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## **Feasibility Study on the Operations of the Ashland County Recycling Center**

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For the  
**Ashland County Board of County Commissioners**

February 24, 2019

Prepared by:



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## INTRODUCTION

The Ashland County Board of County Commissioners (Board) are interested in determining the feasibility of several operational changes with the Ashland County Recycling Center (ACRC) while remaining compliant with Ohio EPA's State Solid Waste Management Plan. The Board hired GT Environmental, Inc. to conduct the Feasibility Study (Study).

The results of the Study will assist the Board in making a decision on the most efficient and cost-effective system for managing recyclable commodities from Ashland County generators.

To accomplish the above stated goals and objectives, GT designed the Study to include the following key components:

- Determine the exact engagement the District has with the City of Ashland on their curbside recycling program and any assistance provided
- Historic recycling drop-off and curbside program volumes and expenses
- Review similar solid waste districts in Ohio that use private sector contractors to operate their drop-off program
- Review District financial budget including revenue and expenses updated for 2017 and the balance of 2018
- Recycling access goal assessment under new EPA format 4.0
- Summary and Suggested Alternatives

This Study projects revenues and expenses based on an average of 2015, 2016, 2017, and 2018 calendar years. The information in the Study is based on collected from December 2018 to February 2019. All scenarios in this Study assume the ACRC property will be available for some of the options discussed.

## DATA ANALYSIS

### **ASHLAND COUNTY RECYCLING CENTER OPERATIONS**

The Ashland County Recycling Center (ACRC), located in the City of Ashland, processed 2,580 tons of recyclables in 2017. In 2017, the ACRC was open for 40 hours per week and employed:

- 4 Full-time workers (includes Recycling Director)
- 3 Part-time drivers
- 3 Full-time floor workers

Separation of material is primarily hand sorted. Plastic and metals are separated for off-site shipment. Glass from the City of Ashland Curbside program and glass delivered from Richland County is separated for off-site shipment.

After materials received at the Recycling Center, the recyclables are separated for baling and/or shipment. Cardboard, mixed paper, and printer grade paper are baled, while plastics (and usually some aluminum cans which are mixed in) are transported to another Material Recycling Facility. Higher grades of paper are separated and placed in cubic yard boxes which receives are usually higher priced commodities compared to mixed materials.

All recyclables come from the drop-off programs, the City of Ashland recycling program, and the Richland County SWMD. The table below shows how much material came from each source.

**Table 1. Source of Materials Processed at the ACRC**

Material	2017 Total Tonnage	Source of 2017 Tonnage		
		Drop-Offs	City of Ashland	Richland SWMD
Paper	488.7545	488.7545		
Cardboard	1172.783	797.05	375.73	
Wood	163.88	163.88		
Non-Ferrous Metal	125.0295	125.0295		
Ferrous Metal	129.204	129.204		
Glass	115.608		80.02	35.59
Plastic	70.6325	70.6325		
Rubber	57.9	57.9		
Appliances	5.1	5.1		
Lead-Acid Batteries	3.62	3.62		
E-Waste	6.8265	6.8265		
Commingled	227.5855	227.5855		
HHW	12.75	12.75		
Toner Cartridges	0.2715	0.2715		

## **CITY OF ASHLAND CURBSIDE RECYCLING**

GT first analyzed the City of Ashland’s curbside program as it is tantamount to the District meeting its goals for recycling. In addition, the City utilizes the ACRC for material processing and other technical assistance.

The City of Ashland provides trash, recycling, yard waste, and leaf curbside collection service to all residents of the city. Trash and recycling are picked up at each residence once per week (this takes 5 full days per week to cover the whole city), yard waste is picked up once every other week during May-October, and leaves are picked up from the end of October until snowfall. In 2017, all collected trash went to Rumpke in Shiloh, Ohio, and all 194.71 tons of yard waste went to Meyer Hatchery in Polk, Ohio.

The City of Ashland’s recycling curbside collection program was also operated by City employees during 2017. In 2017, 81.64 tons of paper went to Gateway in Cleveland, Ohio, 3.53 tons of e-waste went to Accurate IT in Columbus, Ohio, 3.05 tons of semi-truck and

passenger tires were sent to Genesis Tire in Creston, Ohio, and 53.2 tons of plastic were sent to Milliron. Additionally, 375.73 tons of cardboard and paperboard and 80.2 tons of glass were sent to the ACRC for processing. The glass is collected from one gaylord container at the City Sanitation Department. Bagged, mixed, plastic and metal recyclables are collected by City crews once per week and taken back to the City of Ashland Street Department for sorting before being sent off to processors and brokers. Additionally, paperboard and corrugated cardboard are also collected on these routes but are separated by residents from the plastic and metal containers. The City owns 3 trucks for these curbside recycling collections: 1 compactor truck for materials taken to the ACRC and 2 dump trucks used for trash and recycling.

A total of 455.75 tons were sent to ACRC in 2017. If the ACRC shuts down, the City of Ashland will need to send all cardboard, paperboard, and glass to a new processor, or the District will have to provide the City with a location to take their recyclables to be picked up as part of a drop-off program. Additionally, any recycling revenue for the District from these materials will be lost.

The City's sanitation department's only source of revenue is from residential charges for service, which in 2017 totaled \$1,776,950. Total operating expenses for the Sanitation Department in 2017 equaled \$1,860,019. The Department started 2017 with an unencumbered balance of \$2,052,044.

## **ASHLAND COUNTY DROP-OFF PROGRAM**

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The Ashland County Solid Waste District collects containers from fourteen public recycling drop-off sites in the County and 23 other sites at schools, Ashland University, and commercial businesses. The materials collected are brought back to the Ashland County Recycling Center for processing.

Materials accepted by the ACRC include:

- Newspaper
- Magazines
- Books
- Misc. Paper
- Cardboard / box board
- Aluminum cans
- Steel / tin cans
- Plastic containers (#1 - #7)
- Plastic grocery bags
- Printer cartridges

As of November 2018, the District services 37 locations discussed below. The material collected from these drop-offs is included in the tonnage the ACRC receives:

- 14 Public Drop-offs around the County
- 1 Public Drop-off (Ashland County Recycling Center)
- 3 Drop-off at Ashland University (Not open to public)
- 8 Drop-offs at local schools (Not open to public)
- 11 Drop-offs at commercial entities (Not open to public)

Public Recycling Drop-Offs	
Ashland - Buehler's Fresh Food Market	Sugarbush Dr, Ashland*
Ashland County Courthouse	1209 E Main St, Ashland*
County Sheriff's Dept	1205 E Main St, Ashland*
Ashland County Service Center/Vermillion Twp.	1763 St. Rt. 60 S, Ashland*
Cinnamon Lake	CR 620, Jackson
Loudonville Village/Hanover Twp. - Stake's IGA	North Jefferson St, Loudonville
Mifflin Twp. - Township Garage	Ohio St. (State Rte. 603), Mifflin
Nova Village/Troy Twp. Garage	US 224, Nova
Perrysville Fire Department	St. Rt. 39, Perrysville
Savannah Village Ball Field/Clear Creek Twp.	55 Bailey St, Savannah
Lake Township Garage	2499 CR 3374, Loudonville*
Mohican Twp. Garage	2008 SR 89, Jeromesville
Polk Village Ball Field	Congress St, Polk
Sullivan Village/Sullivan Twp. Garage	245 Twp. Hwy 501, Sullivan
<b>Ashland County Recycling Center</b>	<b>1270 Middle Rowsburg Rd, Ashland</b>

Ashland University Recycling Program (Not Open to the Public)
720 Claremont Ave, Ashland* (paper, plastic, metal)
720 Claremont Ave, Ashland* (glass)
720 Claremont Ave, Ashland* (cardboard)

Local Schools Recycling Drop-Offs (Not Open to the Public)
Black River Elementary (private)
Black River High School Recycling
Hillsdale Elementary West
Hillsdale High School (private)
Hillsdale Middle School
Kno-Ho-Co Head Start (private)
Mapleton Elementary School
Mapleton High School (private)

Commercial Business Recycling Drop-offs (Not Open to the Public)
Armstrong Cable TV
Ashland Publishing
Cleveland Avenue Market
Family Dollar Store
ODOT District 3 Facility
Round Lake Christian Assembly Camp

Commercial Business Recycling Drop-offs (Not Open to the Public)
Dor-Lo Pizza
Eagles Club
Wil Research
UPS Store
Thiel's Replacement Systems

## PRIVATELY OWNED AND OPERATED CONTRACTS FOR OTHER SOLID WASTE DISTRICTS

Five solid waste districts with privately contracted drop-off programs were surveyed for their 2017 drop-off operational data. Data collected on the drop-off programs included cost of operation, number of drop-offs, and tons collected.

