacity
ArcelorMittal Cleveland, Inc.	Cuyahoga County, Ohio	24.5

Source of Information: 2016 Ohio Facility Data Report Tables (Table 13.1) published by Ohio EPA

In 2016, there was only one privately-available landfill operating in the District. This was the Arcelor Mittal captive industrial landfill that was used to dispose of waste generated on-site from the company's steel mill operations. In 2016, this amounted to 143,253 tons of exempt waste including foundry sand and slag. Exempt wastes are not subject to ORC 3734 disposal or generation fees.

C. Incinerators and Energy Recovery Facilities

In 2016, there were no operating solid waste incinerators. There was one operating food waste conversion facility operated by Quasar Energy that converted food waste into energy through anaerobic digestion process.

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APPENDIX N: Evaluating Greenhouse Gas Emissions

Greenhouse gas (GHG) emissions associated with solid waste management activities were estimated for the District using U.S. Environmental Protection Agency's Waste Reduction Model (WARM). The WARM was applied to both residential/commercial sector recycling and composting data for the reference year and data projected for the sixth year of the planning period (2024). **Table N-1** shows the waste categories as well as the amounts recycled and composted which were entered into the model. Some of the program source totals presented in **Appendix E** have been combined as necessary to create waste category totals corresponding to input entries available in the WARM. For instance, the "Mixed Recyclables" waste category in Table N-1 represents the sum of the estimated tonnages for the following sources:

- Commercial survey results
- Data from Other Recycling Facilities
- Residential Curbside/Drop-Off Recycling
- Misc. District Collection Programs

Table N-1. Tons of Solid Waste Applied to WARM

Waste Category	2016 (Reference Year)		2024	
	Recycled	Composted	Recycled	Composted
Mixed Recyclables	272,759	-	284,706	
Mixed Organics	-	178,156	-	165,579
Personal Computers	362	-	342	-
Tires	11,445	-	11,323	-

The top half of T**able N-2** below provides the results from the WARM assuming that all waste generated in the reference year is disposed in landfills. The model estimates a net production of 140,113 metric tons of carbon dioxide equivalents ($MTCO_2E$) using this assumption which is characterized as the baseline scenario. The second half of Table N-2 represents the actual amounts recycled and composted in 2016, and is termed the alternative scenario. The alternative scenario results in a net generation of -800,850 $MTCO_2E$.

Table N-2. Greenhouse Gas Emissions for Reference Year

2016	GHG Emissions from Baseline Waste Management (MTCO2E)				
Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCO2E
Mixed Recyclables	-	272,759	-	N/A	88,591
Mixed Organics	N/A	178,156	-	-	51,064
Personal Computers	-	362	-	N/A	444
Tires	-	11,445	-	N/A	14
TOTAL					**140,113**

2016	GHG Emissions from Alternative Waste Management (MTCO2E)					
Material	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCO2E
Mixed Recyclables	-	272,759	-	-	N/A	(770,882)
Mixed Organics	-	N/A	-	-	178,156	(24,635)
Personal Computers	-	362	-	-	N/A	(4,423)
Tires	-	11,445	-	-	N/A	(910)
TOTAL						**(800,850)**

Combining the results from the two scenarios shows the GHG reductions within each waste category which are achieved by recycling and composting compared to landfilling all of the waste stream. (See Table N-3.) The total estimated GHG reductions are 940,962 $MTCO_2E$.

Table N-3. Net GHG Reductions for 2016: Alternative vs. Baseline Scenarios

Material	Difference Between Scenarios in $MTCO_2E$ (Alternative - Baseline)
Mixed Recyclables	-859,473
Mixed Organics	-75,698
Personal Computers	-4,867
Tires	-924
TOTAL	**-940,962**

The top half of **Table N-4** shown below provides the results from the WARM assuming that all waste projected to be generated in the sixth year of the planning period, or year 2024 is disposed in landfills. The model estimates a net production of 140,382 metric tons of carbon dioxide equivalents ($MTCO_2E$) using this assumption which is characterized as the baseline scenario. The second half of Table N-4 represents the projected amounts recycled and composted in 2024, and is termed the alternative scenario. The alternative scenario results in a net generation of -832,779 $MTCO_2E$.

Table N-4. Greenhouse Gas Emissions for Sixth Year of Planning Period

2024	GHG Emissions from Baseline Waste Management (MTCO2E)				
Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCO2E
Mixed Recyclables	-	284,706	-	N/A	92,471
Mixed Organics	N/A	165,579	-	-	47,459
Personal Computers	-	342	-	N/A	439

Tires	-	11,323	-	N/A	13
TOTAL					**140,382**

2024	GHG Emissions from Alternative Waste Management (MTCO2E)					
Material	**Tons Source Reduced**	**Tons Recycled**	**Tons Landfilled**	**Tons Combusted**	**Tons Composted**	**Total MTCO2E**
Mixed Recyclables	-	284,706	-	-	N/A	(804,647)
Mixed Organics	-	N/A	-	-	165,579	(22,896)
Personal Computers	-	342	-	-	N/A	(4,376)
Tires	-	11,323	-	-	N/A	(860)
TOTAL						**(832,779)**

Combining the results from the two scenarios in **Table N-5** shows the GHG reductions within each waste category which are achieved by recycling and composting compared to landfilling all of the waste stream. The total estimated GHG reductions are 973,161 $MTCO_2E$.

Table N-5. Net GHG Reductions for 2024: Alternative vs. Baseline Scenarios

Material	Difference Between Scenarios in $MTCO_2E$ (Alternative - Baseline)
Mixed Recyclables	-897,119
Mixed Organics	-70,354
Personal Computers	-4,815
Tires	-873
TOTAL	**-973,161**

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APPENDIX O: Financial Plan

A. Funding Mechanisms and Revenue Generated

1. Disposal Fee

The District will not use a disposal fee to finance its operations during the planning period.

2. Generation Fee

As authorized by Section 3734.573 of the Ohio Revised Code the District instituted a generation fee. Under its current solid waste management plan, the generation fee is $1.50 per ton and makes up the majority of the District's revenues. It is collected by receiving transfer stations and landfills on solid waste originating within Cuyahoga County and disposed within Ohio. All monies are forwarded to the District pursuant to Section 3745-28-03 of the Ohio Administrative Code.

The District strives to operate efficiently in order to keep its fee low for waste generators. For example, the current fee costs households in Cuyahoga County just $1.32 per year on average. And the generation fee was increased just once since the original $1.00/ton fee was ratified. That was in 2007 when the fee increased to $1.50/ton in 2007. For comparison purposes, the statewide generation fee average is $4.50 per ton.

In order to determine if its current fee would provide adequate revenue to fund plan implementation it considered the projections in **Appendix D** which showed a continued decline in the District's population throughout the planning period and a subsequent decline in the amount of residential and commercial waste disposed. It projected future generation fee revenue by deriving a per capita rate for generation fees using 2017 population and generation fee revenue. This yielded a per capita rate of $1.51 which was multiplied by the projected population during each year in the planning period.

This analysis determined that total revenue (generation fees and other revenue) will decline to just over $1.8 million while expenses will increase to over $2.2 million within the first few years of the planning period. This analysis is presented in **Appendix H. Section H-9** in **Table H-9.1**. Revenue Projections and **Table H-9.3**. District Annual Surplus/Deficit and Year-End Balances.

Maintaining the generation fee at the current $1.50 per ton level would require an annual draw down of the District's fund balance to make up the difference between revenues and expenditures – approximately $300,000 - $400,000 annually. This is projected to draw the balance down to under $1 million by the end of 2022 and into a negative by 2025.

In order to ensure overall financial stability, the District determined it needs to maintain a minimum fund balance of $1.5 million to have the ability to encumber contracts, address variability and timing of expenditures and receipts and pay for unforeseen capital expenses, equipment repairs and emergencies. This will ensure the District has 180 days of operating expenses set aside along with enough funds set aside for contract encumbrances.

Maintaining this needed fund balance while providing the District with adequate resources to fund plan implementation will require a modest increase to the generation fee beginning in Year 5 of the planning period. This is when the fund balance is expected to fall below $1.5 million. The District will increase the fee by $0.50 per ton making the new fee, $2.00 per ton beginning in 2023.

The District intends to ratify this generation fee increase as part of its Plan ratification and not through a separate ratification process. The fee schedule and projected revenues is presented in **Table O-2** below. Revenue projections are held constant after 2025 as allowed by the Ohio EPA plan format.

Table O-2: Generation Fee Schedule and Revenue Projections

Table 0-2: Generation Fee Schedule and Revenue			
Year	Actual Fees (A) Projected Fees (P)	Generation Fee Schedule ($/ton)	Total Revenue from Generation Fee
2012	A	$1.50	$1,889,686
2013	A	$1.50	$1,842,887
2014	A	$1.50	$1,902,854
2015	A	$1.50	$1,852,278
2016	A	$1.50	$1,830,535
2017	A	$1.50	$1,854,410
2018	P	$1.50	$1,846,434
2019	P	$1.50	$1,836,519
2020	P	$1.50	$1,826,605
2021	P	$1.50	$1,817,388
2022	P	$1.50	$1,808,171
2023	P	**$2.00**	$2,398,605
2024	P	$2.00	$2,386,315
2025	P	$2.00	$2,374,026
2026	P	$2.00	$2,374,026
2027	P	$2.00	$2,374,026
2028	P	$2.00	$2,374,026
2029	P	$2.00	$2,374,026
2030	P	$2.00	$2,374,026
2031	P	$2.00	$2,374,026
2032	P	$2.00	$2,374,026
2033	P	$2.00	$2,374,026

Historical Generation Fee Revenue Analysis:

As shown on **Table 0-2**, the revenue collected from generation fees by the District in the reference year totaled $1,830,535. That was 6% less than the $1,951,367 projected for 2016 in the current approved Plan. The District reviewed this discrepancy and found that in its current plan, revenue projections were based on State of Ohio population projections at the time which indicated that there would be an annual increase in population through 2020. However, the actual population had steadily declined from 2012-2016. The reference year population was 5% (57,359 people) less than what the District had projected for 2016. This population decline, along with other factors including lingering economic effects of the last recession and increased landfill diversion would explain the projection discrepancy.

The District's analysis of historical generation fee revenue as shown in **Table 0-2.A** which includes the reference year and four prior years, shows that the average annual generation fees collected from 2012 to 2016 totaled $1,863,648 with an overall decline during that period of 1%.

Table 0-2.A: Historical Generation Fee Revenue Analysis					
Average revenue received	Annual change in revenue received		Annual Percentage Change in Revenue Received		Average Percentage Change In Revenue Received
($)	Year	Revenue	Year	%	%
$1,863,648	2012		2012		-1%
	2013	-$46,799	2013	-2%	
	2014	$59,967	2014	3%	
	2015	-$50,576	2015	-3%	
	2016	-$21,743	2016	-1%	

Source: OEPA Annual Fee Summary Reports and District Quarterly Fee Reports (2012-2016).

3. Designation Fees

The District will not use a designation fee to finance its operations during the planning period.

4. Debt/Loans

The District reserves the right to assume debt for any purpose that is in the best interest of the District. The District does not currently have debt but anticipates purchasing its current facility. That decision is still under review by the District's Board. If the decision is made to purchase to reduce long term space costs, then the District will incur debt. **Table 0-4** indicates the anticipated loan terms if the District moves forward with its building purchase.

Table O-4 – Loans

Table O-4: Loans				
Year Debt Was/Will be Obtained	Outstanding Balance	Lending Institution	Repayment Term (years)	Annual Debt Service
2019 (anticipated)	1,200,000	OWDA	15	$99,785

5. Other Sources of Revenue

Other sources of revenue for the District comes from grants, compost bin sales, illegal dumping fines and other miscellaneous sources. Historical and projected revenue totals for each of those sources are shown in **Table O-5**. An explanation of these other revenue sources follows the table and is described in more detail in **Appendix H-9**.

Table 0-5: Other Sources of Revenue

Table 0-5: Other Sources of Revenue						
Year	Revenue Source A: Grants	Revenue Source B: Compost Bin Sales	Revenue Source C: Misc. Revenue	Revenue Source D: Illegal Dumping Fines	Revenue Source E: C&DD Disposal Fees	Total Other Revenue
2012	$112,366	$8,462	$7,105			$127,933
2013	$153,207	$10,215	$5,318			$168,740
2014	$139,373	$10,695	$50,205			$200,273

Table 0-5: Other Sources of Revenue						
Year	Revenue Source A: Grants	Revenue Source B: Compost Bin Sales	Revenue Source C: Misc. Revenue	Revenue Source D: Illegal Dumping Fines	Revenue Source E: C&DD Disposal Fees	Total Other Revenue
2015	$103,945	$8,570	$4,128			$116,643
2016	**$158,406**	**$6,655**	**$1,118**	**$15,750**	**$0**	**$181,928**
2017	$209,906	$9,530	$4,925	$15,750	$0	$240,111
2018	$97,280	$9,000	$3,000	$7,500	$11,000	$127,780
2019	$75,000	$9,000	$3,000	$7,500	$11,000	$105,500
2020	$75,000	$9,000	$3,000	$7,500	$11,000	$105,500
2021	$75,000	$9,000	$3,000	$7,500	$11,000	$105,500
2022	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2023	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2024	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2025	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2026	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2027	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2028	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2029	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2030	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2031	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2032	$0	$9,000	$3,000	$7,500	$11,000	$30,500
2033	$0	$9,000	$3,000	$7,500	$11,000	$30,500

Source: OEPA Annual Fee Summary Reports and District Quarterly Fee Reports (2012-2016)

A. Other Revenue Source A: Grant Revenue

Revenue Source A consists of non-pass through grant revenue. From 2012 through 2017, this consisted primarily of a Northeast Ohio Regional Sewer District (NEORSD) Supplemental Environmental Project (SEP) grant. This grant totaled $1 million and paid for one-half of Districts household hazardous waste program. That grant has been expended but will be replaced with a smaller grant from NEORSD of $75,000 through 2021. The District is not able to predict the continuance of the grant after 2021 or other grant revenue therefore, Revenue Source A becomes $0 after 2021.

B. Other Revenue Source B: Compost Bin Sales

Revenue Source B consists of revenue the District receives by selling compost bins and compost supplies through its composting workshops. Annual sales fluctuate slightly based on the number of workshops held and walk in purchases. To estimate future revenue from compost bin sales, the District averaged the annual sales from 2012-2016 and used this average for the planning period. [Note: the District purchases the compost bins and sells them at its cost therefore, these sales do not represent additional revenue to the District.]

C. Other Revenue Source C: Miscellaneous Revenue

Revenue Source C consists of refunds, reimbursements and income earned from the sale of recyclables such as motor oil and scrap metal. In 2012 and 2013 most revenue came from the sale of phone books

collected in the final years of the District's phonebook recycling program. In 2014, revenue came from the sale of the District's roll off containers and a vehicle which inflated the total for that year. Miscellaneous revenue has historically fluctuated and will continue to fluctuate due to the inconsistent nature of the revenues categorized as miscellaneous. The District conservatively estimated Revenue Source C to be $3,000 annually throughout the planning period.

D. Other Revenue Source D: Illegal Dumping Fines

Revenue Source D consists of court ordered fines resulting from illegal dumping cases indicted through the Cleveland - Cuyahoga County Environmental Crimes Task Force. Beginning in 2015, judges began ordering defendants to pay illegal dumping fines directly to the Cuyahoga County Solid Waste District, the facilitator for the Task Force. Fines pay for equipment such as surveillance cameras. While it is not possible to project future revenue from this source, some revenue is expected continue to be received. The District conservatively estimated this revenue at $7,500 annually.

E. Other Revenue Source E: C&DD Disposal Fees

Revenue Source E consists of the County's share of the C&DD disposal fee - $0.06 on each ton of construction and demolition debris disposed in C&DD landfills within the District. In 2005, when Ohio EPA began assessing fees on all debris disposed in licensed construction and demolition landfills, with local boards of health receiving $0.60 per ton, the Board of Cuyahoga County Commissioners passed a resolution appropriating $0.06 of the local fee. Beginning Q3 of 2017 Cuyahoga County agreed to transfer its share of the fee to the Solid Waste District. The District estimates $7,500 in future annual revenue based on historical averages of C&DD revenue received by the County.

6. Summary of District Revenues

Table O-6 summarizes historical and projected revenues from all sources including generation fee revenue and revenue from other sources described in **Table O-5**. Actual revenue is presented for 2012 – 2017. Estimated revenue is presented for 2018 – 2025 then held constant through 2033 per the plan format.

Table O-6: Total District Revenue

Table O-6: Total District Revenue					
Year	Disposal Fees	Generation Fees	Designation Fees	Other Revenue	Total Revenue
2012	$0	$1,889,686	$0	$127,933	$2,017,619
2013	$0	$1,842,887	$0	$168,740	$2,011,627
2014	$0	$1,902,854	$0	$200,273	$2,103,127
2015	$0	$1,852,278	$0	$116,643	$1,968,921
2016	**$0**	**$1,830,535**	**$0**	**$181,928**	**$2,012,463**
2017	$0	$1,854,410	$0	$240,111	$2,094,521
2018	$0	$1,846,434	$0	$127,780	$1,974,214
*2019	$0	$1,836,519	$0	$105,500	$1,942,019
2020	$0	$1,826,605	$0	$105,500	$1,932,105
2021	$0	$1,817,388	$0	$105,500	$1,922,888
2022	$0	$1,808,171	$0	$30,500	$1,838,671
**2023	**$0**	**$2,398,605**	**$0**	**$30,500**	**$2,429,105**
2024	$0	$2,386,315	$0	$30,500	$2,416,815
2025	$0	$2,374,026	$0	$30,500	$2,404,526

Table O-6: Total District Revenue					
Year	Disposal Fees	Generation Fees	Designation Fees	Other Revenue	Total Revenue
2026	$0	$2,374,026	$0	$30,500	$2,404,526
2027	$0	$2,374,026	$0	$30,500	$2,404,526
2028	$0	$2,374,026	$0	$30,500	$2,404,526
2029	$0	$2,374,026	$0	$30,500	$2,404,526
2030	$0	$2,374,026	$0	$30,500	$2,404,526
2031	$0	$2,374,026	$0	$30,500	$2,404,526
2032	$0	$2,374,026	$0	$30,500	$2,404,526
2033	$0	$2,374,026	$0	$30,500	$2,404,526

* Denotes first year of the planning period.
** Denotes first year of $.50 / ton gen fee increase from $1.50 / ton to $2.00 / ton.

B. Cost of Implementing the Plan

1. Explanation of Historical Expenses

The District compared the projected costs of plan implementation contained in its current Plan Update with actual expenditures. It found that the *projected* annual cost of plan implementation between 2012 and 2016 would average $1,974,210 per year while the *actual* average cost came to $1,989,351. Overall, on average, the District was on track with its projections, despite individual year variations. For instance, reference year expenses totaled $2,286,502 and was $297,000 more than the $1,989,139 projected for 2016. This was due to the implementation of the District-Wide Education/Awareness and Branding campaign which was supposed to cost a total of $500,000 over five years but most costs associated with the campaign were expended in 2016 when the campaign was launched.

While the District's total expenditures were on track with projections, its expenses continued to increase from 2012 to 2016 at an average rate of 7% while the average percent change projected over that five-year period was only 1%. The District attributes this to an increase in administrative costs in 2014 due to an increase in staff salaries and benefits and the cost to implement the District-Wide Education/Awareness and Branding Campaign. This key initiative in the current approved Plan Update was higher than projected because the scope of this project was expanded to include the hiring of a marketing firm, a new website and logo, new District educational materials, and a two-year advertising campaign.

Many cost reduction measures were implemented recently to contain costs. For instance, the District eliminated batteries and bulbs from its District's HHW program and found alternative disposal vendors to reduce costs. In addition, it reduced its annual subsidy to the Board of Health and reduced advertising expenditures by $150,000 beginning in 2018.

2. Plan Implementation Expenses

Table O-7 shows plan implementation expenses beginning in 2012 and through 2033. The table is broken up into two sections for formatting purposes. Actual costs for plan implementation are shown for years 2012 through 2017. Estimated costs are shown for years 2018 through 2025 and then held constant as permitted by the OEPA format. Descriptions and projection explanations for each line item can be found following **Table O-7**.

Table O-7 District Expenses 2012 - 2016					
Line # Category/Program	**2012**	**2013**	**2014**	**2015**	**2016**
1. Plan Monitoring/Prep.	$51,212	$52,123	$27,648	$7,789	$8,929
1.a. Plan Preparation					
1.b. Plan Monitoring	$44,736	$50,379	$25,481	$4,557	$7,313
1.c. Other	$6,477	$1,744	$2,167	$3,232	$1,616
2. Plan Implementation	$1,340,363	$1,538,189	$1,550,956	$1,839,837	$1,979,610
2.a. District Administration	$753,608	$777,886	$845,919	$925,804	$933,529
2.a.1 Personnel	$459,913	$467,647	$518,451	$543,359	$564,835
2.a.2 Office Overhead	$293,695	$310,239	$327,467	$382,445	$368,694
2.a.3Other					
2.b. Facility Operation	$0	$0	$0	$0	$0
2.b.1 MRF/Recycling Center					
2.b.2 Compost					
2.b.3 Transfer					
2.b.4 Special Waste					
2.c. Landfill Closure/Post-Closure					
2.d. Recycling Collection -	$7,024	$21,313	$20,127	$12,063	$2,769
2.d.1 Curbside					
2.d.2 Drop-off	$7,024	$21,313	$20,127	$12,063	$2,769
2.d.3 Combined Curbside/Drop-off					
2.d.4 Multi-family					
2.d.5 Business/Institutional					
2.d.6 Other					
2.e. Special Collections	$318,449	$395,906	$378,011	$403,715	$322,674
2.e.1 Tire Collection	$26,717	$18,975	$47,142	$54,032	$52,384
2.e.2 HHW Collection	$268,655	$347,026	$310,034	$338,892	$253,417
2.e.3 Electronics Collection	$23,078	$29,906	$20,835	$10,792	$16,873
2.e.4 Appliance Collection					
2.e.5 Other Collection Drives					
2.f. Yard Waste/Other Organics					$5,019
2.g. Education/Awareness	$171,707	$251,674	$213,579	$301,000	$583,816
2.g.1 Education Staff					
2.g.2 Advertisement/Promotion	$3,650	$23,327	$20,297	$76,279	$219,321
2.g.3 Other	$168,057	$228,347	$193,282	$224,722	$364,495
2.h. Recycling Market Development	$0	$0	$0	$101,935	$34,395
2.h.1 Market Development				$16,200	$13,765
2.h.2 ODNR pass-through grant				$85,735	$20,630
2.i. Service Contracts					
2.j. Feasibility Studies					
2.k. Waste Assessments/Audits					
2.l. Dump Cleanup					
2.m. Litter Collection/Education	$89,575	$91,409	$93,320	$95,319	$97,407
2.n. Emergency Debris Management					

Table O-7 District Expenses 2012 - 2016					
Line # Category/Program	**2012**	**2013**	**2014**	**2015**	**2016**
2.o. Loan Payment					
2.p. Other					
3. Health Dept. Enforcement	$367,209	$279,725	$238,891	$263,104	$268,230
Cuyahoga County Bd. of Health	$367,209	$279,725	$238,891	$263,104	$268,230
Cleveland Health Department	Inc. above	Inc. above	Inc. above	Inc. above	Inc. above
4. County Assistance	$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	$51,800	$51,408	$29,734
7.a. Heath Departments					
7.b. Local Law Enforcement			$51,800	$51,408	
7.c. Other					$29,734
8. Heath Department Training					
9. Municipal/Township Assistance	$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)	$0	$0	$0	$0	$0
*****Total Expenses*****	**$1,758,784**	**$1,870,037**	**$1,869,295**	**$2,162,138**	**$2,286,502**

Table O-7 Plan Implementation Expenses

Table O-7 District Expenses 2017 - 2033																	
Category/Program	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**
1. Plan Monitoring/Prep.	$59,903	$51,200	$10,600	$20,750	$20,903	$21,059	$21,218	$21,381	$21,546	$21,546	$21,546	$21,546	$21,546	$21,546	$21,546	$21,546	$21,546
1.a. Plan Preparation	$51,163	$40,000	$0	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
1.b. Plan Monitoring	$7,320	$7,500	$7,500	$7,650	$7,803	$7,959	$8,118	$8,281	$8,446	$8,446	$8,446	$8,446	$8,446	$8,446	$8,446	$8,446	$8,446
1.c. Other	$1,420	$3,700	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100	$3,100
2. Plan Implementation	$1,851,509	$1,826,904	$2,362,061	$1,943,768	$1,889,625	$1,906,924	$1,958,194	$1,983,471	$2,003,786	$2,003,786	$2,003,786	$2,003,786	$2,003,786	$2,003,786	$2,003,786	$2,003,786	$2,003,786
2.a. District Admin	$870,931	$933,549	$818,026	$1,014,939	$945,215	$972,881	$1,021,466	$1,031,004	$1,061,526	$1,061,526	$1,061,526	$1,061,526	$1,061,526	$1,061,526	$1,061,526	$1,061,526	$1,061,526
2.a.1. Personnel	$589,122	$598,149	$612,762	$710,657	$734,184	$758,505	$783,647	$809,638	$836,509	$836,509	$836,509	$836,509	$836,509	$836,509	$836,509	$836,509	$836,509
2.a.2.Office Overhead	$281,809	$335,400	$205,264	$284,282	$211,031	$214,377	$217,819	$221,366	$225,017	$225,017	$225,017	$225,017	$225,017	$225,017	$225,017	$225,017	$225,017
2.a.3.Other	**$0**	$0	$0	$20,000	$0	$0	$20,000	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.b. Facility Operation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.b.1. MRF/Recycling Ctr.																	
2.b.2.Compost																	
2.b.3. Transfer																	
2.b.4. Special Wastes																	
2.c. Landfill Closure /																	
2.d. Recycling Collection	$0	$1,000	$1,000	$1,020	$1,040	$1,061	$1,082	$1,104	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126
2.d.1. Curbside																	
2.d.2. Dropoff	$0	$1,000	$1,000	$1,020	$1,040	$1,061	$1,082	$1,104	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126	$1,126
2.d.3. Curbside & Dropoff																	
2.d.4. Multi-Family																	
2.d.5. Business/Institution																	
2.d.6. Other																	
2.e. Special Collections	$354,267	$430,000	$433,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000	$395,000
2.e.1.Scrap Tires	$36,202	$55,000	$58,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000
2.e.2.HHW Collection	$318,065	$375,000	$375,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000	$350,000
2.e.3.Electronics	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.e.4.Appliances																	
2.e.5.Other Collections																	
2.f. Yard Waste/Organics		$15,500	$2,000	$2,000	$15,000	$2,000	$2,000	$15,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000	$2,000
2.g. Education-Awareness	$491,534	$345,250	$330,250	$318,300	$318,606	$318,918	$319,236	$319,561	$319,892	$319,892	$319,892	$319,892	$319,892	$319,892	$319,892	$319,892	$319,892
2.g.1. Education Staff																	
2.g.2. Advertising-Promo.	$235,936	$100,000	$100,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000	$90,000
2.g.3. Other	$255,598	$245,250	$230,250	$228,300	$228,606	$228,918	$229,236	$229,561	$229,892	$229,892	$229,892	$229,892	$229,892	$229,892	$229,892	$229,892	$229,892
2.h. Recycling Market Dev.	$35,140	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2.h.1. Market Developmt.																	
2.h.2. Pass-through grants	$35,140																
2.i. Service Contracts																	
2.j. Feasibility Studies																	
2.k. Waste Audits																	
2.l. Dump Cleanup																	
2.m. Litter Collection-Ed.	$99,637	$101,605	$102,000	$112,724	$114,978	$117,278	$119,624	$122,016	$124,456	$124,456	$124,456	$124,456	$124,456	$124,456	$124,456	$124,456	$124,456
2n. Emergency Debris Mgmt.																	
2.o. Loan Payment			$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785	$99,785

Table O-7 District Expenses 2017 - 2033

Category/Program	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
2.p. Other			$576,000														
3. Health Dept. Enforcement	$248,863	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000	$230,000
Cuyahoga County Bd. of Health	$248,863	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000	$160,000
Cleveland Health Department	inc. above	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000	$70,000
4. County Assistance	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
4.a. Maintaining Roads																	
4.b. Maintaining Facilities																	
4.c. Emergency Services																	
4.d. Other Public Services																	
5. Well Testing	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6. Out-of-State Waste Inspect.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7. Open Dump Enforcement	$11,796	$32,700	$28,700	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000	$25,000
7a. Heath Departments																	
7.b.Local Law Enforcement		$18,700	$18,700	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000	$15,000
7.c. Other	$11,796	$14,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000
8. Heath Dept. Training	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9. Municipal/Township Asst.	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9.a. Maintaining Roads																	
9.b. Maintaining Facilities																	
9.c. Emergency Services																	
9.d. Other Public Services																	
10. Compensation to Affected Community	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
*****Total Expenses*****	**$2,172,070**	**$2,140,804**	**$2,631,361**	**$2,219,518**	**$2,165,528**	**$2,182,983**	**$2,234,412**	**$2,259,851**	**$2,280,332**	**$2,280,332**	**$2,280,332**	**$2,280,332**	**$2,280,332**	**$2,280,332**	**$2,280,332**	**$2,280,332**	**$2,280,332**

3. Explanation of Plan Implementation Expenses

Line Item 1. Plan Monitoring/Preparation

1.a Plan Preparation – includes the cost of a planning consultant contract to assist with the preparation of Plan Updates. From 2020 through 2025 this line item includes an annual amount is set aside for planning services or other consultant services that may be needed for plan implementation or future plan updates.

1.b Plan Monitoring – includes the District's annual subscription for Re-TRAC software used for reporting and maintaining survey data. The District is not able to predict future cost increases but included an annual 2% escalator beginning in 2020 to account for potential increases.

1.c Other – includes the cost to print and mail annual recycling surveys to municipalities, businesses and processors. The projected cost of the District's annual surveying is lowered to $3,100 in 2020 from the budgeted number of $3,700 in 2019 to better reflect historical costs and reduced costs over time as more generators report using Re-TRAC rather than paper surveys.

Line Item 2. Plan Implementation

2.a District Administration

2.a.1 Personnel - includes salaries and benefits (workers compensation, health insurance, PERS and Medicare). The District included a 3% annual increase in personnel costs and a 4% annual increase in the cost of benefits. Benefit costs are the hardest to predict but the District averaged recent increases to come up with the 4% average. This line item also includes funding for an additional position to assist with the implementation of new actions and initiatives contained in this Plan Update beginning in 2020.

2.a.2 Office Overhead - includes lease payments (through 2018), utilities, supplies, fuel, magazine subscriptions, association memberships, office equipment rental (copy and postage machines), other equipment purchase or maintenance (vehicles and tow motors), telephone/cell phones, postage, staff duty travel and training, general printing and legal notices. In addition, in 2020 the District budgeted $75,000 for the development of database software to help the District better organize its data and reporting systems.

[Note: beginning in 2019, the budget accounts for the anticipated purchase of the District's current building that houses its offices and Special Waste Convenience Center. Once the purchase happens, the loan payments will be paid out of line item 2.o. Other costs including utilities, building maintenance, janitorial services, repairs and capital expenses will continue to be paid out of this Office Overhead line item – approx. $110,000 annually.]

2.a.3 Other - includes attorney fees for the Solid Waste District's special counsel. The District has an existing three-year contract with its special counsel that will end in 2019. The budget accounts for a new three-year contract to be executed in 2020 and again in 2023.

2.d Recycling Collection

2.d.2 Drop-off - includes the recyclers' material handling fees for processing the "hard to recycle materials" that the District collects through its Special Waste Convenience Center (election signs, electronics, small appliances and light strands). Residents drop-off these items at the District's facility. The expense in this line item cost is minimal after 2015 because the

advertising and promotion costs for this program are included in line item 2.g.2 after year 2015. The District budged $1,000 for this line item with a 2% escalator.

[Note: An identified opportunity in this plan update is the development of a public/private partnership to establish fiber drop-offs in communities with many multi-family properties. If this partnership is developed, the District will apply for grants for any capital purchases and does not anticipate any operating expenses.]

2.e Special Collections – [Note: all advertising and promotion costs are included in 2.g.2]

2.e.1 Tire Collection - contract for scrap tire collection and disposal related to its Scrap Tire Round-Up and scrap tire cleanups. The District will get a new contract in 2020 and projects a lower annual cost for the service. The amount of tires collected annually is declining as enforcement improves and more residents are instructed to pay for tire disposal at the point of purchase. The District projected a flat cost of $45,000 per year any may phase out the Scrap Tire Round-Up as it describes in Appendix I.