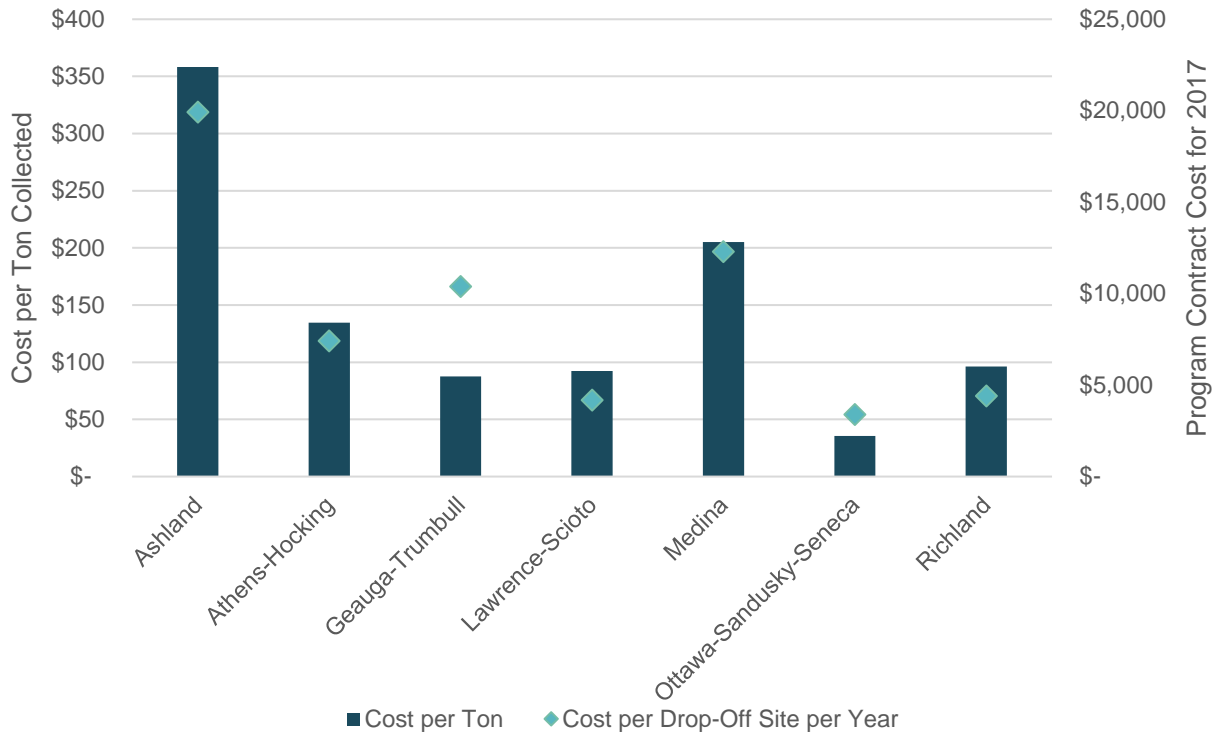
**Table 2. 2017 Drop-off Servicer and Population for Analysis**

District	2017 Contractor	2017 District Population	Number of Drop-off Sites	2017 Pounds per Person
<b>Ashland</b>	<b>District</b>	<b>53,824</b>	<b>37</b>	<b>76.4 lbs.</b>
Athens-Hocking	Athens-Hocking Recycling Center	95,071	24	27.8 lbs.
Geauga-Trumbull	Ohio Valley Waste	295,885	48	38.6 lbs.
Lawrence-Scioto	Republic Services	141,949	38	24.3 lbs.
Medina	Kimble	178,158	65	43.8 lbs.
Ottawa-Sandusky-Seneca	Rumpke from Jan-Sept 2017, Republic Services from Oct-Dec 2017	162,804	41	47.9 lbs.
Richland	Rumpke	122,257	14	10.5 lbs.

The six solid waste districts were chosen based on their current operations of their drop-off program and similarities to the District. For this analysis, these solid waste districts were compared for their cost per ton and cost per drop-off for the programs they operate through a private contractor. Most contracts are renegotiated every three to five years. Many contracts' costs have risen due to the recycling commodity markets and lack of competition.

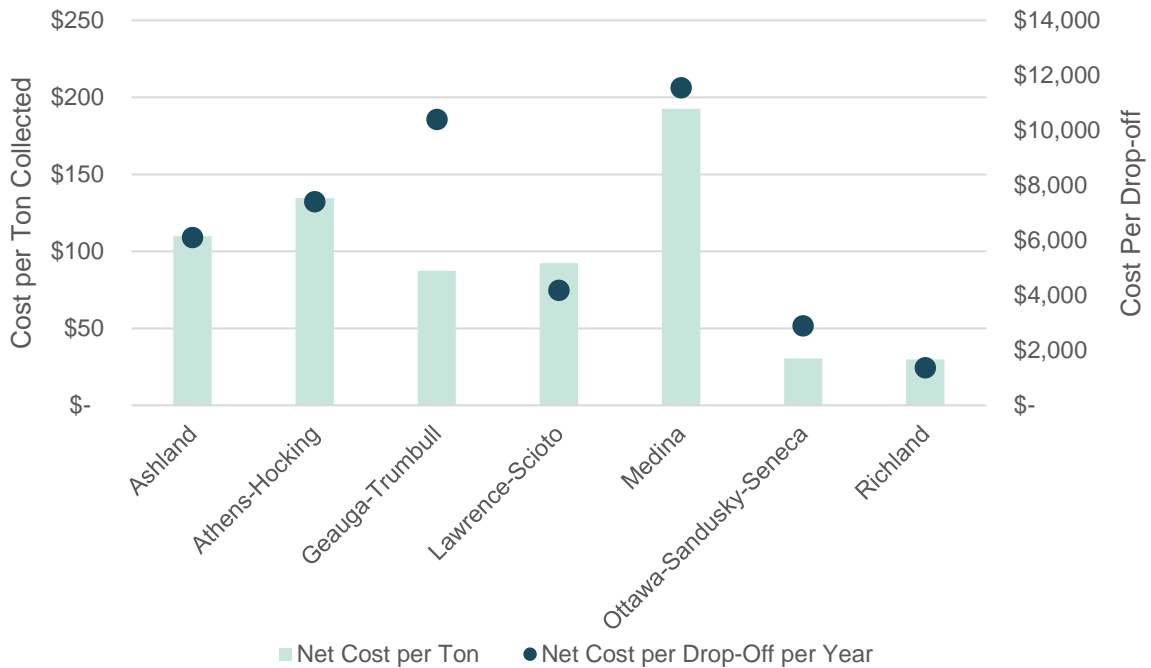
The following graphs (Figures 1 and 2) show the cost per ton and cost per drop-off before and after recycling revenue, which in some districts offsets expenses. All costs of operating the ACRC were used to portray the drop-off cost for Ashland. This cost includes other services such as battery collection, electronics collections, appliance collection, and sorting of materials which are not including in the other districts' costs included in this analysis.

**Figure 1. 2017 Drop-off Cost per Ton and per Drop-off**



\*Used 2016 Lawrence-Scioto drop-off cost and Plan Update Projected 2017 Tonnage.

**Figure 2. 2017 Drop-off Cost per Ton and per Drop-off offset by Recycling Revenue**



\*Used 2016 Lawrence-Scioto drop-off cost and Plan Update Projected 2017 Tonnage



## CASE STUDIES

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Many solid waste districts in Ohio have switched to contractor services due to the cost of recycling operations in their communities. The following case studies included solid waste districts that utilized private and public sector options for their recycling drop-off programs.