2.e.2 HHW Collection - contract for the operation of the District's HHW program/facility including material handling, processing, transportation and disposal. This is the largest District program which handles about 500,000 lbs. of HHW annually collected by communities from their residents. Projected contract costs beginning 2020 were lowered to $325,000 annually based on previous collection trends, recent cost saving measures and additional cost saving measures identified in Appendix I and Appendix H. This budgeted amount allows for increases in collection but at a lower cost.

2.e.3 Electronics Collection – expenses for electronics collection prior to 2017 included the cost of promoting the Recycle Your Computer Month events held by individual communities. Those costs were included in line item 2.6.2 beginning in 2017 and throughout the planning period. The District has no other expenses related to this program because electronics are collected by individual communities and delivered to a recycling processor who does not charge a fee.

2.f Yard Waste / Other Organics - includes the cost of purchasing compost bins and composting supplies that the District sells to the public through its composting seminars and bin sales. Large purchases of compost bins are made every few years to obtain a volume discount. Supplies such as compost thermometers, pails and turners are purchased annually.

2.g Education/Awareness

2.g.2 Advertisement/Promotion – this includes all District advertising including all paid print, digital, broadcast and social media advertising related to promoting programs services and general recycling education and awareness. Prior to 2016, the District allocated advertising costs to each individual program. Beginning in 2016, all District advertising costs were combined into this line item when it rolled out its new county-wide recycling education and branding campaign. The promotion of individual programs became part of a broader campaign and could no longer be broken out by program. The District budgeted $100,000 annually in 2019 and reduces advertising to $90,000 thereafter as the need for paid advertising gets lower and the District's other forms of outreach increase. Free outreach methods such as its e-newsletter, press releases, social media, blogs and website are effectively reaching new audiences more and more every year.

2.g.3 Other – this includes all other costs associated with delivering District education and awareness programs such as graphic design, printing, brochures, educational materials, classroom supplies, contest prizes and promotional items. In addition, this line item includes $200,000 annually for its two grant programs - Community Recycling Awareness Grant and Recycling Container Grant. Historically, for years 2015-2018 this line item included the cost to develop the District's new website and its marketing consultant contract related to the Branding and Awareness Initiative. Beginning in 2019, this line items lowers to pre-campaign levels. The District will still expend $200,000 annually for its grant programs ($150,000/year for the Community Recycling Awareness Grant and $50,000/year for the Recycling Container Grant). The remaining education and awareness costs other costs will fluctuate annually. The District budgeted for a 3% increase annually for printing/production.

2.h Recycling Market Development

2.h.1 General Market Development Activities – this includes any grants that the District receives that is not passed through. In 2015 and 2016 this included a Scrap Tire Amnesty grant.

2.h.2 Ohio EPA Pass-Through Grant – this includes any pass-through Ohio EPA Market Development Grants received as well as market development grants received from other sources. The District is not able to predict future grant awards so this line item is blank going into the planning period.

2.m Litter Collection/Education – cost of the District's annual contract with Court Community Service to perform county-wide litter collection using two supervised crews of workers assigned community service work. This contract will be expanded in 2020 to increase the number of days the crews work. The contract cost was then increased by 2 percent annually thereafter to cover increases in fuel, supplies and supervisor costs. Other minimal expenses related to litter education including litter clean up kits for schools are included in 2.g.3

2.o Loan Payment – beginning in 2019, this budget accounts for a loan payment towards the purchase of the District's current headquarters building and warehouse (Special Waste Convenience Center) which is currently leased. As described in 2.a.2., the District anticipates that its Board will authorize the purchase and that the purchase would likely take place in 2019. The District retained a real estate consultant to evaluate the long term financial impacts of continuing to lease, purchasing its current building, or moving to new space. The consultants determined that the most cost-effective option was to purchase and prepared a financial forecast to estimate all future costs in doing so. Those costs are accounted for in this budget. The annual loan payment including principal and interest would be $99,785. This figure is contained in the budget for the duration of the planning period. Other costs including utilities, building maintenance, janitorial services, repairs and capital expenses have been accounted for in 2.a.2 – approximately $110,000 annually.

If the District does not purchase its building, the money budgeted for the loan payments will be reallocated to lease payments. Since the average uniform lease payment is expected to be $62,000 per year higher than an annual loan payment, the District would reallocate the portion of its cash balance that it intended to use towards the purchase of its building and use it to pay the extra lease costs instead.

2.p Other – In 2019, this line item contains a one-time expenditure of $576,000 which is the anticipated amount of a down payment plus closing costs and realtor fees related to the

anticipated purchase of the District's building as described above. If the purchase does not take place in 2019, the expenditure will be moved to the actual year of the purchase.

Line Item 3. Health Department Enforcement

The District provides an annual subsidy to the Cuyahoga County Board of Health and the Cleveland Department of Public Health to perform solid waste facility inspections and respond to nuisance complaints. The District plans to keep its subsidy at the current level which is $160,000 annually for the Cuyahoga County Board of Health and $70,000 annually for the Cleveland Health Department for the planning period unless budgetary conditions necessitate a reduction.

Line Items 4-6 No Expenses

Line Item 7. Open Dump, Litter Law Enforcement

7.b Local Law Enforcement - includes an annual grant the District provides to the City of Cleveland to support the Cleveland - Cuyahoga County Environmental Crimes Unit housed within the Cleveland Police Department. The annual grant pays for overtime, training, cell phones and other needs.

7.c Other – includes other costs related to the Cleveland-Cuyahoga County Environmental Crimes Task Force including purchasing supplies, equipment like surveillance cameras and hosting workshops for local law enforcement. Projections are based on average historical expenses.

4. Summary of Expenses by Program

Table 0-8 summarizes the District's planned expenses by program and offers a more concise way to see how the District plans to allocate its resources.

Table 0-8. Summary of Expenses by Program

Program Category	2019	2020	2021	2022	2023	2024	2025
Plan Monitoring /Prep	10,600	20,750	20,903	21,059	21,218	21,381	21,546
District Administration							
Personnel	612,762	710,657	734,184	758,505	783,647	809,638	836,509
Overhead	205,264	284,282	211,031	214,377	217,819	221,366	225,017
Loan Payment	99,785	99,785	99,785	99,785	99,785	99,785	99,785
Other-building purchase	576,000						
Legal		20,000			20,000		
Programs							
Household Hazardous Waste Program	375,000	350,000	350,000	350,000	350,000	350,000	350,000
Scrap Tire Round-Up	58,000	45,000	45,000	45,000	45,000	45,000	45,000
Litter Collection Program	102,000	112,724	114,978	117,278	119,624	122,016	124,456
Organics / Special Wastes	3,000	3,020	16,040	3,061	3,082	16,104	3,126
District Grants	200,000	200,000	200,000	200,000	200,000	200,000	200,000
Advertising / Marketing	100,000	90,000	90,000	90,000	90,000	90,000	90,000
Recycling Ed. / Awareness	30,250	28,300	28,606	28,918	29,236	29,561	29,892
Other Allowable Uses							
Health Dept. Funding	230,000	230,000	230,000	230,000	230,000	230,000	230,000
Environmental Crimes TF	28,700	25,000	25,000	25,000	25,000	25,000	25,000
Total Expenses	2,631,361	2,219,518	2,165,528	2,182,983	2,234,412	2,259,851	2,280,332

5. Budget Summary and Fund Balance Impacts

Table O-9 Budget Summary

Table O-8: Budget Summary				
Year	**Revenue**	**Expenses**	**Annual Surplus/Deficit**	**Fund Balance**
2011			**Ending Balance**	$2,950,492
2012	$2,017,619	$1,758,784	$258,835	$3,209,327
2013	$2,011,627	$1,870,037	$141,590	$3,350,917
2014	$2,103,127	$1,869,295	$233,832	$3,584,749
2015	$1,968,921	$2,162,138	-$193,216	$3,391,533
2016	$2,012,463	$2,286,502	-$274,038	$3,117,495
2017	$2,094,521	$2,172,070	-$77,549	$3,039,946
2018	$1,974,214	$2,140,804	-$166,590	$2,873,356
2019	$1,942,019	$2,631,361	-$689,342	$2,184,014
2020	$1,932,105	$2,219,518	-$287,414	$1,896,600
2021	$1,847,888	$2,165,528	-$317,640	$1,578,960
2022	**$1,838,671**	**$2,182,983**	**-$344,312**	**$1,234,648**
2023	$2,429,105	$2,234,412	$194,693	$1,429,341
2024	$2,416,815	$2,259,851	$156,964	$1,586,305
2025	$2,404,526	$2,280,332	$124,194	$1,710,499
2026	$2,404,526	$2,280,332	$124,194	$1,834,693
2027	$2,404,526	$2,280,332	$124,194	$1,958,887
2028	$2,404,526	$2,280,332	$124,194	$2,083,081
2029	$2,404,526	$2,280,332	$124,194	$2,207,275
2030	$2,404,526	$2,280,332	$124,194	$2,331,469
2031	$2,404,526	$2,280,332	$124,194	$2,455,663
2032	$2,404,526	$2,280,332	$124,194	$2,579,857
2033	$2,404,526	$2,280,332	$124,194	$2,704,051

C. Alternative Budget

The District is not presenting an alternative budget within this Draft Plan Update.

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Appendix P: Designation

A. Statement Authorizing/Precluding Designation

The Board of Directors of the Cuyahoga County Solid Waste Management District 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 Ohio Environmental Protection Agency. In addition, facility designations will be established and governed by applicable District rules.

B. Designated Facilities

The District supports an open market for the collection, transport, and disposal of solid waste. As required in Section 3734.53(A)(13)(a) of the Ohio Revised Code, the District is therefore identifying all Ohio licensed and permitted solid waste landfill, transfer and resource recovery facilities as well as permitted out-of-state landfill, transfer and resource recovery facilities to receive solid waste generated within the District.

The District is not designating any facilities in this Plan Update but reserves the right to designate one or more solid waste facilities to receive solid waste generated within the District if deemed necessary by its Board of Directors. In addition, facility designation will be established and governed by applicable District rules.

C. Waiver Process for the Use of Undesignated Facilities

If the Board elects to designate facilities after this Plan Update is approved by the Director of the Ohio EPA, the following waiver process may be followed by any person, municipal corporation, township or other entity that wishes to deliver waste to a solid waste facility not designated by the District. In the event that any person, municipal corporation, township or other entity requests a waiver to use a facility, other than a designated facility, it must submit a written request for a waiver of designation to the Board. The request must contain the following information;

1. Identification of the persons, municipal corporation, township or other entity requesting the waiver;
2. Identification of the generators(s) of the solid waste for which the waiver is requested;
3. Identification of the type and quantity (TPY) of solid waste for which the waiver is requested;
4. Identification of the time period(s) for which the waiver is requested;
5. Identification of the disposal facility(s) to be used if the waiver is granted;
6. A letter from the receiving solid waste management district acknowledging that the activity is consistent with that District's current plan;
7. An estimate of the financial impact to the District with issuance of the requested waiver; and
8. An explanation of the reason(s) for requesting the waiver.

Upon receipt of the properly completed waiver request, the District will review and request additional information if necessary to conduct its review. The Board shall act on a waiver request within ninety days. A waiver may be granted only if the Board determines that:

1. Issuance of the waiver is not inconsistent with projections contained in the District's approved Plan Update under Section 3734.53 (A)(6) and (A)(7) of the Ohio Revised Code;
2. Issuance of the waiver will not adversely affect implementation and financing of the District's approved Plan Update; and
3. The entity is willing to enter into an agreement requiring the payment of a waiver fee to the District.

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APPENDIX Q: District Rules

A. Existing Rules

According to Ohio Revised Code Section 3734.53(C), "the solid waste management plan of a county or joint district may provide for the adoption of rules under division (G) of section 343.01 of the Revised Code after approval of the plan under section 3734.521 or 3734.55 of the Revised Code."

While the District reserved the authority for the Board to adopt rules within its initial solid waste management plan and within subsequent plan updates, the Board has not yet adopted any rules to implement that authority.

B. Proposed Rules

This Plan Update provides the authority to the Board to adopt, publish, and enforce all of the rule-making powers authorized by Ohio Revised Code Section 343.01 divisions (G)(1), (G)(2), (G)(3) and (G)(4) and section 3734.53 division (C) and include the following authorities:

1. Prohibiting or limiting the receipt of waste generated outside the District,
2. Governing the maintenance, protection and use of solid waste collection, transfer, disposal, recycling or resource recovery facilities,
3. Governing a program to inspect out of state waste; and,
4. Exempting an owner or operator of a solid waste facility from compliance with local zoning requirements.

Such rules shall comply with the legislative authority of the District to promulgate such rules and to regulate solid waste services, facilities and operation of the District in accordance with the Plan or amended Plan of the District and/or as authorized by applicable statutes, governmental regulations, local ordinances and rules of the District as now existing or hereafter enacted or amended.

C. Rule Approval Process

Proposed rules shall follow the steps presented below prior to final approval by the Board of Directors.

1. Public Notice of the proposed rule(s) in The *Plain Dealer* and on the District's website, social media and other publications at its discretion.
2. 30-day public comment period of the proposed rules.
3. A public hearing on the proposed rules shall be conducted.
4. Rule adoption at a Board of Directors meeting.

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APPENDIX R: Survey Forms, Map of Open Dump Sites, Program Rankings

Appendix R contains the following documents:

1. MAP OF OPEN DUMP SITES – [R.C. 3734.53 (A)(4) requires a solid waste management plan to include an inventory of open dumping sites. The District has chosen to include the following map (see next page) which was provided by the City of Cleveland and identifies over 840 cases of open dumping reported to the City from 2015 – 2017. It is important to note that many of these sites have been remediated by the City or prosecuted through the Environmental Crimes Task Force. This map is provided to illustrate the extent of the open dumping problem within the City of Cleveland. The District has the spreadsheet with the corresponding locations and this is available upon request. East Cleveland is the other city within the District that has a major open dumping problem; however, an inventory of open dump sites within East Cleveland is not available. In addition, the following illegal dump locations were provided by Ohio EPA.

   Abouhashem Property
   2285 Ashland Road
   Cleveland, OH 44103

   Arco Recycling Inc. (remediated by Ohio EPA in 2017)
   1705 Noble Rd
   East Cleveland, OH 44112

   Mr T's Painting & Sandblasting Inc.
   123 Bedford Glens Rd
   Bedford, OH 44146

   Wastetran Ltd
   7415 Bessemer Ave
   Cleveland, OH 44127

2. CUYAHOGA COUNTY SOLID WASTE DISTRICT COMMERCIAL AND INSTITUTIONAL SOLID WASTE SURVEY

3. CUYAHOGA COUNTY SOLID WASTE DISTRICT INDUSTRIAL SOLID WASTE SURVEY

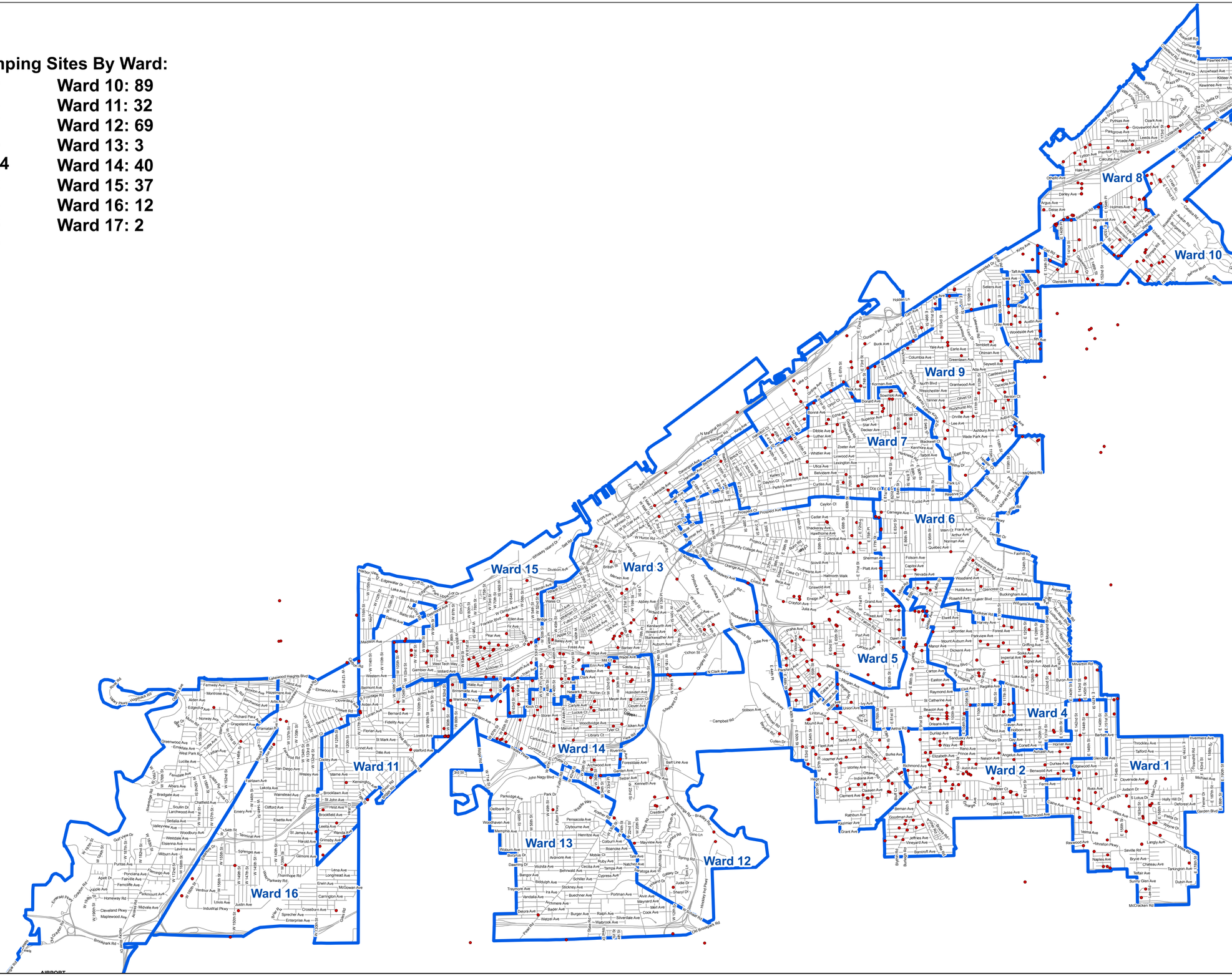
4. CUYAHOGA COUNTY SOLID WASTE DISTRICT RECYCLING ACTIVITIES SURVEY

5. CUYHAOGA COUNTY SOLID WASTE DISTRICT RESIDENTIAL RECYCLING SURVEY / REPORT

6. APPENDIX H, I AND L RANKINGS

Illegal Dumping Sites By Ward:

Ward 1: 59
Ward 2: 78
Ward 3: 57
Ward 4: 36
Ward 5: 104
Ward 6: 52
Ward 7: 38
Ward 8: 56
Ward 9: 29
Ward 10: 89
Ward 11: 32
Ward 12: 69
Ward 13: 3
Ward 14: 40
Ward 15: 37
Ward 16: 12
Ward 17: 2



Illegal Dumping Sites,
Sept. 2017 & CLE Wards

cleveland city planning commission

9/14/17

CUYAHOGA COUNTY SOLID WASTE DISTRICT
COMMERCIAL AND INSTITUTIONAL SOLID WASTE SURVEY
(February 2017)

***This inventory of commercial and institutional solid waste management is being conducted by the Solid Waste District, as required by Ohio EPA**, in order to meet reporting requirements for the state-mandated County Solid Waste Plan Update **(Ohio Revised Code 3734.53 & 56)**. Reponses will be used to calculate the District's progress in meeting state and local recycling goals and to verify information provided by others.*

Instructions: Please complete all of the following tables to the best of your ability. Please return the completed survey by **March 17, 2017**. A postage paid return envelope is enclosed for your convenience.

Note: This survey is only in regard to commercial and institutional recycling generated by your organization's facilities located in Cuyahoga County. Do not include data from any facilities located outside of Cuyahoga County.

Confidentiality: The Cuyahoga County Solid Waste District will use the information in this survey only for summary purposes and to identify types of wastes that may be further reduced or recycled. We will add your answers to those from similar companies.

If you have any questions regarding the completion of this survey please call: Jessica Fenos (216-443-3728) at the Solid Waste District.

Part I – General Information

Name of Company / Institution_____

Mailing Address_____

City / State / Zip_____

Survey For: (check one) ☐ All Locations in Cuyahoga County ☐ This Location Only

Number of Employees_____ NAICS Code*_____

Survey Completed by_____ Title_____

Phone(____)_____ Email Address**_____ Fax(____)_____

RECYCLING: The systematic collection, sorting, decontaminating and returning of waste materials to commerce as commodities for use or exchange. Recycling also means to use, reuse, or reclaim a material.

* If you do not know your NAICS Code please check at **https://www.naics.com/search/**
**Please note that your email address will not be sold to any company or organization. Email address will be used for follow-up purposes only by the Cuyahoga County Solid Waste District.

Part II – Recycling

Table 1a – List the totals for each material **recycled** by your organization in 2016. Please include the name of the recycling company or facility where each material was taken for processing. This data is used to calculate the District's progress in meeting state and local recycling goals. **Enter the data in pounds or tons (2000 pounds = 1 ton).** You can estimate the quantities of **each type** of material recycled. Standard conversion from cubic yards to tons is: 3 cy = 1 ton. **If you do not have specific values, use Table 1b to estimate the amount of materials recycled.**

TABLE 1a: AMOUNT RECYCLED IN 2016		
TYPES OF RECYCLED MATERIALS	**TOTAL RECYCLED (specify if pounds or tons)**	**NAME OF RECYCLER / PROCESSOR**
Fiber		
Office /Mixed Paper		
Newsprint		
Cardboard		
Other Paper (specify)		
Wood		
Wood Pallets		
Boardends and Wood Scrap		
Sawdust		
Other Wood (specify)		
Nonferrous Metals		
Aluminum Cans		
Aluminum Scrap		
Copper		
Other Nonferrous Metals (specify)		
Ferrous Metals		
Steel Cans		
Steel Drums		
Steel Scrap		
Other Ferrous Metals (specify)		
Glass		
Glass		
Plastics		
PETE (#1)		
HDPE (#2)		
Vinyl (#3)		
LDPE (#4)		
Polypropylene (#5)		
Polystyrene (#6)		
Composite Plastics (#7)		
Other Plastics (specify)		
Plastic Pallets & Packaging		
Comingled (Mixed) Recyclables		
Comingled (Mixed) Recyclables		
Rubber		
Tires		
Other Rubber (specify)		
Organics		
Food Composting		
Yard Waste Composting		
Animal Waste Composting		
Textiles and Furniture		
Cloth & Fabrics		
Furniture		

Table Continued on Next Page

TYPES OF RECYCLED MATERIALS	TOTAL RECYCLED (specify if pounds or tons)	NAME OF RECYCLER / PROCESSOR
Misc. Other		
Computers / Electronics		
Ink/Print Cartridges		
Litho / Photo Film		
Stone / Clay / Sand		
Non-Exempt Foundry Sand / Slag		
Concrete		
Composites		
Lead Acid Batteries		
Other Batteries (specify)		
Fluorescent Bulbs		
Ballasts		
Motor Oil		
Antifreeze		
Other (specify)		
Other (specify)		
Other (specify)		
Other (specify)		
Other (specify)		

Table 1b – Recycling Material in Dumpster – If you were unable to complete Table 1a, Table 1b is a method by which your organization's annual **recycling** can be estimated by the District.

Table 1b: Recycling Estimation				
Dumpster / Location	**Material Recycled**	**No. of Pickups per Week**	**Size of Dumpster (cubic yards)**	**Name of Recycler / Processor**
Example: Dumpster #1	Cardboard	2	8	The ABC Recycle Company

Would you like to receive information about recycling, waste reduction, waste cost reduction, or any other waste related issues?

☐ Yes ☐ No

For more information you may also visit our website at: www.CuyahogaRecycles.org or contact Doreen Schreiber, Business Recycling Specialist at 216-443-3732 or dschreiber@cuyahogacounty.us

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Thank you for your cooperation. Please return your completed survey by **March 17, 2017** either by fax to 216-478-0014, or by mail in the enclosed postage-paid envelope to:

CUYAHOGA COUNTY SOLID WASTE DISTRICT
4750 EAST 131st STREET
CLEVELAND, OH 44105-9987

CUYAHOGA COUNTY SOLID WASTE DISTRICT
INDUSTRIAL SOLID WASTE SURVEY
(February 2017)

***This inventory of industrial solid waste management is being conducted by the Solid Waste District, as required by Ohio EPA**, in order to meet reporting requirements for the state-mandated County Solid Waste Plan Update **(Ohio Revised Code 3734.53 & 56**). Reponses will be used to calculate the District's progress in meeting state and local recycling goals and to verify information provided by others.*

Instructions: Please complete all of the following tables to the best of your ability. Please return the completed survey by **March 17, 2017**. A postage paid return envelope is enclosed for your convenience.

Note: This survey is only in regard to industrial recycling generated by your organization's facilities located in Cuyahoga County. Do not include data from any facilities located outside of Cuyahoga County.

Confidentiality: The Cuyahoga County Solid Waste District will use the information in this survey only for summary purposes and to identify types of wastes that may be further reduced or recycled. We will add your answers to those from similar companies.

If you have any questions regarding the completion of this survey please call: Jessica Fenos (216-443-3728) at the Solid Waste District.

Part I – General Information

Name of Company / Institution_____

Mailing Address_____

City / State / Zip_____

Survey For: (check one) ☐ All Locations in Cuyahoga County ☐ This Location Only

Number of Employees_____ NAICS Code*_____

Survey Completed by_____ Title_____

Phone(____)_____ Email Address**_____ Fax(____)_____

RECYCLING: The systematic collection, sorting, decontaminating and returning of waste materials to commerce as commodities for use or exchange. Recycling also means to use, reuse, or reclaim a material.

* If you do not know your NAICS Code please check at **https://www.naics.com/search/**
**Please note that your email address will not be sold to any company or organization. Email address will be used for follow-up purposes only by the Cuyahoga County Solid Waste District.

Part II – Recycling

Table 1a – List the totals for each material **recycled** by your organization in 2016. Please include the name of the recycling company or facility where each material was taken for processing. This data is used to calculate the District's progress in meeting state and local recycling goals. **Enter the data in pounds or tons (2000 pounds = 1 ton).** You can estimate the quantities of **each type** of material recycled. Standard conversion from cubic yards to tons is: 3 cy = 1 ton. **If you do not have specific values, use Table 1b to estimate the amount of materials recycled.**

TABLE 1a: AMOUNT RECYCLED IN 2016		
TYPES OF RECYCLED MATERIALS	**TOTAL RECYCLED (specify if pounds or tons)**	**NAME OF RECYCLER / PROCESSOR**
Fiber		
Office /Mixed Paper		
Newsprint		
Cardboard		
Other Paper (specify)		
Wood		
Wood Pallets		
Boardends and Wood Scrap		
Sawdust		
Other Wood (specify)		
Nonferrous Metals		
Aluminum Cans		
Aluminum Scrap		
Copper		
Other Nonferrous Metals (specify)		
Ferrous Metals		
Steel Cans		
Steel Drums		
Steel Scrap		
Other Ferrous Metals (specify)		
Glass		
Glass		
Plastics		
PETE (#1)		
HDPE (#2)		
Vinyl (#3)		
LDPE (#4)		
Polypropylene (#5)		
Polystyrene (#6)		
Composite Plastics (#7)		
Other Plastics (specify)		
Plastic Pallets & Packaging		
Comingled (Mixed) Recyclables		
Comingled (Mixed) Recyclables		
Rubber		
Tires		
Other Rubber (specify)		
Organics		
Food Composting		
Yard Waste Composting		
Animal Waste Composting		
Textiles and Furniture		
Cloth & Fabrics		
Furniture		

Table Continued on Next Page

TYPES OF RECYCLED MATERIALS	TOTAL RECYCLED (specify if pounds or tons)	NAME OF RECYCLER / PROCESSOR
Misc. Other		
Computers / Electronics		
Ink/Print Cartridges		
Litho / Photo Film		
Stone / Clay / Sand		
Non-Exempt Foundry Sand / Slag		
Concrete		
Composites		
Lead Acid Batteries		
Other Batteries (specify)		
Fluorescent Bulbs		
Ballasts		
Motor Oil		
Antifreeze		
Other (specify)		
Other (specify)		
Other (specify)		
Other (specify)		
Other (specify)		

Table 1b – Recycling Material in Dumpster – If you were unable to complete Table 1a, Table 1b is a method by which your organization's annual **recycling** can be estimated by the District.

Table 1b: Recycling Estimation				
Dumpster / Location	**Material Recycled**	**No. of Pickups per Week**	**Size of Dumpster (cubic yards)**	**Name of Recycler / Processor**
Example: Dumpster #1	Cardboard	2	8	The ABC Recycle Company

Would you like to receive information about recycling, waste reduction, waste cost reduction, or any other waste related issues?

☐ Yes ☐ No

For more information you may also visit our website at: www.CuyahogaRecycles.org or contact Doreen Schreiber, Business Recycling Specialist at 216-443-3732 or dschreiber@cuyahogacounty.us

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Thank you for your cooperation. Please return your completed survey by **March 17, 2017** either by fax to 216-478-0014, or by mail in the enclosed postage-paid envelope to:

CUYAHOGA COUNTY SOLID WASTE DISTRICT
4750 East 131st Street
Cleveland, OH 44105-9987

CUYAHOGA COUNTY SOLID WASTE DISTRICT
RECYCLING ACTIVITIES SURVEY
(Calendar Year 2016)

This inventory of recycling activities (by brokers, processors, scrap yards, etc.) is being conducted by the Solid Waste District, as required by Ohio EPA*, in order to meet reporting requirements for the state-mandated County Solid Waste Plan Update* ***(Ohio Revised Code 3734.53 & 56****). Reponses will be used to calculate the District's progress in meeting state and local recycling goals and to verify information provided by others.*

Instructions: Please complete all of the following questions to the best of your ability. Please return the completed survey by **February 17, 2017**.

Note: This survey is only in regard to your company's facilities that receive recyclables from Cuyahoga County. Do not include data on recyclables received from outside of Cuyahoga County.

If you have any questions regarding the completion of this survey please call: Jessica Fenos at the Solid Waste District at 216-443-3728.

Part I – General Information

Name of Recycling Facility _____

Mailing Address_____

City / State / Zip_____

Survey Completed by_____ Title_____

Phone (____)_____ Fax (____)_____

Email Address_____

If your company operates more than one facility that receives recyclables from Cuyahoga County (for example one which may be out of state or in a different county in Ohio), please copy this survey and complete a separate form for each facility.

Facility Location, if different from mailing address:

Street Address_____

City / State / Zip_____

Phone (_____)_____

Part 2 – Recycling Activities in 2016

1. Please identify the nature of your recycling activity. Circle all that apply. A detailed definition of terms is available on the Cuyahoga County Solid Waste District website: www.CuyahogaRecycles.org

1	Broker	5	Buy-Back Recycling Center
2	End-User	6	Materials Recovery Facility
3	Processor	7	Drop-Off Recycling Center
4	Scrap Yard	8	Auto Body Processor
5	Construction/Demolition Debris Recycler	9	Other (specify) _____

2. Is your facility: ☐ Open to the public ☐ For private use only

3. Did your company / organization process any recyclable materials generated within **CUYAHOGA COUNTY** in 2016? ☐ Yes ☐ No
A list of communities in Cuyahoga County is provided below.

If no, please return this survey in the envelope provided or fax it to 216-478-0014. Thank you.

If yes, please complete the remainder of this survey. Please complete a separate form for each recycling facility run by your company. You may copy this survey or call the Solid Waste District for additional copies.