### **Carroll-Columbiana-Harrison**

In 2017, CCH Environmental Group switched from contracting drop-off recycling service to District-operated service. The District has approximately 80 drop-off sites. The contracts rose from \$197,000 in 2011 to \$301,000 in 2017, and the most recent proposals indicated a cost range of \$571,265 to \$594,000 (2018 to 2020) by the contractor, going from 52 to 77 drop-off sites.

Since converting over to District-owned operations, the CCH Environmental Group has noticed benefits such as controlling costs, accurate data collection, and controlling collection rates. Residents have commented on cleaner sites, availability, and no overflow.

### **Geauga-Trumbull**

The Ohio Valley Waste is contracted for drop-off recycling services in Geauga-Trumbull. In December of 2018, glass and magazines were removed from the list of accepted materials. In order to help keep costs down, less profitable materials were removed due to the markets and commodity prices. This action reduced the tonnage collected from drop-offs which will also reduce their diversion rate from the landfills.

### **Lawrence-Scioto**

In October of 2018, Republic Services stopped servicing the drop-off program at the end of a contract and the negotiations for contract renewal were not complete. According to an article, Republic Services stopped providing services because they were losing money providing the service to the Lawrence-Scioto Solid Waste District.

In January 2019, the District signed a new contract with Rumpke for recycling drop-off services. The original bid from Rumpke was about \$200,000 more than what their prior contract was with Republic Services. After negotiations, the new contract is \$100,000 more than what the District was paying for drop-off services before with fewer drop-off sites and bins.

## FINANCIAL BUDGET

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District revenues and expenses were analyzed using the Quarterly Fee Reports (QFR) that were reported to the OEPA and the County operating budget for both the Solid Waste District account (0151) and the Recycling Center account (0143). In the table below, the light blue line items in bold are QFR line items, and the white line items in standard font are County budget line items categorized under the correct QFR line item in order to compare the two.

The revenues and expenses for the month of December 2018 were not available when this Study was developed, and therefore the actual amounts for January through November are in one column and a complete 2018 year was estimated using a monthly average in the right column.

**Table 3. District Revenues and Expenses in Budget**

Category	2017	2018 Jan-Nov	2018 Estimated
<b>Revenues</b>			
<b>Contracts</b>	<b>\$334,620</b>	<b>\$307,926</b>	<b>\$335,919</b>
Landfills	\$158,909	\$169,182	\$184,562
Transfer Stations	\$175,512	\$151,143	\$164,883
Recycling Processors	\$199	\$0	\$0
Subtract Dec1-Dec 13		-\$12,398	-\$13,526
<b>Recycling Revenue</b>	<b>\$511,064</b>	<b>\$309,659</b>	<b>\$337,810</b>
Sale of County Personal Property	\$5,989	\$0	\$0
All Other Misc revenue	\$3,656	\$1,380	\$1,505
Transfers	\$37,109	\$0	\$0
Reimbursements	\$1,447	\$1,872	\$2,042
Recycling Sales/Materials	\$462,863	\$306,407	\$334,263
<b>Reimbursements</b>	<b>\$406</b>	<b>\$266</b>	<b>\$290</b>
Bureau of Workers Comp Wage/Premium Rebate	\$406	\$266	\$290
<b>User Fees</b>	<b>\$14,127</b>	<b>\$22,305</b>	<b>\$24,333</b>
Tire Recycling Fees	\$6,367	\$14,860	\$16,211
E-Scrap Recycling Fees	\$7,760	\$7,445	\$8,122
<b>Other</b>	<b>\$130,055</b>	<b>\$190,025</b>	<b>\$207,300</b>
Funds Transfer from District SW to ACRC	\$130,000	\$190,000	\$207,273
Sale of Recycling Bags	\$21	\$5	\$5
Sale of Paint Hardener	\$34	\$20	\$22
<b>Fee Penalties</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Revenue</b>	<b>\$990,271</b>	<b>\$830,181</b>	<b>\$905,652</b>
<b>Expenses</b>			
<b>Plan Preparation</b>	<b>\$19,438</b>	<b>\$6,476</b>	<b>\$7,064</b>
Contract Service	\$19,438	\$6,476	\$7,064
<b>Plan Monitoring</b>	<b>\$5,500</b>	<b>\$6,157</b>	<b>\$6,717</b>
Contract Service	\$5,500	\$6,157	\$6,717
<b>Personnel</b>	<b>\$55,665</b>	<b>\$52,318</b>	<b>\$57,074</b>
District Office Personnel Salary	\$32,426	\$29,953	\$32,676
District Office Personnel Workers Comp	\$0	\$418	\$456
District Office Personnel Health Insurance	\$17,543	\$17,173	\$18,735
District Office Personnel PERS	\$4,540	\$4,193	\$4,575
District Office Personnel Medicare	\$470	\$434	\$474
Ashland County Solid Waste Expense	\$687	\$146	\$160
<b>Office Overhead</b>	<b>\$2,061</b>	<b>\$7,545</b>	<b>\$8,231</b>
District Supply	\$887	\$1,076	\$1,174
Contract Repairs	\$308	\$360	\$393
Ashland County Solid Waste Expense	\$866	\$6,110	\$6,665

Category	2017	2018 Jan-Nov	2018 Estimated
<b>ACRC/Recycling Center</b>	<b>\$736,920</b>	<b>\$724,481</b>	<b>\$790,343</b>
Ashland Co Recycling Equipment	\$42,999	\$29,710	\$32,410
Ashland Co Repair	\$24,977	\$30,403	\$33,167
ACRC Personnel Salary	\$166,183	\$170,711	\$186,231
ACRC Personnel Workers Comp	\$0	\$2,261	\$2,467
ACRC Personnel Health Insurance	\$12,439	\$19,786	\$21,585
ACRC Personnel PERS	\$23,213	\$23,852	\$26,020
ACRC Personnel Medicare	\$2,410	\$2,475	\$2,700
Transfer Out	\$130,000	\$190,000	\$207,273
Contract Service	\$31,044	\$26,805	\$29,242
Ashland Recycling Utilities	\$23,120	\$19,105	\$20,842
Ashland Co Recycling/Fuel	\$14,306	\$16,730	\$18,251
Ashland Co Recycling/Expense	\$54,371	\$53,785	\$58,674
Material Buyback	\$209,914	\$137,235	\$149,711
Advertisements of ACRC	\$771	\$335	\$366
Ashland Co Recycling Supply	\$1,173	\$1,286	\$1,403
<b>Tire Collection</b>	<b>\$8,556</b>	<b>\$13,235</b>	<b>\$14,438</b>
Solid Waste Tire Amnesty	\$7,640	\$13,089	\$14,279
Ashland County Solid Waste Expense	\$916	\$146	\$160
<b>HHW Collection</b>	<b>\$12,438</b>	<b>\$227</b>	<b>\$248</b>
Solid Waste HHW	\$12,112	\$0	\$0
Ashland County Solid Waste Expense	\$326	\$227	\$248
<b>Electronics Collection</b>	<b>\$4,496</b>	<b>\$4,691</b>	<b>\$5,117</b>
Electronics/Amnesty/Solid Waste	\$4,496	\$4,691	\$5,117
<b>Education Staff</b>	<b>\$18,978</b>	<b>\$13,423</b>	<b>\$14,644</b>
Contract Service	\$18,978	\$13,423	\$14,644
<b>Advertisement/Promotion</b>	<b>\$878</b>	<b>\$3,872</b>	<b>\$4,224</b>
District Advertisements	\$844	\$871	\$950
Ashland County Solid Waste Expense	\$34	\$3,001	\$3,274
<b>Other Plan Implementation</b>	<b>\$3</b>	<b>\$6</b>	<b>\$6</b>
Ashland County Solid Waste Expense	\$3	\$6	\$6
<b>Health Department Enforcement</b>	<b>\$5,000</b>	<b>\$5,000</b>	<b>\$5,455</b>
Contract Service	\$5,000	\$5,000	\$5,455
<b>Drop-off Recycling Collection</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Contracted Crew	\$0	\$0	\$0
<b>Total Expenses</b>	<b>\$869,932</b>	<b>\$837,431</b>	<b>\$913,562</b>
<b>Net Revenue</b>	<b>\$120,339</b>	<b>-\$7,251</b>	<b>-\$7,910</b>
<b>Previous Year's Balance</b>	<b>\$88,970</b>	<b>\$209,309</b>	<b>\$209,309</b>
<b>Final End of Year Balance</b>	<b>\$209,309</b>	<b>\$202,059</b>	<b>\$201,400</b>