Communities in Cuyahoga County					
1	Bay Village	21	Garfield Hts.	41	Olmsted Falls
2	Beachwood	22	Gates Mills	42	Olmsted Twp.
3	Bedford	23	Glenwillow	43	Orange
4	Bedford Hts.	24	Highland Hts.	44	Parma
5	Bentleyville	25	Highland Hills	45	Parma Hts.
6	Berea	26	Hunting Valley	46	Pepper Pike
7	Bratenahl	27	Independence	47	Richmond Hts.
8	Brecksville	28	Lakewood	48	Rocky River
9	Broadview Hts.	29	Linndale	49	Seven Hills
10	Brook Park	30	Lyndhurst	50	Shaker Hts.
11	Brooklyn	31	Maple Hts.	51	Solon
12	Brooklyn Hts.	32	Mayfield Village	52	South Euclid
13	Chagrin Falls	33	Mayfield Hts.	53	Strongsville
14	Chagrin Falls Twp.	34	Middleburg Hts.	54	University Hts.
15	Cleveland	35	Moreland Hills	55	Valley View
16	Cleveland Hts.	36	Newburgh Hts.	56	Walton Hills
17	Cuyahoga Hts.	37	North Olmsted	57	Warrensville Hts.
18	East Cleveland	38	North Randall	58	Westlake
19	Euclid	39	North Royalton	59	Woodmere
20	Fairview Park	40	Oakwood		

Part 3 – Materials Processed at your facility in 2016 from <u>Cuyahoga County Sources</u>

Identify the types and quantity of materials recycled/reused during 2016 that were derived from Cuyahoga County sources. Use quantity abbreviations listed which are most appropriate for your operation. Please attach additional information as needed. **EXCLUDE:** *<u>train boxcars, metals from demolition activities, and ferrous metals resulting from salvage operations conducted by licensed motor vehicle salvage dealers (auto parts and bodies).</u>*

"T" = tons "G" = gallons "CY" = cubic yards "Lbs" = pounds "UN" = units

Check Materials Processed	Materials Processed	Amount Recycled RESIDENTIAL (Include Units)	Amount Recycled COMMERCIAL (Include Units)	Amount Recycled INDUSTRIAL (Include Units)	Total Amount Processed (Include Units)
	PAPER				
	Newsprint				
	Cardboard				
	All Other Paper				
	METALS				
	Aluminum beverage cont.				
	Aluminum scrap				
	Copper				
	All Other Non-ferrous Metals				
	Bi-metal/tin food cans				
	Steel (cans, drums, scrap)				
	White goods				
	All Other Ferrous				
	PLASTICS				
	PETE (#1)				
	HDPE (#2)				
	LLDPE (#3)				
	PVC (#4)				
	Polypropylene (#5)				
	Polystyrene (#6)				
	All Other Plastic				
	Glass				
	Tires				
	All Other Rubber				
	Stone / Clay / Sand				
	Non-Exempt Foundry Sand / Slag				
	Concrete				
	Composites				
	Wood Pallets & Packaging				
	All Other Wood				
	Furniture				
	Lead Acid Batteries				
	All Other Batteries				
	Computers / Electronics				
	Food Wastes (including napkins, coffee filters, etc.)				
	Textiles - Cloth & Fabric				
	Litho / Photo Film				
	Yard Waste				
	Other (specify)				
	Other (specify)				

Part 4 – Destination of Recyclables in 2016

Were any of the recyclables received at your facility from Cuyahoga County sold, donated, or exchanged to another recycling facility or end-user in Cuyahoga County in 2016? ☐ Yes ☐ No

If YES, identify those facilities below and list the recyclables sold/donated as well as the quantity of each and specify the appropriate unit:

"G" = gallons "CY = cubic yards "Lbs" = pounds "UN" = number of units "T" = tons

Name of Receiving Facility or End-User	Recyclable Materials	Quantity

Thank you for taking the time to complete this survey. Please return this form (keep a copy for yourself) via fax to 216-478-0014 or by mail in the envelope provided to:

CUYAHOGA COUNTY SOLID WASTE DISTRICT
4750 EAST 131st STREET
GARFIELD HEIGHTS, OH 44105

Cuyahoga County
SOLID WASTE DISTRICT

2016 Residential Recycling Report

Instructions

The 2016 Residential Recycling Report is a means by which the Cuyahoga County Solid Waste District will gather information on the recycling services provided by your community or your private contractor.

Please take a moment to review the forms. There is a page for each of the following:

Sheet

1 **Instructions**
2 **Community Background/Contact Information Sheet**
3 **Curbside Recycling** – Provide information about your residential curbside recycling programs.
4 **Drop-Off Recycling** – Provide information about your residential drop-off recycling programs.
5 **In-House Facility Recycling** – Provide information about recycling programs of the political subdivision's departments and agencies.
6 **Recycling & Disposal Data** - Provide annual tonnages for any materials recycled and/or composted through your community's curbside, drop-off, and in-house programs, and your community's annual tonnage of trash that was landfilled.

We would appreciate as much detail as you can provide. Check the appropriate boxes, complete any blanks, and list the tonnages collected in 2016 for all applicable materials.

Your community's annual information is due to the District by: FRIDAY, FEBRUARY 24, 2017.

Keep a copy of these forms for your records. If you have any questions or concerns, contact Jessica Fenos at (216) 443-3728. Please return the 2016 Residential Recycling Report forms via email to: jfenos@cuyahogacounty.us

Cuyahoga County
SOLID WASTE DISTRICT

Community: Background/Contact Information Sheet

Community Name : _____

Individual Responsible for Completing 2016 Residential Recycling Report

Name: _____
Title: _____
Telephone number: _____
Fax: _____
Email: _____

Community population _____
Number of residential units: _____
Number of residential units that have access to curbside recycling: _____

Who collects your community's trash? (Check one)

_____ You
_____ Private contractor _____ (Contractor's Name)
Length of the contract for trash collection is _____ years
The contract for trash collection terminates or _____ (month/day/year)
Automated or Manual trash collection _____

How is your community's trash collection service funded?

_____ General fund
_____ Resident Charge Back
  Who is the biller? _____ Hauler _____ City/Village/Twp
  How much? _____
  How often? _____
_____ Property tax assessment
  How much? _____
  How often? _____
_____ Tax levy
  How much? _____
  How often? _____
_____ Other (explain) _____

How does your community promote your residential recycling programs?

Cuyahoga County
SOLID WASTE DISTRICT

Curbside Recycling Program for Single Family and Multi-Family Units

Community Name : _____

Who collects the recyclables from the single/multi-family units?

_____ You
_____ A private contractor _____ (Contractor's Name)
_____ No curbside recycling offered

Where are the recyclables placed for collection?

_____ Curb
_____ Other (explain) _____

Automated or Manual recyclable collection? _____

How often are recyclables collected from the single/multi-family units?

_____ Collected weekly _____ Collected every other week _____ Collected monthly
_____ Other frequency (explain) _____

How are the recyclables set out for collection? (Check ALL that apply)

_____ ALL recyclables are commingled in a:
_____ bag _____ bin/bucket _____ wheeled cart
_____ Cans, glass & plastics are commingled in a:
_____ bag _____ bin/bucket _____ wheeled cart
_____ Residential mixed paper (RMP) is placed in a brown paper bag and then placed next to the other recyclables.
_____ Newspapers are collected separate from RMP and other recyclables.
_____ Cardboard (OCC) is collected separate from RMP and other recyclables.
_____ Other (explain) _____

Does your community offer curbside recycling for clothing and household goods?

_____ Yes
_____ No

Who collects?

_____ A private contractor _____ (Contractor's Name)
_____ City/Village/Twp

Yard Waste Composting

Is residential yard waste collected separate from solid waste, so that it may be composted?

_____ Yes
_____ No

Who collects?

_____ A private contractor _____ (Contractor's Name)
_____ City/Village/Twp

Continued on next page

Cuyahoga County
SOLID WASTE DISTRICT

What materials are collected for composting? (Check ALL that apply)

_____ Brush _____ Holiday Trees _____ Logs
_____ Grass _____ Leaves

Are residential leaves vacuumed from the curb?

_____ Yes
_____ No

How often is residential yard waste collected for composting?

_____ Year-round
Specify frequency (example: weekly) _____
_____ Seasonal
Specify frequency: (example: weekly from Apr. 1st – Nov. 1st _____

List the names of ALL facilities/sites your community used for composting in 2016.

Cuyahoga County
SOLID WASTE DISTRICT

Drop-Off Recycling Program

Community Name : _____

Does your community offer drop-off recycling services to your residents?

_____ Yes _____ No

List ALL drop-off locations, excluding Paper Retriever bin locations.

1) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?

_____ You

_____ A private contractor _____ (Contractor's Name)

Hours of Operation _____

Is this drop-off restricted only to community residents?

_____ Yes _____ No

Is there any money raised from the sale of the drop-off recyclables?

_____ Yes _____ No

2) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?

_____ You

_____ A private contractor _____ (Contractor's Name)

Hours of Operation _____

Is this drop-off restricted only to community residents?

_____ Yes _____ No

Is there any money raised from the sale of the drop-off recyclables?

_____ Yes _____ No

3) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?

_____ You

_____ A private contractor _____ (Contractor's Name)

Cuyahoga County
SOLID WASTE DISTRICT

Hours of Operation _____

Is this drop-off restricted only to community residents?

_____ Yes _____ No

Is there any money raised from the sale of the drop-off recyclables?

_____ Yes _____ No

4) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?

_____ You

_____ A private contractor _____ (Contractor's Name)

Hours of Operation _____

Is this drop-off restricted only to community residents?

_____ Yes _____ No

Is there any money raised from the sale of the drop-off recyclables?

_____ Yes _____ No

5) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?

_____ You

_____ A private contractor _____ (Contractor's Name)

Hours of Operation _____

Is this drop-off restricted only to community residents?

_____ Yes _____ No

Is there any money raised from the sale of the drop-off recyclables?

_____ Yes _____ No

6) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?

_____ You

_____ A private contractor _____ (Contractor's Name)

Hours of Operation _____

Cuyahoga County
SOLID WASTE DISTRICT

Is this drop-off restricted only to community residents?
_____ Yes _____ No
Is there any money raised from the sale of the drop-off recyclables?
_____ Yes _____ No

7) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?
_____ You
_____ A private contractor _____ (Contractor's Name)
Hours of Operation _____
Is this drop-off restricted only to community residents?
_____ Yes _____ No
Is there any money raised from the sale of the drop-off recyclables?
_____ Yes _____ No

8) _____

What materials are collected at this location? _____

_____

Who collects the recyclables from the drop-off location?
_____ You
_____ A private contractor _____ (Contractor's Name)
Hours of Operation _____
Is this drop-off restricted only to community residents?
_____ Yes _____ No
Is there any money raised from the sale of the drop-off recyclables?
_____ Yes _____ No

Cuyahoga County
SOLID WASTE DISTRICT

In-House Facility Recycling Program

Community Name : _____

Do any of the community's departments/agencies/facilities participate in any type of recycling program/activities?

_____ Yes
_____ No

Who participates in a recycling program/activity?

_____ City Hall
_____ Service Department
_____ Recreation Department
_____ Parks Department
_____ Police Department
_____ Fire Department
_____ Other

How many employees participate in the in-house program(s)?_____ people

Who collects the recyclables from the internal facility recycling program?

_____ You
_____ A private contractor _____ (Contractor's Name)
_____ Nobody

Is there any money raised from the sale of the in-house recyclables?

_____ Yes
_____ No

Cuyahoga County
SOLID WASTE DISTRICT

2016 Community Recycling & Disposal Data

Community Name: _____

Materials Collected	Curbside	Drop-Off	In-House	TOTAL TONS RECYCLED
Fiber				
Cardboard				-
Newsprint				-
Office Paper				-
Paper Retriever (Drop-Off Only)				-
Residential Mixed Paper (RMP)				-
Other Fiber				-
Metals				
Aluminum & Bi-metal Cans				-
Tin Cans				-
Scrap Metal				-
White Goods / Appliances				-
Plastics				
PET #1				-
HDPE #2				-
#3 - #7 Plastics				-
Other Plastics				-
Glass				
Glass				-
Comingled materials				
Cans + Plastics				-
Cans + Plastics + Glass				-
Cans + Plastics + Glass + Fiber				-
Miscellaneous				
Furniture				-
Clothing/Fabric/Textiles				-
Carpet Padding				-
Campaign/Election Signs				-
Holiday Lights				-
Special Waste (Recycled outside of the Solid Waste District Sponsored Programs)				
Computers				-
Fluorescent Tubes				-
Lead Acid Batteries (wet cell)				-
Household Batteries (dry cell)				-
Gas/Solvents				-
Motor Oil				-
Antifreeze				-
Tires				-
TOTAL TONS RECYCLED	-	-	-	-

Cuyahoga County
SOLID WASTE DISTRICT

*District Sponsored Collections	
*Computer Round-Up	
*HHW Round-Up	
*Tire Round-Up	
TOTAL TONS RECYCLED	**-**

*Use the tonnages provided by the District

Materials Collected	Curbside	Drop-Off	In-House	TOTAL TONS COMPOSTED
Yard Waste				
Leaves				-
Brush (chipped & whole)				-
Holiday Trees				-
Grass Clippings				-
Logs				-
Grasscycling				-
Backyard Composting				-
TOTAL TONS COMPOSTED	**-**	**-**	**-**	**-**

SOLID WASTE LANDFILLED	
TOTAL TONS DISPOSED	

GRAND TOTALS		
0.00	**0.00**	**#DIV/0!**
TONS RECYCLED	**TONS LANDFILLED**	**% RECYCLED**

Additional information and/or Comments

Program Category	#	Action or Program Name	District Recommendation
H-1 Residential Recycling Infrastructure			
Curbside Recycling Services	1	Help "blue bag" communities evaluate feasibility of converting to carts	4
	2	Help North Randall establish curbside recycling	4
	3	Special Grant -Target education in select lower performing communities using all District resources	5
	4	Conduct focus groups for residents in lower performing communities to identify causes	4
	5	Target education in communities with high contamination	3
Drop-off Recycling Services	6	Public-Private-Partnership to Establish Fiber Drop-off Sites	3
	7	Survey Drop-Off Site Participants	3
	8	Audit Recycling Drop-Offs to Investigate Contamination	2
	9	Educate Users about the Relationship between Contamination and Program Sustainability	5
Multi-Family Housing		Establish fiber recycling drop-offs in high MFH communities (same as #6)	3
	10	Create MFH Recycling Guide	3
	11	Develop model ordinance to require MFH recycling	4
	12	Facilitate joint recycling contracting for MFH	3
	13	Charge for District MFH consulting services	1
	14	Provide Incentive Grants for MFH	2
H-2 and H-3 Commercial/Institutional and Industrial Sector Reduction/Recycling			
	15	Use a more strategic approach to target businesses for assistance	4
	16	Evaluate business recycling programs after District assistance	4
	17	Facilitate commercial sector consortiums	3
	18	Collaborate with economic development directors in communities	5
	19	Collaborate with trade associations and industrial retention organizations	4
	20	Charge a waste audit fee	1
	21	Provide zero waste planning services for industry	4
	22	Promote Ohio Materials Marketplace	5
	23	Target small industries	4
H-4 Res/Com Waste Composition Analysis			
Fiber Recovery	24	Target education for commercial sector fiber generators	4
Yard Waste	25	Facilitate a municipal yard waste contracting consortium	3
Food Waste	26	Target high volume food waste generators	2
	27	Engage stakeholders to expand food rescue programs	4
Glass	28	Explore opportunities for a privately owned and operated glass MRF	2
H-5 Economic Incentive Analysis			
PAYT	29	Target education of potential PAYT communities	2
CRAG Grant	30	Restructure the grant to increase funding for cart purchases	2
	31	Restructure the grant to offer more money to underperforming communities	4
	32	Provide procurement assistance for shred day services	3
	33	Increase Amount of money a city can apply for to keep up with inflation	3
Container Grant	34	Follow up with grant recipients in Yr 2	5

Ranking 1-2: means no implementation Ranking 3: means the District reserves the right to implement but does not guarantee Ranking 4-5: Means the District will implement

Program Category	#	Action or Program Name	District Recommendation
H-6 Restricted/Difficult to Manage Wastes			
Scrap Tires	35	Eliminate or Phase out the Scrap Tire Round-Up and establish consortium for disposal	3
	36	Enhance data collection re scrap tire facility generators	4
	37	Target education of residents about proper tire disposal	4
	38	Target education of scrap tire generators (In-store posters)	4
	39	Create a report a dumper feature on District web site or other web site	3
	40	Explore feasibility of establishing a scrap tire transfer station	3
	41	Increase scrap tire dumping enforcement	4
	42	Work with retailers to incorproate disposal price into the new tire purchase price	2
HHW	43	Target education to promote proper purchaseing and green alternatives	4
	44	Evaluate staffing for HHW program (private/District or combo)	3
	45	HHW Contractor Oversight	4
	46	Evaluate feasibility of implementing a CESQG and Universal Waste Program	3
	47	Evaluate feasibility of implementing HHW Reuse Program	2
	48	Consortium for bulb disposal (from survey to address complaints about eliminating bulbs)	3
	49	Obtain HHW participation data	3
Computers and E-Waste	50	Provide CRT Subsidy to RET3	2
	51	Collect and Landfill CRTs as Bulky Waste	4
	52	Charge cities for CRT recycling	3
Pharmaceuticals	53	Promote existing collection programs offered by NEORSD and Sheriff office	5
Batteries	54	Promote existing collection programs offered by Call 2 Recycle	5
Health Department Code Enforcement	56	Expand inspectons to include scrap tire facilites	4
Environmental Crimes Task Force	57	Develop a Clean-Up Fund for Open Dump Sites	2
	58	Work with ECTF partners and legislators to help create a Cleveland Environmental Court	4
	59	Work with ECTF partners to evaluate feasibility of creating a special EC court docket	4
	60	Seek changes to Ohio open dumping statute to provide more leeway in sentencing	4
Litter Collection	61	Evaluate reasons why some communities do not participate	1
	62	Increase collection frequency	3
	63	Facilitate Targeted Clean Ups	2
H-12 Data Collection			
Comemrcial Industrial Surveys	64	Expand Commercial/Industrial Survey List	4
	65	Work with targeted businesses and conduct site visits	5
	67	Database development	4
H-13 Education and Outreach Analysis			
Web Site	68	External benchmarking of web site analytics	3
	69	Internal benchmarking of web site analytics	4
	70	Make it easier to find Pass it On and facilityand inventory lists on web site	4
	71	Create a strategy for targeting school presentations	4

Ranking 1-2: means no implementation Ranking 3: means the District reserves the right to implement but does not guarantee Ranking 4-5: Means the District will implement

Program Category	#	Action or Program Name	District Recommendation
School Presentations	72	Work with schools to estblish recycling before presentations are offered	4
	73	Use Results of Educator Survey to Improve Education Programming	4
	74	Hold meetings for adminsrators to increase support for recycling programs	4
Audience #1 - Residents	75	Targeted outreach for unerperforming communities	5
	76	Recruit Master Recyclers from underperforming communities	4
Audience #2- Schools	77	Reaach new student populations	4
	78	Pilot test mailing the teacher newletter to see if increases response over email	3
	79	Work to influence STEM curriculum to incorporate recycling and sustainability	3
Audience #3- Business, Institutions, Industry	80	Use LinkedIn to build business audience	5
	81	Waste audit commitment boost	1
	82	Zero waste planning	3
	83	Promote Ohio Materials Marketplace	4
Audience #4 Communities, Local Officials	84	Efficient Information and Communication	5
	85	Offer Educational Tours of Recycling Facilities	5

Ranking 1-2: means no implementation Ranking 3: means the District reserves the right to implement but does not guarantee Ranking 4-5: Means the District will implement

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APPENDIX S: Siting Strategy

The Board of Directors of the Cuyahoga County Solid Waste Management District is authorized by Revised Code section 343.01(G)(2) to adopt a rule requiring the submission of general plans and specifications to the Board for a determination by the Board that any proposed new solid waste facility or major existing facility modification complies with the District Plan. This Plan Update authorizes the Board to adopt the rule authorized Revised Code section 343.01(G)(2). In the event that the Board adopts a rule to implement a Siting Strategy, such Siting Strategy shall be as follows:

Siting Strategy

I. Definitions:

For the purposes of this section, the following definitions shall apply:

a. *Solid Waste Facility* shall mean all solid waste collection, storage, disposal, transfer, recycling, processing, and resource recovery facilities as defined by Ohio EPA.

b. *Siting Strategy* shall mean the process by which the Board of Directors shall review proposals for the construction or modification of any Solid Waste Facility and determine whether such proposal complies with the Plan Update.

c. *General Plans and Specifications* shall mean that information required to be submitted to the Board for review for the construction or modification of any proposed Solid Waste Facility and includes, but is not limited to, a site plan for the proposed facility, architectural drawings or artists renderings of the proposed facility, the projected size and capacity of the proposed facility and all other information identified in this Siting Strategy.

d. *Applican*t shall mean a person, corporation, Municipal Corporation, township or other political subdivision proposing to construct or modify a Solid Waste Facility within the District.

e. *Modify* shall mean a significant change in the operation of an existing in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation, or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

II. Purpose and Objective

The District's Siting Strategy for Solid Waste Facilities ensures that proposals to construct a new Solid Waste Facility within the District or to modify an existing Solid Waste Facility within the District are in compliance with the Plan Update. The Board shall not approve the General Plans and Specifications for any proposed Solid Waste Facility or the modification of any existing in-District Solid Waste Facility where the construction and operation of the proposed facility, as determined by the Board, will: (1) have significant adverse impacts upon the Board's ability to finance and implement the Plan Update; (2) interfere with the Board's obligation to provide for the maximum feasible utilization of existing in-District Solid Waste Facilities; (3) materially and adversely affect the quality of life of residents within 300 feet of the proposed facility; or (4) have material adverse impacts upon the local community, including commercial businesses within 500 feet of the proposed facility and the adequacy of existing infrastructure to serve the proposed facility.

Except as otherwise provided herein, all proposed Solid Waste Facilities, whether to be sited by or on behalf of the District, or by or on behalf of any person, municipal corporation, township or other political subdivision,

shall be subject to this Siting Strategy and shall comply with the requirement to submit *General Plans and Specifications* to the District.

a. Siting Procedure Limited Exemption:
Notwithstanding the foregoing requirement, existing in-District Solid Waste Facilities specifically identified in this Siting Strategy are not subject to this Siting Strategy unless the owner or operator of any such in-District Solid Waste Facility proposes a modification to the operation of the in-District Solid Waste Facility: (1) that requires the approval of the Director of the Ohio Environmental Protection Agency; or (2) that involves a change in the type of material, manner of operation or activities conducted at the facility (i.e., a conversion of a legitimate recycling facility to a transfer station).

b. Maximum Feasible Utilization of Existing In-District Solid Waste Facilities:
The Board has determined that the owners and operators of existing in-District Solid Waste Facilities rely on market factors in the determination of whether to expand or modify the facilities or current operations and activities at such existing facilities. The private corporate decisions of those owners and operators determine and establish the maximum feasible utilization of those existing in-District Solid Waste Facilities and the limited exemption for such existing in-District Solid Waste Facilities from the application of this Siting Strategy permits the owners and operators of those facilities to determine the maximum feasible utilization of those facilities. Other than the limited exemption from the application of this Siting Strategy, the Board has no additional obligation with respect to the continuing operation or modification of those facilities.

III. Requirements

The District requires that *General Plans and Specifications* for all proposals to construct any new Solid Waste Facility within the District or to modify any existing in-District Solid Waste Facility be submitted for a determination by the Board of whether such General Plans and Specifications and the proposals comply with the Plan Update.

IV. Procedure Implementing Siting Strategy

Unless otherwise provided herein, or an exemption or waiver from this requirement has been granted by the Board, the following procedure and process shall be followed in the event the construction of a new Solid Waste Facility or the modification of an existing in-District Solid Waste Facility is proposed within the District:

Step 1: Submittal of General Plans and Specifications

Any person, municipal corporation, township or other political subdivision proposing to construct a new Solid Waste Facility or modify an existing in-District Solid Waste Facility shall:

a. Provide General Plans and Specifications of the proposed facility to the Board. Such General Plans and Specifications shall include, but may not be limited to, the following documents and information:
   i. site plan for the proposed Solid Waste Facility;
   ii. architectural drawings or artists renderings of the proposed Solid Waste Facility;
   iii. availability of necessary utilities;
   iv. projected size and capacity of the proposed Solid Waste Facility;

v. hours of operation;
vi. anticipated source of solid waste or recyclable materials to be received at the proposed Solid Waste Facility. If recycling activities will be conducted at the proposed facility, a detailed description of the recycling activity including materials to be recycled, technology to be utilized to accomplish the separation and processing of the recyclable materials, the anticipated percentage of waste reduction anticipated from the operation of the facility and the identification of the market for the sale of the recyclable materials recovered at the facility must be submitted;
vii. types and anticipated number of vehicles utilizing the proposed Solid Waste Facility on an hourly and daily basis;
viii. routes to be used by vehicles utilizing the facility and methods of ingress and egress to the facility; and
ix. any other information necessary for the Board to evaluate whether the proposed Solid Waste Facility complies with each of the criteria listed below.

b. Adequately demonstrate to the Board that the construction or modification and subsequent operation of the proposed Solid Waste Facility will:
i. be consistent with the goals, objectives, projections and strategies contained in the Plan Update;
ii. not adversely affect financing for the implementation of the Plan Update;
iii. not adversely affect the Board's obligation to provide for the maximum feasible utilization of existing in-District solid waste facilities;
iv. be installed, operated and maintained to be harmonious and appropriate in appearance and use with the existing or intended character of the area;
v. be adequately served by essential public facilities and services;
vi. not create excessive additional requirements at public cost for public facilities or services;
vii. not be detrimental to the economic welfare of the community;
viii. not involve the excessive production of traffic, noise, smoke, fumes or odors;
ix. have vehicular approaches to the property that are designed not to create an interference with traffic;
x. not result in the destruction, loss or damage of a natural, scenic, or historic feature of major importance; and
xi. not adversely affect property values within the surrounding community.

c. The Applicant shall submit any additional information as the Board requests to establish, to the reasonable satisfaction of the Board, that the construction or modification and subsequent operation of the proposed Solid Waste Facility or proposed modification of an existing in-District Solid Waste Facility will comply with the Plan Update.

Step 2: Board Review

The Board shall conduct a review of the information submitted for the proposed Solid Waste Facility to determine whether the Applicant has adequately demonstrated that the proposed Solid Waste Facility will be constructed or modified and subsequently operated in compliance with the Plan Update and demonstrated that the impacts listed in Step I do not adversely affect the District, its residents and businesses. The Board may expend District funds to employ a consultant or consultants familiar with Solid Waste Facility construction and

operation, land use planning and solid waste planning to assist the Board in implementing this Siting Strategy and in its determination of whether a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the Plan Update.

Within sixty days of receiving the General Plans and Specifications from an applicant, the Board shall make a determination as to whether the General Plans and Specifications submitted by the applicant contain sufficient information for the Board to complete its review of the proposal. In the event the Board determines that more information is necessary to complete its review of the proposal, the Board shall notify the Applicant of such request in writing within ten days.

Within ninety days of determining that the Applicant has submitted a complete set of General Plans and Specifications, the Board shall determine whether the proposal complies with the Plan Update and the criteria identified in Step 1 herein. The Board shall notify the Applicant of its decision in writing. While the Board has broad discretion regarding the approval of General Plans and Specifications for a proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility, it is the intent of this Siting Strategy that the Board shall not approve General Plans and Specifications for a proposed Solid Waste Facility unless the Board determines that the proposed Solid Waste Facility or modification of an existing in-District Solid Waste Facility complies with the Plan Update and the criteria identified in Step 1 herein.

Step 3: Development Agreement

In the event the Board determines that the proposed construction or modification and subsequent operation of a Solid Waste Facility complies with the Plan Update, the person, municipal corporation, township or other political subdivision proposing to construct or modify the Solid Waste Facility shall enter into a development agreement with the District which memorializes the obligations that are the basis of the Board's conclusion that the General Plans and Specifications demonstrate that the proposed facility or its modification complies with the Plan Update. The party proposing to construct a Solid Waste Facility shall have an ongoing obligation to comply with the Plan Update and the development agreement.

V. Waiver

The Board reserves the right to waive application of the requirement for the submission and Board approval of General Plans and Specifications, and any portion or all of the Siting Strategy or otherwise grant exceptions to the rules of the District, or unilaterally modify or amend the Siting Strategy if the Board concludes such waiver, modification or amendment is in the best interest of the District, its residents and businesses and will assist the Board in the successful implementation of the Plan Update and further District goals with respect to solid waste and waste reduction activities.

A determination by the Board to construct or modify any District-owned Solid Waste Facility shall be deemed to be in compliance with the Plan Update and the other requirements of these rules.

Waiver for Legitimate Recycling Facilities

The Board has a strong commitment to encourage the development of recycling and waste reduction activities that are consistent with the waste reduction, reuse and recycling goals as may be required by the Ohio Revised Code, the Ohio Administrative Code, the State Solid Waste Management Plan and the Plan Update. Upon adequate demonstration to the Board of the likelihood of attainment of certain waste reduction goals, the Board may waive application of the Siting Strategy for any facility determined by the Board as likely to qualify as a "legitimate recycling facility" as defined in Section 3745-27-01(C)(2) of the Ohio Administrative Code.

In the event an Applicant desires a waiver from the application of the Siting Strategy for a legitimate recycling facility, the Applicant shall submit sufficient information to the Board regarding the proposed facility, the waste reduction method to be implemented, technology to be used in the operation of the facility, the source and type of waste to be received at the facility, the materials to be removed from the waste stream and the anticipated amount of waste reduction.

The Board shall review the proposal following the procedures and process in Step 2 of this Siting Strategy and determine whether the waste reduction standards required by OAC Section 3745-27-01(C)(2) are likely to be satisfied at the proposed facility. In the event the Board determines that such facility is likely to qualify as a legitimate recycling facility, the Board may grant a waiver of the application of the Siting Strategy to the proposed facility.

Such waiver may be made contingent upon the execution of a development agreement by which the proposed facility will be obligated to meet the proposed waste reduction standards on a continuing basis and such other obligations regarding operation of the facility as the Board shall require, including such recordkeeping and reporting requirements as may be necessary to establish compliance with the waste reduction goals. Failure to comply with the terms of any such agreement may result in the revocation of Board approval for operation of any such facility. As part of any such development agreement, the Board may require such bond or other assurances in such amounts as the Board determines, in its discretion, shall be necessary to assure that funds are available for the removal of the facility or conversion of the facility to a legal use in the event of non-compliance with waste reduction standards or other obligations as set forth in the development agreement.

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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)

CUYAHOGA COUNTY SOLID WASTE MANAGEMENT POLICY COMMITTEE
RESOLUTION NO. 180412

Authorizing the transmittal of the *DRAFT* Cuyahoga County Solid Waste Management Plan Update to the Director of the Ohio Environmental Protection Agency for initial review and non-binding advisory opinion, pursuant to *Ohio Revised Code* Sections 3734.55 and .56.

WHEREAS, the Ohio Solid Waste Disposal Act, effective June 24, 1988, mandated that all counties establish a Solid Waste Management District and a Solid Waste Policy Committee to prepare, adopt and submit to the Ohio Environmental Protection Agency a Solid Waste Management Plan; and

WHEREAS, through Resolution No. 883536, adopted August 29, 1988, the Cuyahoga County Board of Commissioners formed a single-county solid waste management district, in accordance with ORC Section 3734.52 ; and

WHEREAS, the Director of the Ohio Environmental Protection Agency, on March 30, 1989, designated the Cuyahoga County Planning Commission to serve as the Cuyahoga County Solid Waste Policy Committee for the purpose of preparing and submitting a solid waste management plan for Cuyahoga County pursuant to ORC Section 3734.54(D); and

WHEREAS, the Board of Cuyahoga County Commissioners, pursuant to Resolution No. 934112, adopted on September 28,1993, appointed two additional Policy Committee members in accordance with Section 3734.54(D); and

WHEREAS, the Director of the Ohio Environmental Protection Agency approved the Cuyahoga County Solid Waste District's Initial Solid Waste Management Plan on July 8, 1994; and subsequent Plan Updates on October 6, 2000; November 8, 2006 and, May 1, 2013; and,

WHEREAS, Ohio Revised Code Section 3734.56(A) requires the Cuyahoga County Solid Waste District and its Policy Committee to prepare and submit a draft Plan Update to the Ohio Environmental Protection Agency by May 1, 2018; and,

NOW, THEREFORE, BE IT RESOLVED, that the Cuyahoga County Solid Waste Policy Committee of the Cuyahoga County Solid Waste District hereby certifies that to the best of its knowledge and belief, the statements, demonstrations and all accompanying materials that comprise the *Draft* Solid Waste Management Plan Update are accurate and are in compliance with the requirements of Ohio EPA Plan Format version 4.0.