**\*\*"Other Plan Implementation" and "Health Department Enforcement" are somewhat estimated**

Though total expenses increased by \$43,629.47, the net revenue decreased by \$127,589.87. This is mostly due to the recycling revenue decreasing by \$173,253.57 from 2017 to 2018 even though the tonnage recycled by the ACRC increased by 90 tons (2,580 in 2017 and 2,670 in 2018). Sometimes the recycling markets are volatile and unpredictable. Since China implemented their National Sword program at the end of 2017, the international recycling market has declined due to major outlets in China no longer being available to American recyclable material processors. However, recycling markets have historically corrected themselves after major increases or decreases.

## STATE GOAL #2 ANALYSIS – RECYCLING RATE

### Goal 2: Waste Reduction and Recycling Rates

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

Ohio State Solid Waste Reduction Goal #2 requires districts to do the following.

1. Recycle or divert from the waste stream 25% for the residential/commercial Sector
2. Recycle or divert from the waste stream 66% for the industrial Sector

In the District's current Plan Update, Goal #2 is being met with over a 25% reduction rate in the residential/commercial sector and over a 66% reduction rate in the industrial sector (see Tables below).

**Table 4. Projected Residential/Commercial Solid Waste (from Plan Update)**

	Year	Population	Recycled	Disposed	Total Generated	WRR Rate	Per Capita WRR Rate (PPD)
First Year of Planning Period '17	2017	53,824	12,775.97	30,142.71	42,918.68	30%	1.30
	2018	53,896	12,787.11	30,123.47	42,910.58	30%	1.30
	2019	53,968	12,798.25	30,104.19	42,902.45	30%	1.30
	2020	54,040	12,809.39	30,084.87	42,894.27	30%	1.30
	2021	54,218	12,836.93	30,124.41	42,961.34	30%	1.30
	2022	54,396	12,864.47	30,163.67	43,028.14	30%	1.30
	2023	54,574	12,892.01	30,202.66	43,094.67	30%	1.29
	2024	54,752	12,919.55	30,301.17	43,220.72	30%	1.29
	2025	54,930	12,947.08	30,399.68	43,346.77	30%	1.29
	2026	55,054	12,966.27	30,468.31	43,434.58	30%	1.29
	2027	55,238	12,994.73	30,570.14	43,564.87	30%	1.29
	2028	55,422	13,023.20	30,671.97	43,695.17	30%	1.29
	2029	55,606	13,051.67	30,773.80	43,825.47	30%	1.29
	2030	55,850	13,089.42	30,908.83	43,998.25	30%	1.28
	2031	56,034	13,117.88	31,010.67	44,128.55	30%	1.28
	2032	56,278	13,155.63	31,145.70	44,301.33	30%	1.28

**Table 5. Projected Industrial Solid Waste (from Plan Update)**

	Year	Waste Reduced and Recycled	Waste Disposed	Waste Generated	Waste Reduction and Recycling Rate
First Year of Planning Period → 17	2017	20,152.5	9,437.9	29,590.4	68%
	2018	20,268.6	8,204.5	28,473.1	71%
	2019	20,384.6	6,971.2	27,355.8	75%
	2020	20,500.6	5,737.8	26,238.5	78%
	2021	20,616.7	4,504.5	25,121.2	82%
	2022	20,732.7	3,271.1	24,003.8	86%
	2023	20,848.7	2,037.8	22,886.5	91%
	2024	20,848.7	2,037.8	22,886.5	91%
	2025	20,848.7	2,037.8	22,886.5	91%
	2026	20,848.7	2,037.8	22,886.5	91%
	2027	20,848.7	2,037.8	22,886.5	91%
	2028	20,848.7	2,037.8	22,886.5	91%
	2029	20,848.7	2,037.8	22,886.5	91%
	2030	20,848.7	2,037.8	22,886.5	91%
	2031	20,848.7	2,037.8	22,886.5	91%
	2032	20,848.7	2,037.8	22,886.5	91%

However, the reduction rate is volatile and changeable. If the recycling rate ever drops below the mandated minimum, the District must improve recycling education and access in the communities. However, the tonnage that is reported comes mostly from volunteer survey data and District operations. The District can control its own operations but not the recycling activity of business. State Goal #1 is more easily controllable by the District because the District can simply add additional drop-off recycling sites as needed to achieve the goal. Curbside recycling can be added but is more difficult as communities would have to agree to implement the program. Based on this, GT Environmental recommends that Goal #1 be considered if significant changes to the District operations occurs.

## STATE GOAL #1 ANALYSIS – RECYCLING ACCESS

### Goal 1: Infrastructure

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

The Ohio State Solid Waste Reduction Goal #1 requires districts to do the following.

1. Provide sufficient access to recycling opportunities to residents
2. Provide commercial/institutional generators the opportunity to recycle at least five materials
3. Achieve an increasing residential/commercial recycling rate
4. Achieve an increasing industrial recycling rate
5. Encourage participation to use the recycling infrastructure and programs

If Ashland County were to change the status of the Ashland County Recycling Center as a drop-off location and processing facility, the last four listed requirements above would still be met as long as the District kept the drop-off program operating at other locations throughout the District. However, sufficient recycling access to residents may be below the required 90%.

Table 6 summarizes the potential new access credit to be achieved by the District without ACRC operations. In 2017, the access credit was 88% (credits for drop-offs in Ashland are counted as zero due to OEPA's rule which states credit cannot be counted for recycling opportunities if the credit exceeds the community's population). Communities with non-subscription curbside recycling received full population credit. The percent of population that has access to recycling decreases slightly through the planning period due to an increasing population.

**Table 6. Goal #1: Access Credit**

ID #	Ashland Community	2017		2020		2025		2030		2035	
		Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit	Pop.	Credit
<b>Non-subscription curbside</b>											
NSC1	City of Ashland	20,455	20,455	20,589	20,589	20,929	20,929	21,280	21,280	21,745	21,745
<b>Subscription curbside</b>											
SC1	Loudonville Village	2,568	642	2,585	646	2,627	657	2,672	668	2,730	682
<b>Full-time, urban drop-off</b>											
FTU1	Ashland - Buehler's Fresh Food Market*	20,455	0	20,589	0	20,929	0	21,280	0	21,745	0
FTU2	Ashland University Recycling Program*	20,455	0	20,589	0	20,929	0	21,280	0	21,745	0
<b>Part-time, urban drop-off</b>											
PTU1	Ashland County Courthouse*	20,455	0	20,589	0	20,929	0	21,280	0	21,745	0
PTU2	County Sheriff's Dept*	20,455	0	20,589	0	20,929	0	21,280	0	21,745	0
<b>Full-time, rural drop-off</b>											
FTR1	Ashland County Service Center/Vermillion Twp	2,694	2,500	2,712	2,500	2,756	2,500	2,803	2,500	2,864	2,500
FTR2	Cinnamon Lake	1,100	1,100	1,107	1,107	1,125	1,125	1,144	1,144	1,169	1,169
FTR3	Loudonville Village/Hanover Twp - Stake's IGA Foodliner	2,358	2,500	2,373	2,500	2,413	2,500	2,453	2,500	2,507	2,500
FTR4	Mifflin Twp - Township Garage	1,149	2,500	1,157	2,500	1,176	2,500	1,195	2,500	1,221	2,500
FTR5	Nova Village/Troy Twp Garage	1,120	2,500	1,127	2,500	1,146	2,500	1,165	2,500	1,191	2,500
FTR6	Perrysville Fire Department	3,640	2,500	3,664	2,500	3,724	2,500	3,787	2,500	3,870	2,500
FTR7	Savannah Village Ball Field/Clear Creek Twp	2,332	2,500	2,347	2,500	2,386	2,500	2,426	2,500	2,479	2,500
<b>Part-time, rural drop-off</b>											
PTR1	Lake Township Garage	722	2,500	727	2,500	739	2,500	751	2,500	2,500	2,500
PTR2	Mohican Twp Garage	2,013	2,500	2,026	2,500	2,060	2,500	2,094	2,500	2,140	2,500
PTR3	Polk Village Ball Field	3,963	2,500	3,989	2,500	4,055	2,500	4,123	2,500	4,213	2,500
PTR4	Sullivan Village/Sullivan Twp Garage	2,570	2,500	2,587	2,500	2,630	2,500	2,674	2,500	2,732	2,500
<b>Mixed municipal waste material recovery facility</b>											
MRF	ACRC*	20455	0	--	0	--	0	--	0	--	0
<b>Total County Population</b>		53,628		53,980		54,870		55,790		57,010	
<b>Total Population Credit</b>		47,197		47,343		47,711		48,092		48,597	
<b>Percent of Population</b>		88%		88%		87%		86%		85%	

*\*Zero population credit for existing drop-offs is to Ohio EPA's rule that credit cannot be received for recycling opportunities if credit exceeds population*

Drop-offs in urban communities (over 5,000 residents) can receive 5,000 access credits for a full-time drop-off and 2,500 credits for a part-time drop-off. Drop-offs in rural communities (under 5,000 residents) can receive 2,500 access credits for a full-time drop-off and 2,500 credits for a part-time drop-off. Credits cannot be received if the population has non-subscription curbside service due to receiving full population credit already. If a community with subscription curbside service has a drop-off, they may receive credit for one drop-off if their population is under 3,334 in population and credit for up to two drop-offs if the population is between 3,334 and 5,000 people.

The options outlined below are created as options so that the District may be able to meet the State Recycling Goal #1 throughout the next planning period if the ACRC is eliminated. In any option below, the District would need to have a District-operated collection crew or contract to an outside company to collect from existing drop-off sites. The options outlined below present the costs.

## NEXT SOLID WASTE PLAN DEVELOPMENT

The current Ashland County Solid Waste Management Plan Update is in Ohio EPA version 4.0 format.

### **VERSION 3.0 OF THE EPA FORMAT**

Based on estimated credits reviewed in the section “Recycling Access: Goal #1 Analysis” above, the access credits received in the 3.0 format would allow the District to exceed the 90% access credit for the residential sector. The 3.0 format is a less involved process compared to the additional section in Ohio EPA’s newer 4.0 version format. The cost of a plan update allows the District flexibility with updating the Ashland County Solid Waste Management Plan. Within the next five years, the Ohio EPA will not allow a District to choose the 3.0 version of the plan format. Obtaining the credits allowed in 3.0 versus 4.0 will be a temporary solution for the District.

### **VERSION 4.0 OF THE EPA FORMAT**

Based on estimated credits reviewed in the section “Recycling Access: Goal #1 Analysis” above, the access credits received in the 4.0 format would require the District to obtain at least 2,500 credits within the next 2 years in order to meet the 90% access credit for the residential sector. Due to the additional sections required in the 4.0 format, the cost to create a 4.0 plan can range from \$8,000 to \$10,000 more than a 3.0 plan.

## SUMMARY AND SUGGESTED ALTERNATIVES

Whether the Commissioners decide to update operational procedures for the ACRC or keep it the same depends on the District’s ability to meet key goals in the State Solid Waste Management Plan, maintain service to the public, businesses, and the City of Ashland that

currently utilize the ACRC and remain financially solvent. GT evaluated two criteria in this Study: the regulatory considerations (State Solid Waste Plan and State Goals) and the financial considerations. GT did not conduct any community engagement sessions or survey efforts to determine the public and business perception to changing the level of service offered by the District.

The two main scenarios for the Board to consider is to revise the ACRC operations or maintain its current operations. Each of these scenarios has direct effects on the two criteria evaluated in this Study, specifically to maintain regulatory compliance and to remain financially solvent.

Regardless of which scenario the Board decides on, a re-write of the District’s solid waste plan may be necessary (especially if the ACRC operational structure changes).

Based on the data and information evaluated in this Study, the two scenarios are summarized below:

### **SCENARIO #1 – CHANGE OPERATIONS AT THE ACRC**

If the Board is not amenable to the fluctuations in the commodity market that affect District recyclables revenue, then changing the ACRC operations would most likely be the most cost-effective alternative. Below are additional suggestions if the Board were to change the ACRC operations while continuing to increase efficiency.

- **Providing Drop-Off Services by District**

By the District providing service to the drop-off recycling program, the District can control pick-up frequency, hauling destinations, employees, and other factors while still having control of costs. Contractors in other districts have historically increased rates at each contract renewal year, and other districts have seen limited choice in their hauler and costs associated with the contracts. The following table summarizes the projected revenues and expenses for this option:

**Table 7. District-Provided Drop-Off Services**

<b>Category</b>	<b>2015 District</b>	<b>2016 District</b>	<b>2017 District</b>	<b>2018 Estimated District</b>	<b>2015-2018 Average</b>	<b>2019 Without ACRC Operations</b>
<b>Total Revenue</b>	\$791,163	\$886,467	\$990,271	\$905,652	<b>\$893,388</b>	<b>\$314,956</b>
<b>Total Expenses</b>	\$769,981	\$876,951	\$869,932	\$913,562	<b>\$857,606</b>	<b>\$311,916</b>
<b>Net Revenue</b>	\$21,182	\$9,516	\$120,339	-\$7,910	<b>\$35,782</b>	<b>\$3,040</b>
<b>Previous Year's Balance</b>	\$58,273	\$79,454	\$88,970	\$209,309	<i>N/A</i>	<b>\$201,400</b>
<b>Final End of Year Balance</b>	\$79,454	\$88,970	\$209,309	\$201,400	<i>N/A</i>	<b>\$204,439</b>



This option reduces personnel and equipment expenses but increases freight for materials and fuel expenses associated with the ACRC.

- **Contracting Drop-Off Services**

By contracting drop-off services, this will reduce the personnel expenses and costs associated with the Ashland County Recycling Center. Contracting collection services removes the District from the need to maintain drop-off locations and containers. The following table summarizes the projected revenues and expenses for this option:

**Table 8. Revenue and Expenses for Contracted Drop-off Services**

Category	2015 District	2016 District	2017 District	2018 Estimated District	2015-2018 Average	2019 Without ACRC Operations (Minimum Contract Costs)	2019 Without ACRC Operations (Maximum Contract Costs)
<i>Total Revenue</i>	\$791,163	\$886,467	\$990,271	\$905,652	<b>\$893,388</b>	<b>\$314,956</b>	<b>\$314,956</b>
<i>Total Expenses</i>	\$769,981	\$876,951	\$869,932	\$913,562	<b>\$857,606</b>	<b>\$215,638</b>	<b>\$360,807</b>
<i>Net Revenue</i>	\$21,182	\$9,516	\$120,339	-\$7,910	<b>\$35,782</b>	<b>\$99,318</b>	<b>-\$45,851</b>
<i>Previous Year's Balance</i>	\$58,273	\$79,454	\$88,970	\$209,309	N/A	<b>\$201,400</b>	<b>\$201,400</b>
<i>Final End of Year Balance</i>	\$79,454	\$88,970	\$209,309	\$201,400	N/A	<b>\$300,717</b>	<b>\$155,549</b>

This option removes recycling revenue and user fees and removes ACRC expenses.

- **Advertising Outlets for Special Materials**

Other programs such as tire collection, e-scrap collection, and household hazardous waste collection may still need to be funded and advertised to provide recycling opportunities for hard-to-recycle materials mandated by Ohio EPA. EPA does not require actual collection activities for these materials. EPA requires the District have a strategy for the management of special materials (HHW, Tires, Lead Acid Batteries, E-Scrap). This could be accomplished in other less expensive means. Public perception of loss of service will need to be considered if collection activities change.