BE IT FURTHER RESOLVED, that the Executive Director of the Cuyahoga County Solid Waste Management District is authorized to deliver the *Draft* Cuyahoga County Solid Waste Management Plan Update to the Director of the Ohio Environmental Protection Agency for review and non-binding advisory opinion prior to the initiation of the local ratification process among Cuyahoga County cities villages and townships.

On a motion of Councilwoman Shontel Brown seconded by Mayor Byrne, the foregoing resolution was adopted.

AYES: John Demuth, Mayor DiCicco, Mayor Bobst, Mayor Byrne, Mayor Procuk, Ken Surratt, Mayor Sellers, Councilwoman Simon, Councilwoman Brown
NAYS: None
ABSTENTIONS: None
NOT PRESENT: Cary Mathias, Mayor Kleem, Freddy Collier (for mayor Frank Jackson)

Passed April 12, 2018

PUBLIC NOTICE
CUYAHOGA COUNTY SOLID WASTE MANAGEMENT DISTRICT

Public Comment Period and Public Hearing for Draft Solid Waste Management Plan

Attention: Ohio EPA Director, Adjacent Solid Waste Management Districts, 50 Largest Industrial/Commercial/Institutional Solid Waste Generators and their Trade Associations

The Cuyahoga County Solid Waste District (District) is establishing a 30-day written comment period on the draft *Cuyahoga County Solid Waste Management Plan Update (2019 – 2033).*

The public comment period will take place from October 15, 2018 through November 13, 2018. Written comments should be mailed to Diane Bickett, Executive Director, Cuyahoga County Solid Waste District, 4750 East 131st Street, Garfield Heights, OH 44105.

A public hearing will be held on November 16, 2018 from 2:00 p.m. to 3:00 p.m. at the office of the Cuyahoga County Solid Waste District at the address listed above.

The draft plan is available for review on the District's website www.cuyahogarecycles.org or at the Cuyahoga County Solid Waste District office located at 4750 E 131st Street, Garfield Heights, OH 44105.

The District prepared the draft Cuyahoga County Solid Waste Management Plan Update 2019 -2033 as required by ORC Section 3734.54. This is an update to the current solid waste management plan for Cuyahoga County and documents Cuyahoga County's progress in achieving State of Ohio waste reduction goals and assures adequate landfill capacity for disposal of solid waste for the 15-year planning period. Under this *Plan Update*, the District does not designate any facilities but reserves the right to designate facilities as authorized by its Board of Directors in accordance with Section 343.014 of the Ohio Revised Code.

The Plan Update demonstrates that Cuyahoga County exceeds Ohio's waste reduction goals by reducing residential and commercial waste by 30% and industrial waste by 74% and has sufficient access to landfill capacity to meet the Cuyahoga County's needs for a minimum of 15 years. Under this Plan Update, the District does not designate any facilities but reserves the right to designate facilities as authorized by its Board of Directors in accordance with Section 343.014 of the Ohio Revised Code.

The Plan Update also describes the programs and services that the Cuyahoga County Solid Waste District will provide to communities, businesses and the public during the 15-year planning period and the funding mechanism it will use to implement them. Examples of programs and services include Education and Outreach, Business Recycling Assistance, Children's Education, Grant programs, Household Hazardous Waste Collection, Computer Recycling, Scrap Tire Recycling, Litter Collection, Local Government Assistance and Solid Waste Code Enforcement.

Funding to operate the Solid Waste District and to implement these services will come from a Generation Fee to be assessed on each ton of solid waste generated in Cuyahoga County and landfilled in Ohio. Under this Plan Update, the current fee of $1.50 per ton will increase to $2.00 per ton beginning in the fifth year of the planning period (2023). This funding mechanism will be ratified as part of the ratification of the Plan Update.

Please call (216) 443-3749 with any questions regarding the Plan Update or the opportunity to review a copy.

PUBLIC NOTICE
CUYAHOGA COUNTY SOLID WASTE MANAGEMENT DISTRICT

30-DAY WRITTEN COMMENT PERIOD AND PUBLIC HEARINGS

Cuyahoga County Solid Waste District Board, Municipalities, Villages and Townships

The Cuyahoga County Solid Waste District (District) is establishing a 30-day written comment period on the draft *Cuyahoga County Solid Waste Management Plan Update (2019 – 2033).*

The public comment period will take place from October 15, 2018 through November 13, 2018. Written comments should be mailed to Diane Bickett, Executive Director, Cuyahoga County Solid Waste District, 4750 East 131st Street, Garfield Heights, OH 44105.

A public hearing will be held on November 16, 2018 from 2:00 p.m. to 3:00 p.m. at the office of the Cuyahoga County Solid Waste District at the address listed above.

The draft plan is available for review on the District's website www.cuyahogarecycles.org or at the Cuyahoga County Solid Waste District office located at 4750 E 131st Street, Garfield Heights, OH 44105.

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The Plan Update demonstrates that Cuyahoga County exceeds Ohio's waste reduction goals by reducing residential and commercial waste by 30% and industrial waste by 74% and has sufficient access to landfill capacity to meet the Cuyahoga County's needs for a minimum of 15 years. Under this Plan Update, the District does not designate any facilities but reserves the right to designate facilities as authorized by its Board of Directors in accordance with Section 343.014 of the Ohio Revised Code.

The Plan Update also describes the programs and services that the Cuyahoga County Solid Waste District will provide to communities, businesses and the public during the 15-year planning period and the funding mechanism it will use to implement them. Examples of programs and services include Education and Outreach, Business Recycling Assistance, Children's Education, Grant programs, Household Hazardous Waste Collection, Computer Recycling, Scrap Tire Recycling, Litter Collection, Local Government Assistance and Solid Waste Code Enforcement.

Funding to operate the Solid Waste District and to implement these services will come from a Generation Fee to be assessed on each ton of solid waste generated in Cuyahoga County and landfilled in Ohio. Under this Plan Update, the current fee of $1.50 per ton will increase to $2.00 per ton beginning in the fifth year of the planning period (2023). This funding mechanism will be ratified as part of the ratification of the Plan Update.

Please call (216) 443-3749 with any questions regarding the Plan Update or the opportunity to review a copy.

PUBLIC NOTICE
CUYAHOGA COUNTY SOLID WASTE MANAGEMENT DISTRICT

Public Comment Period for Draft Solid Waste Management Plan

The Cuyahoga County Solid Waste District (District) is establishing a 30-day written comment period on the draft *Cuyahoga County Solid Waste Management Plan Update (2019 – 2033).*

The public comment period will take place from October 15, 2018 through November 13, 2018. Written comments should be mailed to Diane Bickett, Executive Director, Cuyahoga County Solid Waste District, 4750 East 131st Street, Garfield Heights, OH 44105.

A public hearing will be held on November 16, 2018 from 2:00 p.m. to 3:00 p.m. at the office of the Cuyahoga County Solid Waste District at the address listed above.

The draft plan is available for review on the District's website www.cuyahogarecycles.org or at the Cuyahoga County Solid Waste District office located at 4750 E 131st Street, Garfield Heights, OH 44105.

The District prepared the draft Cuyahoga County Solid Waste Management Plan Update 2019 - 2033 as required by ORC Section 3734.54. This is an update to the current solid waste management plan for Cuyahoga County and documents Cuyahoga County's progress in achieving State of Ohio waste reduction goals and assures adequate landfill capacity for disposal of solid waste for the 15-year planning period. Under this *Plan Update*, the District does not designate any facilities but reserves the right to designate facilities as authorized by its Board of Directors in accordance with Section 343.014 of the Ohio Revised Code.

The Plan Update demonstrates that Cuyahoga County exceeds Ohio's waste reduction goals by reducing residential and commercial waste by 30% and industrial waste by 74% and has sufficient access to landfill capacity to meet the Cuyahoga County's needs for a minimum of 15 years. Under this Plan Update, the District does not designate any facilities but reserves the right to designate facilities as authorized by its Board of Directors in accordance with Section 343.014 of the Ohio Revised Code.

The Plan Update also describes the programs and services that the Cuyahoga County Solid Waste District will provide to communities, businesses and the public during the 15-year planning period and the funding mechanism it will use to implement them. Examples of programs and services include Education and Outreach, Business Recycling Assistance, Children's Education, Grant programs, Household Hazardous Waste Collection, Computer Recycling, Scrap Tire Recycling, Litter Collection, Local Government Assistance and Solid Waste Code Enforcement.

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Please call (216) 443-3749 with any questions regarding the Plan Update or the opportunity to review a copy.

PUBLIC NOTICE
CUYAHOGA COUNTY SOLID WASTE MANAGEMENT DISTRICT

Public Hearing for Draft Solid Waste Management Plan

The Cuyahoga County Solid Waste Management District will be holding a public hearing to obtain oral comments regarding the draft *Cuyahoga County Solid Waste Management Plan Update (2019–2033)* on Friday, November 16, 2018 from 2:00 p.m. to 3:00 p.m. at the Cuyahoga County Solid Waste Management District, 4750 East 131st Street, Garfield Heights, OH 44105 as required by Sections 3734.54 and 3734.55 of the Ohio Revised Code.

The draft *Cuyahoga County Solid Waste Management Plan Update* is an update to a previously approved solid waste management plan and documents Cuyahoga County's progress in achieving State of Ohio waste reduction goals and assures adequate landfill capacity for disposal of solid waste for a 15-year planning period.

The *Plan Update* may be viewed on the District's website www.cuyahogarecycles.org or at the Cuyahoga County Solid Waste District office located at 4750 E 131st Street, Garfield Heights, OH 44105. The District is also accepting written comments until Tuesday, November 13, 2018. Written comments should be sent to Diane Bickett, Executive Director, Cuyahoga County Solid Waste Management District, 4750 East 131st Street, Garfield Heights, OH 44105.

Please call (216) 443-3749 with any questions regarding the Plan Update or the opportunity to review a copy.

CUYAHOGA COUNTY SOLID WASTE MANAGEMENT POLICY COMMITTEE
RESOLUTION NO. 181213

Declaring the Adoption of the Amended Cuyahoga County Solid Waste Management Plan for the Cuyahoga County Solid Waste Management District.

WHEREAS, the Ohio Solid Waste Disposal Act, effective June 24, 1988, mandated that all counties establish a Solid Waste Management District and Solid Waste Management Policy Committee to prepare, adopt and submit to the Ohio Environmental Protection Agency a Solid Waste Management Plan and to update the plan every five years; and,

WHEREAS, the Director of the Ohio Environmental Protection Agency approved the Cuyahoga County Solid Waste District's Initial Solid Waste Management Plan on July 8, 1994; and subsequent Plan Updates on October 6, 2000; November 8, 2006 and, May 1, 2013; and,

WHEREAS, the Cuyahoga County Solid Waste Management District ("District") and Cuyahoga County Solid Waste Policy Committee ("Policy Committee") prepared a draft amended Solid Waste Management Plan ("Plan") and submitted it to the Ohio Environmental Protection Agency for review and comment on May 1, 2018 and the Ohio Environmental Protection Agency provided comments in a non-binding advisory opinion on June 15, 2018.

WHEREAS, the Policy Committee reviewed the non-binding advisory opinion received from the Ohio Environmental Protection Agency and have taken these comments into consideration and incorporated changes into the amended Plan as appropriate;

WHEREAS, the District conducted a 30-day public comment period from October 15, 2018 through November 13, 2018 and a public hearing on November 16, 2018;

WHEREAS, the District received no comments during the public comment period nor the public hearing, therefore no additional changes to the Plan Update were made.

NOW, THEREFORE, BE IT RESOLVED that the Cuyahoga County Solid Waste Policy Committee of the Cuyahoga County Solid Waste Management District adopts the amended Solid Waste Management Plan in the form submitted for public comment and the public hearing.

BE IT FURTHER RESOLVED that the Cuyahoga County Solid Waste Policy Committee certifies to the best of its knowledge and belief, that the statements, demonstrations and all accompanying materials that comprise the Plan are accurate and comply with the requirements of Plan Format 4.0.

BE IT FURTHER RESOLVED that the Cuyahoga County Solid Waste Policy Committee directs the Executive Director of the Cuyahoga County Solid Waste District to distribute one copy of the adopted Plan to the legislative authority of each municipal corporation, village and township under the jurisdiction of the District for ratification.

On a motion of Mayor Bobst, seconded by John DeMuth, the foregoing resolution was duly adopted.

AYES: Mayor Bobst, Mayor Brennan, Mayor Byrne, Mayor Procuk, Mayor DiCicco, Freddy Collier (for Mayor Jackson), Councilwoman Brown, Ken Surratt, Cary Mathias, John Demuth
NAYS: None
ABSTENTIONS: None
NOT PRESENT: Mayor Kleem, Mayor Sellers, Councilwoman Simon

Adopted, December 13, 2018

APPENDIX U: Ratification Results

Table U-1 Ratification Summary

[Insert Table U-1]

CITY OF BEACHWOOD
INTER-OFFICE COMMUNICATION

TO: Martin Horwitz, Mayor

FROM: Karen Carmen, Community Services Director, Pete Conces, Recreation Supervisor

DATE: 02/07/2019

SUBJECT: An Ordinance authorizing the Mayor to purchase Pool Chemicals from Patterson Pools, LLC through the end of the 2019 season for the City of Beachwood, Ohio Family Aquatic Center; and declaring this to be an urgent measure

Attached is a quote from Patterson Pools for the purchase of Accu-Tab Chlorine tablets for our Aquatic Center. We will be purchasing 5 skids (120 pails) of tablets at one time. Cost per pail will be $135, or $16,200 per delivery. We will have 2 deliveries this summer for a total of $32,400.

Axiall Corporation, the manufacturer of our Accu-Tab chlorine feeder system and producer of the only sanctioned tablet (Accu-Tab Blue SI) to be used in their feeder, has provided us a letter informing the City that Patterson Pools is the only provider in our area authorized to provide us with their product. Additional documentation supporting the exclusive use of the Accu-Tab product is attached.

We would like to request to put this on the next Council Agenda for approval.

INTRODUCED BY: ORDINANCE NO. 2019-37

AN ORDINANCE AUTHORIZING THE MAYOR TO PURCHASE POOL CHEMICALS FROM PATTERSON POOLS, LLC THROUGH THE END OF THE 2019 SEASON FOR THE CITY OF BEACHWOOD, OHIO FAMILY AQUATIC CENTER; AND DECLARING THIS TO BE AN URGENT MEASURE

WHEREAS, the Community Services Director advises that Patterson Pools, LLC is the sole authorized Accu-Tab Blue SI distributor in Cuyahoga County; and

WHEREAS, Patterson Pools, LLC has submitted a quotation for pool supplies/chemicals for use at the Beachwood, Ohio Family Aquatic Center, at a price of One Hundred Thirty-Five Dollars and No/Cents ($135.00) per unit.

NOW, THEREFORE, BE IT ORDAINED, by the Council of the City of Beachwood, County of Cuyahoga, and State of Ohio:

Section 1: Based upon the recommendation of the Community Services Director, the Mayor is hereby authorized to issue a purchase order to Patterson Pools, LLC for pool supplies/chemicals for use at the Beachwood, Ohio Family Aquatic Center at a price of One Hundred Thirty-Five Dollars and No/Cents ($135.00) per unit as set forth in Exhibit "A", a copy of which is attached hereto and incorporated herein.

Section 2: It is found and determined that all formal actions and deliberations of Council and its committees, relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105, Codified Ordinances of the City.

Section 3: This Ordinance is hereby declared an urgent measure which is immediately necessary for the public peace, health or safety or the efficient operation of the City; and by further reason of the immediate necessity of pool supplies/chemicals for the season; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

WHEREFORE, this Ordinance shall take effect and be in force from and after the earliest date permitted by law.

Attest: I hereby certify this legislation was duly adopted on the 4th day of March, 2019, and presented to the Mayor for approval or rejection in accordance with Article III, Section 8 of the Charter on the 5th day of March, 2019.

_____
Clerk

Approval: I have approved this legislation this 5th day of March, 2019, and filed it with the Clerk.

_____
Mayor

PATTERSON POOLS LLC

8155 Memorial Drive
Plain City, Ohio 43064
614-876-2628
Fax 614-876-2495
www.pattersonpools.com

QUOTATION

Date 2/1/19 Page 1 of 2

CITY OF BEACHWOOD
25325 FAIRMOUNT BLVD.
BEACHWOOD, OH 44122
ATTN: PETE CONCES

Project: POOL CHEMICALS
Location: SWIMMING POOL
Specification:

We are pleased to submit our quotation for the swimming pool equipment for the above job. We propose to furnish the equipment referenced to the above section of the specifications and itemized on the attached schedule for the sum of:

THIRTY-TWO THOUSAND FOUR HUNDRED DOLLARS & ----------00/100 Dollars $ 32,400.00

F.O.B. point PATTERSON WAREHOUSE

This quotation is valid for acceptance by 30 DAYS and shipment by 2 WEEK ARO

Terms: NET 30 DAYS; 1½% PER MONTH ADDED TO ALL OVERDUE INVOICES

State or local taxes have not been included and will not be collected. Our quotation is subject to the conditions noted below.

Conditions

Patterson Pools, LLC, hereafter called "Patterson," sets the following conditions:

1. Lump sum quotations cover only the items and quantities on the attached schedule. No changes, additions or deletions will be made except by written request and will be covered by a resubmission of our quotation.
2. Every effort has been made to be accurate and complete in the take-off and to resolve discrepancies between plans and specifications. However, verification of all items and quantities shall be the responsibility of the purchaser. The quotation is limited to the itemized list of equipment on the attached schedule.
3. If a conflict exists between our take-off and an itemized bill of materials in either plans or specifications any additional items or excess quantity will be called for as "optional extras."
4. Orders will be accepted subject to approval of shop drawings by the architect. Cuts, prints, drawings or other material required for submission will be furnished after receipt of a purchase order. In the event that any item is disapproved by the architect the purchaser may cancel the order or re-negotiate for a revised list of equipment. PATTERSON does not obligate itself to furnish the equipment of other manufacturers unless originally listed in our quotation.
5. All items are of PATTERSON manufacture of origin unless specifically noted otherwise. Equipment of other manufacturers furnished by PATTERSON will be specifically noted by manufacturer's name and model number.
6. When the specifications call for equipment of another manufacturer and "approved equals" are permitted, equipment of PATTERSON manufacture or origin will be quoted.
7. If prices are given for each individual item only the unit prices are binding. Extensions and additions are subject to correction for arithmetical errors.
8. This quotation is based upon shipment of the entire list of equipment within the period noted above. If shipment is delayed beyond this period, at the purchaser's request, prices will be subject to re-negotiation.
9. Partial shipments will be made at the request of the purchaser. Billing for items shipped will be made immediately thereafter and is subject to the terms noted. The amount charged will be deducted from the lump sum total when the balance of the order is shipped.
10. All unloading and storage charges shall be the responsibility of the purchaser.
11. Every effort will be made to meet the delivery requirements of the purchaser. However, PATTERSON will not be liable for any delay caused by governmental authority or regulations, inability to obtain materials, delays in transportation, strikes, fires, or acts of God.
12. This quotation is limited to the furnishing of material only and no installation costs will be assumed by PATTERSON. PATTERSON is a vendor and not a sub-contractor; consequently no retained percentages will be allowed and invoices will be payable in full according to our stated terms.

Accepted by:

Submitted by: Amanda Mayse
AMANDA MAYSE

Date

THE NATION'S FINEST STAINLESS STEEL SWIMMING POOLS AND EQUIPMENT

PATTERSON POOLS LLC

Equipment Schedule

Page 2 of 2

Quotation No.

Catalog No.	Quantity	Product Description	Price
	240	ACCUTAB BLUE SI, 55#	$135.00/PAIL

Refer to Terms and Conditions on Page 1.

The Public Health and Safety Organization

NSF Product and Service Listings

These NSF Official Listings are current as of **Thursday, February 07, 2019** at 12:15 a.m. Eastern Time. Please contact NSF to confirm the status of any Listing, report errors, or make suggestions.

Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information: http://info.nsf.org/Certified/Pools/Listings.asp?Company=36490&Standard=050&

NSF/ANSI 50
Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities

AXIALL Corporation (http://www.accu-tab.com)
11 Stanwix Street
Pittsburgh, PA 15222
United States
800-245-2974
412-515-8098
Visit this company's website (http://www.accu-tab.com)

Facility : Burgettstown, PA

Flow Through Chemical Feeding Equipment

Accu-Tab™ Chlorinators[1]

3008C[2]	3012[2]	3075[3]
3150[4]	3500[5]	VersaChlor LF-12[6]

[1] Follow manufacturer's instructions for the installation and operation of this equipment. Any modifications, including the use of chemicals other than those recommended by the manufacturer, will void the NSF Certification. NSF Listed Accu-Tab™ Chlorinators are Certified for use with Accu-Tab™ tablets only.

[2] Certified for Pools and Spas. Maximum output rate is 24.28 lbs/day (1.01 lbs/hour) available chlorine.

[3] Certified for Pool use only. Maximum output rate is 244.8 lbs/day (10.2 lbs/hour) available chlorine.

[4] Beginning serial number for NSF Listed units of model 3150 ends in -0107. Certified for Pool use only. Maximum output rate is 528 lbs/day (22 lbs/hour) available chlorine.

[5] Certified for Pool use only. Maximum output rate is 873.6 lbs/day (36.4 lbs/hour) available chlorine.

[6] Certified for Pools and Spas. Maximum output rate at pool temperature is 2.88/lbs per day available chlorine. Maximum output rate at spa temperature is 4.56/lbs per day available chlorine.

Acid-Rite® Feeders[7]
Acid-Rite® AR 2500

[7] Certified for Pools and Spas. Maximum output rate at pool temperature is 900 lbs/day available sulfate. Maximum output rate at spa temperature is 1200 lbs/day available sulfate. Certified with the Acid-Rite® soduim bisulfate tablets only.

PML Chlorinators
PML 5000[8] PML80[9]

[8] Certified for Pool use only. Maximum output rate is 396 lbs/day. NSF Listed PML5000 Chlorinators are Certified with PML Calcium Hypochlorite tablets only.
[9] Certified for Pools and Spas. Maximum output rate at pool temperature is .55 lbs/hour available chlorine. Maximum output rate at spa temperature is .56 lbs/hour avaiable chlorine. Certified with PML Calcium Hypochlorite tablets only.

Facility : Rock Hill, SC

Flow Through Chemical Feeding Equipment

Accu-Tab® PowerBase™ Systems[1]

1030[2]	3012AT[3]	3070AT[4]
3140AT[5]	Accu-Tab® Series 100[6]	PML 1500[7]
PML 1500PR[7]	PML 300[8]	PML300PR[8]
VersaChlor I(a)[9]	VersaChlor III[10]	

[1] Follow manufacturer's instructions for the installation and operation of this equipment. Any modifications, including the use of chemicals other than those recommended by the manufacturer, will void the NSF Certification.
[2] Certified for Pools and Spas. The maximum delivery for pools is 2.8 lbs./hour chlorine with a maximum flow of 8 GPM through the chlorinator. The maximum delivery rate for spas is 3.51 lbs./hour chlorine with a maximum flow of 8 GPM through the chlorinator. This Accu-Tab power base system is Certified with Accu-Tab® Blue or Accu-Tab® Blue SI calcium hypochlorite tablets only.
[3] Certified for Pools and Spas. Maximum output rate is 24.28 lbs/day (1.01 lbs/hour) available chlorine. NSF Listed Accu-Tab® Chlorinators are Certified for use with Accu-Tab® tablets only.
[4] Certified for Pool use only. Maximum output rate is 244.8 lbs/day (10.2 lbs/hour) available chlorine. NSF Listed Accu-Tab® Chlorinators are Certified for use with Accu-Tab® tablets only.

[5] Certified for Pool use only. Maximum output rate is 528 lbs/day (22 lbs/hour) available chlorine. NSF Listed Accu-Tab® Chlorinators are Certified for use with Accu-Tab® tablets only.

[6] Certified for Pools and Spas. The maximum delivery is 0.8 lbs./hour chlorine (pool) and 1.4 lbs./hour chlorine (spa) with a maximum flow of 5 GPM through the chlorinator. Listed Accu-Tab Chlorinators are certified with Accu-Tab® Blue or Blue SI calcium hypochlorite tablets must be only.

[7] Certified for Pools. Maximum output rate at Pool temperature is 27 lbs/hr available chlorine. NSF Listed PML 1500 Chlorinators are Certified for use with PML™ calcium hypochlorite tablets only.

[8] Certified for Pools and Spas. Maximum output rate at Pool temperature is 2.78 lbs/hr available chlorine. Maximum output rate at Spas temperature is 3.52 lbs/hr available chlorine. NSF Listed PML 300 Chlorinators are Certified for use with PML™ calcium hypochlorite tablets only.

[9] Certified for Pools and Spas. Maximum output rate is at pool temperature is 36 lbs/day available chlorine. Maximum output rate is at spa temperature is 35.2 lbs/day available chlorine. NSF Listed VersaChlor™ Chlorinators are Certified with PPG VersaChlor™ Easy Feed 1.2-inch cube tablets only.

[10] Certified for Pools only. Maximum output rate is at pool temperature is 6.4 lbs/hour available chlorine. NSF Listed VersaChlor Chlorinators are Certified with VersaChlor Systems Chlorinating Tablets calcium hypochlorite only.

Acid-Rite® Feeders

Acid-Rite® 450[11]

[11] Certified for Pools and Spas. Maximum output rate at pool temperature is 12 lbs/hr available sulfate. Maximum output rate at spa temperature is 22 lbs/hr available sulfate. Certified with Acid-Rite® Sodium Bisulfate Tablets only

PML Chlorinators

PML80 PR

Number of matching Manufacturers is 1

Number of matching Products is 22

Processing time was 0 seconds

Westlake Chemical

Westlake Chemical
2801 Post Oak Blvd. Suite 600 ▪ Houston, Texas 77056
Tel: 713-960-9111

Lydia Griffith
Market Development Specialist
Axiall, a Westlake Company
LGriffith@Westlake.com
412-297-9829

February 6, 2019

Peter Conces
City of Beachwood
2700 Richmond Rd.
Beachwood, OH 44122

Dear Mr. Conces,

Thank you for being an Accu-Tab customer! As you know, the distribution of the Accu-Tab product line is reserved for authorized Specialists with an assigned territory. This letter serves as documentation regarding Axiall's (a Westlake Company) distribution network for Accu-Tab equipment and chemicals in the Northern Ohio market.

Patterson Pools continues to be Axiall's sole supplier Commercial Pool Specialist for both the Accu-Tab Equipment and Accu-Tab Blue SI tablets in Northern Ohio. As an authorized Specialist, Patterson Pools has been approved and trained by Axiall Corporation to sell and service our products.

All inquiries and orders can be made through Patterson Pools located in Columbus, OH. Kathy Patterson is the main contact at Patterson Pools and can be reached at 614-876-2628 or kpatterson@pattersonpools.com.

I appreciate your continued interest in the Accu-Tab chlorination systems. If you have any questions please do not hesitate to contact me at (412) 297-9829 or email at LGriffith@Westlake.com.

Thank you,

es

Lydia Griffith

CITY OF BEACHWOOD
INTER-OFFICE COMMUNICATION

TO: Martin Horwitz, Mayor
FROM: Gary Haba, Police Chief
DATE: 02/06/2019
SUBJECT: An Ordinance authorizing the Mayor to Purchase new Panansonic Toughbook Computers for installation in City of Beachwood, Ohio Police Patrol Vehicles from CDW Government, LLC; and declaring this to be an urgent measure

Mayor,
Please see the attached quote from CDWG Government for Toughbooks installation in the new patrol vehicles.

This item was previously for and the total amount $27,280.33.

Please approve this for the next available agenda.

INTRODUCED BY: ORDINANCE NO: 2019-38

AN ORDINANCE AUTHORIZING THE MAYOR TO PURCHASE NEW PANASONIC TOUGHBOOK COMPUTERS FOR INSTALLATION IN CITY OF BEACHWOOD, OHIO POLICE PATROL VEHICLES FROM CDW GOVERNMENT, LLC; AND DECLARING THIS TO BE AN URGENT MEASURE

WHEREAS, two (2) quotations were received by the City for the purchase of Panasonic Toughbook computers for installation in City of Beachwood, Ohio Police Patrol Vehicles; and

WHEREAS, the quotation from CDW Government, LLC in an amount not to exceed Twenty-Seven Thousand Two Hundred Forty Dollars and Seventy-One Cents ($27,240.71) was the lowest and best quotation received.

NOW, THEREFORE, BE IT ORDAINED by the Council of the City of Beachwood, County of Cuyahoga, and State of Ohio, that:

Section 1: Based upon the recommendation of the Chief of Police, the Mayor is hereby authorized to issue a purchase order to CDW Government, LLC for the purchase of Panasonic Toughbook Computers for installation in City of Beachwood, Ohio Police Patrol Vehicles in an amount not to exceed Twenty-Seven Thousand Two Hundred Forty Dollars and Seventy-One Cents ($27,240.71).

Section 2: It is found and determined that all formal actions and deliberations of Council and its committees relating to the passage of this legislation that resulted in formal action were in meetings open to the public where required by Chapter 105 of the Codified Ordinances of the City.

Section 3: This Ordinance is declared to be an urgent measure immediately necessary for the preservation of the public peace, health or safety or the efficient operation of the City, and for the further reason of making this equipment immediately available for use in Police Patrol Vehicles; wherefore, this Ordinance shall be in full force and effect immediately upon its passage and approval by the Mayor.

WHEREFORE, this Ordinance shall take effect and be in force from and after the earliest date permitted by law.

Attest: I hereby certify this legislation was duly adopted on the 4th day of March, 2019, and presented to the Mayor for approval or rejection in accordance with Article III, Section 8 of the Charter on the 5th day of March, 2019.

_____
Clerk

Approval: I have approved this legislation this 5th day of March, 2019, and filed it with the Clerk.

_____
Mayor

QUOTE CONFIRMATION

DEAR CRAIG KAUFMAN,

Thank you for considering CDW•G for your computing needs. The details of your quote are below. Click here to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
KKBT690	1/28/2019	TOUGHBOOKS 1/28	11169993	$27,240.71

QUOTE DETAILS

ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
Panasonic Toughbook 33 - 12" - Core i5 7300U - 8 GB RAM - 256 GB SSD Mfg. Part#: CF-33LE-02VM UNSPSC: 43211509 Contract: SYNNEX GSA SCHEDULE (SLED) (GS-35F-0143R)	7	4614998	$2,820.00	$19,740.00
Panasonic Extended Warranty - extended service agreement - 2 years Mfg. Part#: FZ-SVCTPEXT2Y UNSPSC: 81111811 Electronic distribution - NO MEDIA Contract: SYNNEX GSA SCHEDULE (SLED) (GS-35F-0143R)	7	2974375	$232.00	$1,624.00
Havis H-33-TVD2-L - port replicator Mfg. Part#: H-33-TVD2-L UNSPSC: 43211603 Contract: SYNNEX GSA SCHEDULE (SLED) (GS-35F-0143R)	7	4866597	$550.19	$3,851.33
iKey SkinnyBoard SB-87-TP-M - keyboard Mfg. Part#: SB-87-TP-M-USB UNSPSC: 43211706 Contract: SYNNEX GSA SCHEDULE (SLED) (GS-35F-0143R)	7	3128954	$289.34	$2,025.38

PURCHASER BILLING INFO		
Billing Address: CITY OF BEACHWOOD ACCTS PAYABLE PO BOX 22659 BEACHWOOD, OH 44122-0659 **Phone:** (216) 292-1904 **Payment Terms:** Net 30 Days-Govt State/Local	**SUBTOTAL**	$27,240.71
	SHIPPING	$0.00
	SALES TAX	$0.00
	GRAND TOTAL	**$27,240.71**
DELIVER TO		
Shipping Address: CITY OF BEACHWOOD CRAIG KAUFMAN 23355 MERCANTILE RD BEACHWOOD, OH 44122-0659 **Shipping Method:** UPS Ground (2- 3 Day)	**Please remit payments to:** CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515	

Need Assistance? CDW•G SALES CONTACT INFORMATION				
	Jeff Jones	|	(866) 668-9487	| jeffjon@cdw.com

This quote is subject to CDW's Terms and Conditions of Sales and Service Projects at
http://www.cdwg.com/content/terms-conditions/product-sales.aspx
For more information, contact a CDW account manager

© 2019 CDW•G LLC, 200 N. Milwaukee Avenue, Vernon Hills, IL 60061 | 800.808.4239