- **Provide Drop-Off Reserved for the City of Ashland Sanitation Department**

The City of Ashland transported over 455 tons of cardboard and glass to the ACRC in 2017. This translates to almost 9 tons per week. In order to maintain the City of Ashland's curbside recycling program operating and collecting tonnage, the District may need to provide a solution to process these materials in the future since the District currently provides this service to the City. The following are options for consideration:

## **Glass**

The District accepts sorted glass in gaylord boxes from the City at the ACRC. The District accepts the boxes and places them into a trailer for shipment to CAP Glass in Pittsburg. If the ACRC reduces current operations, the City may be able to have a trailer placed at their sanitation yard where they can load the sorted glass into the trailer and when full, ship to CAP Glass. The Board should determine if the City would be amenable to this option.

## **Cardboard**

If the ACRC reduces operations but maintains the existing equipment including the baler, the District could still accept the cardboard from the City. The District, with minimal staff, could bale the cardboard and sell it for additional revenue.

If the ACRC reduces operations and the facility is not available, then the cardboard would have to either be included in the District's new drop-off program or another arrangement would have to be made with the City and a third party to manage the materials. Because the City delivers the cardboard in a rear load packer truck, there will be a handling problem with regards to moving the cardboard into a drop-off container or transportation trailer.

For these two recyclable materials, GT suggest engaging with the City to determine what pathway forward is achievable if the ACRC reduces operations.

- **Convert the ACRC to a Recycling Transfer Station**

The District could convert the ACRC to a 100% recycling transfer station by selling all equipment in the facility, purchasing a compactor, and reserving the building as a tipping floor. The District already operates as a hybrid facility where it transfers plastic, glass, and ferrous metals and processes paper, cardboard, and non-ferrous metals. This would mainly be used by the City of Ashland, but the District could also charge a tipping fee for other haulers to use the facility. This could provide additional revenue to the District.

To turn the ACRC into a recycling transfer station, the following assumptions were made:

- The personnel expenses were reduced to one fourth to account for a full-time operator and a part-time assistant/driver/etc.
- Selling and purchasing new equipment were not calculated due to variable prices and possibility of a net income.
- Tipping Fee revenue was not included but it is an option to consider for additional funding.
- Recycling revenue is based on half of the average received from 2015-2018. This will vary based on quality received and transported to another MRF.

The following table does not include revenue from selling current equipment or purchasing but to represent a year-to-year estimate for revenue and expenses.

**Table 9. Revenue and Expenses for ACRC Converted to District-Operated Recycling Transfer Station**

Category	2015 District	2016 District	2017 District	2018 Estimated District	2015-2018 Average	2019 Transfer Station
Recycling Revenue (Revenue)	\$324,655	\$367,731	\$511,064	\$337,810	\$385,315	\$192,657.51
<b>Total Revenue</b>	\$791,163	\$886,467	\$990,271	\$905,652	\$893,388	\$700,181
ACRC/Recycling Center (Expense)	\$665,900	\$770,624	\$736,920	\$790,343	\$740,947	\$586,570.95
<b>Total Expenses</b>	\$769,981	\$876,951	\$869,932	\$913,562	\$857,606	\$703,231
<b>Net Revenue</b>	\$21,182	\$9,516	\$120,339	-\$7,910	\$35,782	-\$3,050
Previous Year's Balance	\$58,273	\$79,454	\$88,970	\$209,309	N/A	\$201,400
Final End of Year Balance	\$79,454	\$88,970	\$209,309	\$201,400	N/A	\$198,350

This option reduces recycling revenue and reduces most ACRC expenses (personnel and equipment expenses but increases freight for materials and fuel expenses associated with the ACRC.

## SCENARIO #2 – KEEP THE ACRC OPERATIONS THE SAME

If the Board can accept the fluctuations in the recyclables markets from year to year, then keeping the ACRC in its current operational status may be the most cost-effective alternative without implementing major changes in the District programs and operations. Below are additional recommendations if the District were to keep the ACRC in operation and to continue to increase efficiency.

- **Providing Drop-Off Services by District**

By the District providing service to the drop-off recycling program, the District can control pick-up frequency, hauling destinations, employees, and other factors while still having control of costs. Contractors in other districts have historically increased rates at each contract renewal year, and other districts have seen limited choice in their hauler and costs associated with the contracts. The following table summarizes the projected revenues and expenses for this option:

**Table 10. Revenue and Expenses for District Provided Drop-Off Services**

Category	2015 District	2016 District	2017 District	2018 Estimated District	2015-2018 Average	2019 Current ACRC Operations
<b>Total Revenue</b>	\$791,163	\$886,467	\$990,271	\$905,652	\$893,388	\$892,838
<b>Total Expenses</b>	\$769,981	\$876,951	\$869,932	\$913,562	\$857,606	\$857,606

Category	2015 District	2016 District	2017 District	2018 Estimated District	2015-2018 Average	2019 Current ACRC Operations
<i>Net Revenue</i>	\$21,182	\$9,516	\$120,339	-\$7,910	<b>\$35,782</b>	<b>\$35,232</b>
<i>Previous Year's Balance</i>	\$58,273	\$79,454	\$88,970	\$209,309	N/A	<b>\$201,400</b>
<i>Final End of Year Balance</i>	\$79,454	\$88,970	\$209,309	\$201,400	N/A	<b>\$236,632</b>

This option keep current ACRC Operations based on 2015-2018 average with removed fee penalties revenue average.

- **Contracting Drop-Off Services**

By contracting drop-off services, this will reduce the personnel expenses and costs associated with the Ashland County Recycling Center. Other operations related to the ACRC would continue. Contracting collection services removes the District from the need to maintain drop-off locations and containers. The following table summarizes the projected revenues and expenses for this option:

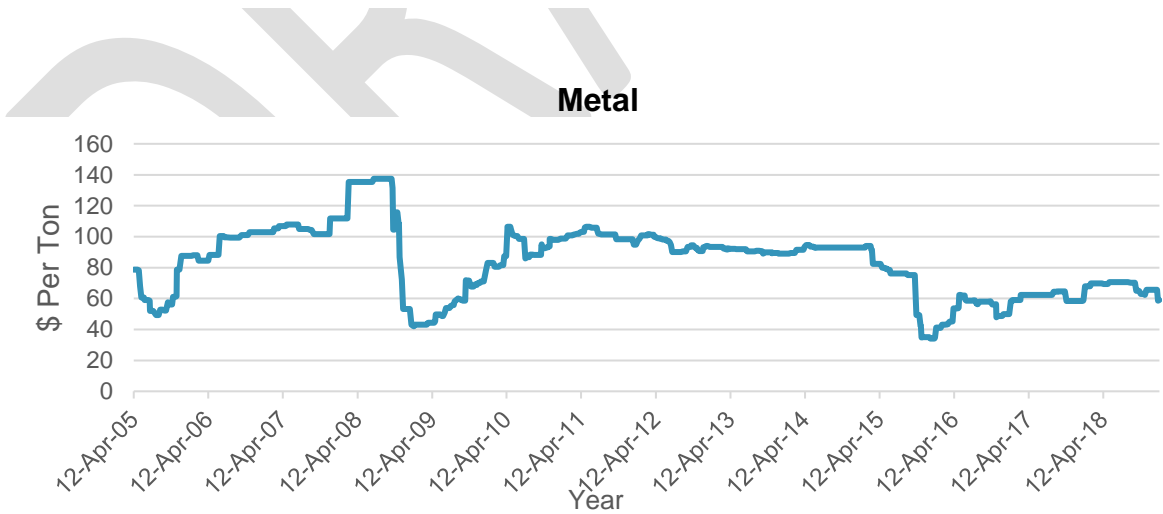
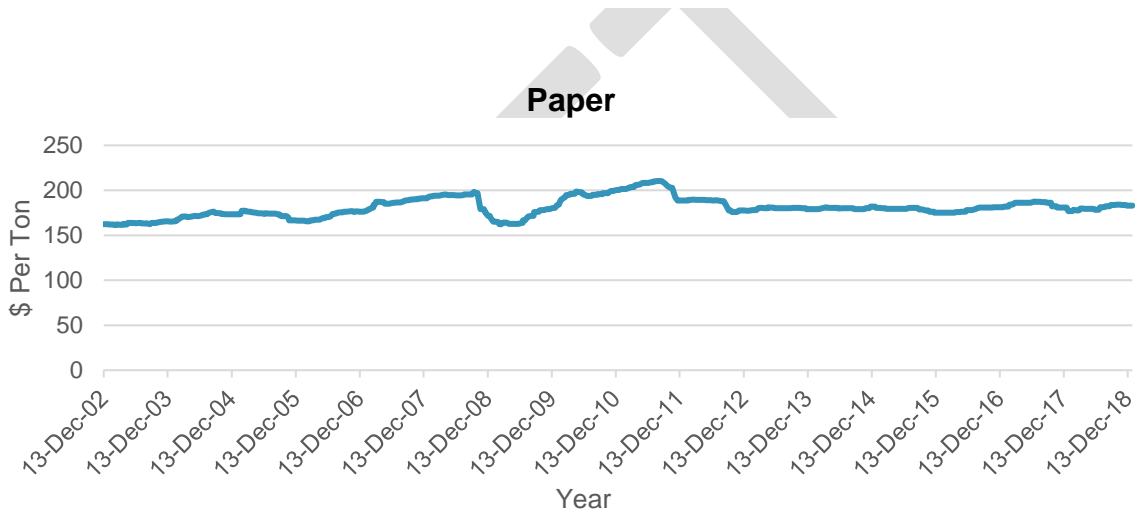
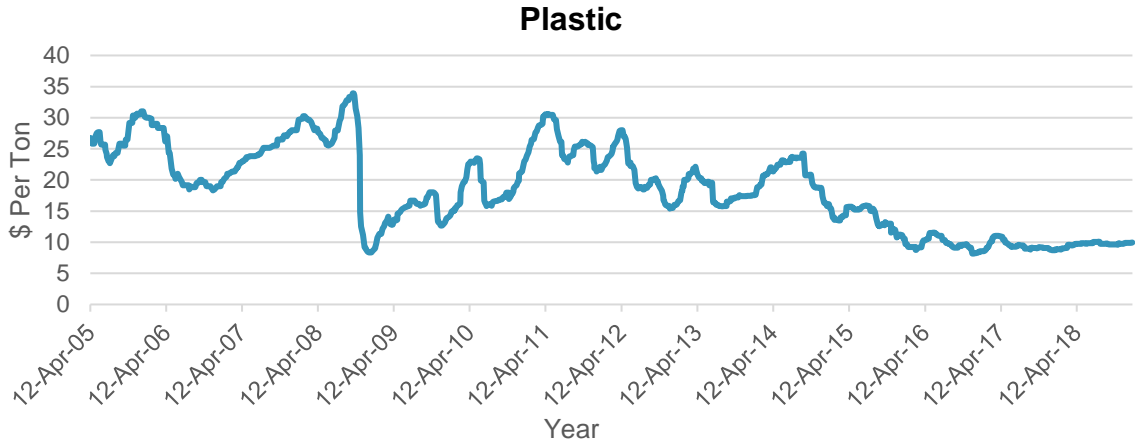
**Table 11. Revenue and Expenses for Contracted Drop-off Services**

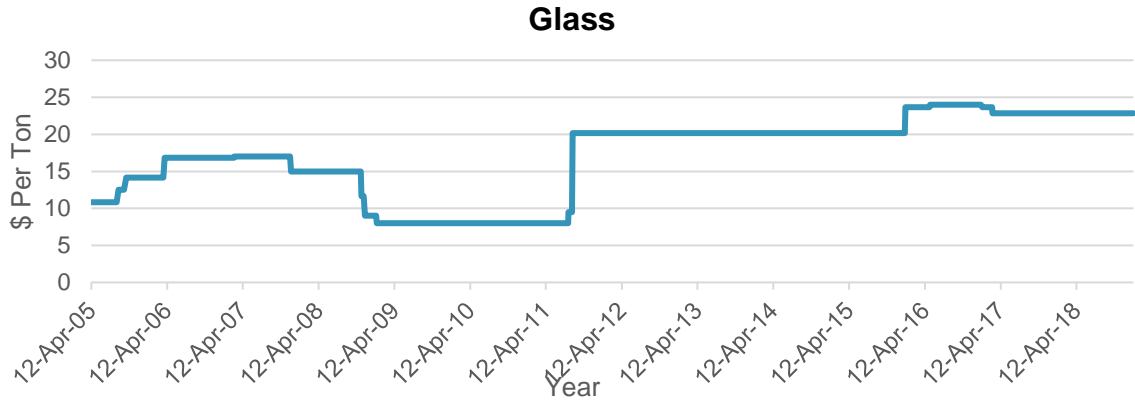
Category	2015 District	2016 District	2017 District	2018 Estimated District	2015-2018 Average	2019 Reduced ACRC Operations (Minimum Contract Costs)	2019 Reduced ACRC Operations (Maximum Contract Costs)
<i>Total Revenue</i>	\$791,163	\$886,467	\$990,271	\$905,652	\$893,388	\$892,838	\$892,838
<i>Total Expenses</i>	\$769,981	\$876,951	\$869,932	\$913,562	\$857,606	\$845,443	\$990,611
<i>Net Revenue</i>	\$21,182	\$9,516	\$120,339	-\$7,910	\$35,782	<b>\$47,396</b>	<b>-\$97,773</b>
<i>Previous Year's Balance</i>	\$58,273	\$79,454	\$88,970	\$209,309	N/A	\$201,400	\$201,400
<i>Final End of Year Balance</i>	\$79,454	\$88,970	\$209,309	\$201,400	\$144,783	\$248,795	\$103,627

This option keeps recycling revenue and user fees and reduces ACRC personnel expenses.

- **Market Fluctuations**

The recycling markets fluctuate year to year. Recycling revenue can be low or high in one year and change dramatically the next. For example, in 2017, the District earned \$511,063.74 in recycling revenue but earned only \$309,659.32 in 2018 even though it recycled more in 2018. This is most likely a direct result of the recycling market's decline since the China National Sword was implemented in late 2017. However, the recycling market historically and consistently goes through ups and downs. The Board should understand that in years with low recycling revenue, the markets might correct itself in the near future but should plan to save enough for years with low recycling revenue. The charts below emphasize different recycling materials markets' historical fluctuations and corrections.





The bottom line is the District added over a \$100,000 to the bottom line in 2017 because the markets were favorable. In 2018, the District lost over \$7,000 in operations and had over \$100,000 less in recyclable revenue due to the markets. The markets are improving in 2019 at this time.

- **Restructure open hours/working shifts**

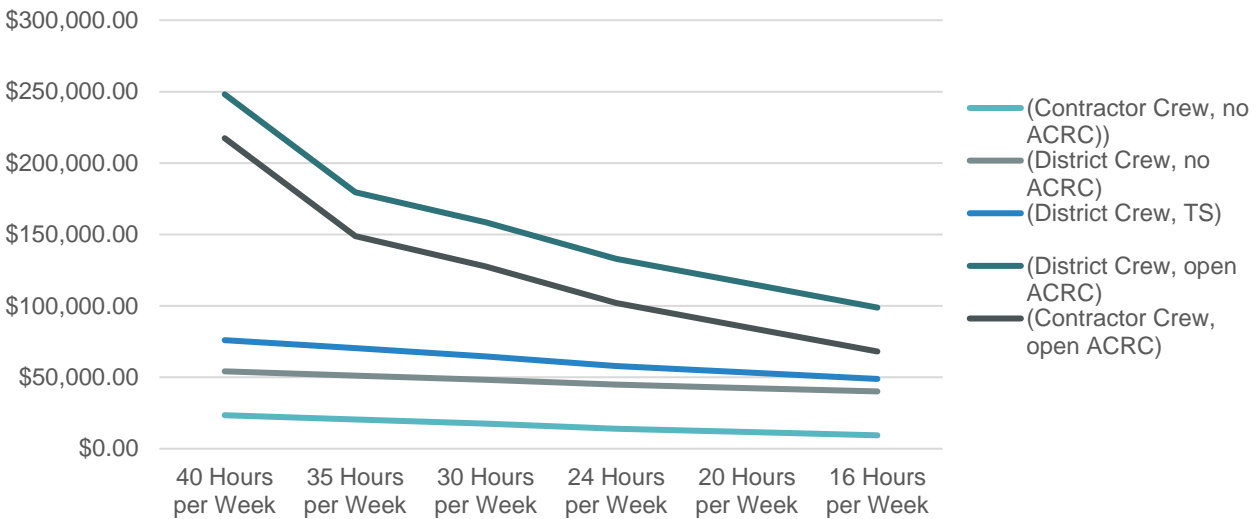
In 2017, the Ashland County Recycling Center was open for 40 hours per week and employed 4 full-time workers, 3 part-time drivers, and 3 full-time floor workers for a total of \$219,086 in employee costs. If open hours or shift hours are reduced, then the District may be able to cut costs on personnel and utilities.

**Table 12. Salary and Benefits Cost**

Position	F/T or P/T	Current Average Weekly Hours	Average Hourly Wage as of End of 2017	Full-time: 40 hrs per week (52.2 working weeks)
Recycling Director	F/T	40	\$18.11	\$37,813.68
Office Administrator	F/T	40	\$11.22	\$23,427.36
Foreman	F/T	40	\$11.76	\$37,813.68
Drive-Thru Attendant	F/T	40	\$10.46	\$21,840.48
General Laborer (3)	F/T	40	\$9.99	\$96,507.36
Truck Driver (16 hrs) (2)	P/T	16	\$10.56	\$17,889.98
Truck Driver (24 hrs)	P/T	24	\$10.25	\$12,841.20
Total				\$248,133.74

The following figure shows the change in total Salary Expenses if the full-time employees had adjusted schedules from 40 hours per week to either 35, 30, 24, and 16 per week. This demonstrates cost savings if hours needed to be restructure.

**Figure 3. Total ACRC Salary Estimates (Full-time Employee Hour Reductions)**



- **Cost Savings from Recycle Director Retirement**

Since the ACRC Recycling Director, as of February 1, 2019, retired, if the Board does not replace this position, a total of \$35,000 - \$40,000 could be saved annually. The Recycle Director was responsible for overall facility operations, maintenance and crew supervision. A current staff member is now assuming most of these responsibilities. The largest issue, besides the loss of experience in this position, is the maintenance related issues that will need to be addressed if the position is not replaced. Also, significant institutional knowledge of the ACRC operations was lost with this position.

## **BASELINE DATA**

The following section presents various options of how the District could operate and meet State requirements based on the data collected and analyzed in this report. As of 2017, the District has 88% recycling access for the District. State Goal #1 requires meeting 90% access for a District's residents.

Below is a brief out line of this section:

- **Baseline Data**
  - 2019 Budget Assumptions
  - Meeting State Access Requirements
    - Option 1: Additional Drop-Off or Curbside Programs
    - Option 2: City of Ashland PAYT Program
    - Summary of Option Costs

## **Summary Acknowledging Options Available to Meet State Goal #1 Requirements (With Current OR Without ACRC Operations)**

The following tables summarize the District-operated drop-off collection and the contractor-operated drop-off collection examples above, with and without the ACRC in operation.

Without the ACRC in operation, all recycling revenue and user fees from tire and e-scrap recycling would have been eliminated. However, all or most expenses related to the ACRC would also be eliminated. These options will be used as baselines for options in following sections. Table 13 (Baseline 1) shows the balance using the District-operated crew to collect materials from drop-offs, and Table 14 (Baseline 2) shows the balance using a contracted crew to collect materials from drop-offs.

*Baseline 1: District-Operated Drop-Offs*

This is projected data for 2019 for operating the drop-offs with a District-operated crew. This assumes other operations related to the ACRC would continue.

**Table 13. District-Operated Drop-Off Collection**

Category	2015-2018 Average	2019 With Current ACRC Operations	2019 Without ACRC Operations
Total Revenue	\$893,388	\$892,838	\$314,956
Total Expenses	\$857,606	\$857,606	\$311,916
Net Revenue	\$35,782	\$35,232	\$3,040
Previous Year's Balance	N/A	\$201,400	\$201,400
Final End of Year Balance	N/A	\$236,632	\$204,439

The explanation for the ACRC expense estimates are below.

- Ashland Co Recycling Equipment was estimated to decrease by 10%
  - This line item includes recycling tubs and portable welder.
  - It is assumed the portable welder would not be included without the ACRC operations.
- Ashland Co Repair was estimated to decrease by 50%
  - This line item includes planned maintenance for tow motors, skid loader, box trucks, repair worked needed on trucks, hauling trailers & equipment
  - It is assumed that the maintenance for tow motors, skid loader, and hauling trailers would not be included without the ACRC.
- ACRC Personnel Salary, ACRC Personnel Workers Comp, ACRC Personnel Health Insurance, ACRC Personnel PERS, and ACRC Personnel Medicare were all estimated to decrease by 25%
  - These line items include 4 full-time employees, 2 part-time floor workers, and 3 part-time drivers
  - It is assumed that only the drivers and 2 full-time employees would remain without the ACRC in operation.

*Baseline 2: Contractor-Operated Drop-Offs*

This is projected data for 2019 for operating the drop-offs with a contractor-operated crew. This assumes other operations related to the ACRC would keep current versus not continue operations.



**Table 14. Contractor-Operated Drop-Off Collection**

Category	2015-2018 Average	2019 With Current ACRC Operations (Minimum Contract Costs)	2019 With Current ACRC Operations (Maximum Contract Costs)	2019 Without Current ACRC Operations (Minimum Contract Costs)	2019 Without ACRC Operations (Maximum Contract Costs)
Total Revenue	\$893,388	\$892,838	\$892,838	\$314,956	\$314,956
Total Expenses	\$857,606	\$749,120	\$894,288	\$215,638	\$360,807
Net Revenue	\$35,782	\$143,719	-\$1,450	\$99,318	-\$45,851
Previous Year's Balance	N/A	\$201,400	\$201,400	\$201,400	\$201,400
Final End of Year Balance	\$144,783	\$345,118	\$199,950	\$300,717	\$155,549

In the table above, a contracted service to collect materials from all public, school, commercial, and Ashland University drop-offs was added under the Drop-Off Recycling Collection category in expenses. This amount was estimated by using the drop-off data collected from other Districts. After removing the highest and lowest costing programs, the average of the remaining four other Districts was \$6,599 per drop-off site per year. If all seven Districts were averaged, it would have been \$7,015 per drop-off site. The \$6,599 drop-off site estimate used with the maximum 37 drop-offs maintained by the District estimates an annual cost of \$244,147, and the \$6,599 drop-off site estimate used with the minimum of 15 drop-offs maintained by the District (only the public drop-off sites) estimates an annual cost of \$98,978.40.

**Table 15. Cost Estimated based on Sample Districts with contracted Drop-off Programs**

District	Ashland	Ottawa-Sandusky-Seneca	Geauga-Trumbull*	Athens-Hocking	Medina	Richland**	Lawrence-Scioto
2017 Costs	\$736,920	\$177,805	\$499,104	\$159,082	\$799,733	\$139,000	\$61,618
2017 Number of Drop-offs	\$37	\$24	\$48	\$38	\$65	\$41	\$14
Cost per Drop-Off per Year	\$19,917	\$7,409	\$10,398	\$4,186	\$12,304	\$3,390	\$4,401
2017 Contractor	District	Athens-Hocking Recycling Centers	Ohio Valley Waste	Republic Services	Kimble	Rumpke from Jan-Sept 2017, Republic from Oct-Dec 2017	Rumpke
Average Cost per Drop-off per Year	<b>\$6,599</b>						
For 37 Drop-offs	<b>\$244,147</b>						
*Geauga-Trumbull was removed from the average cost per drop-off calculation for highest cost.							
** Richland was removed from the average cost per drop-off calculation for lowest cost.							

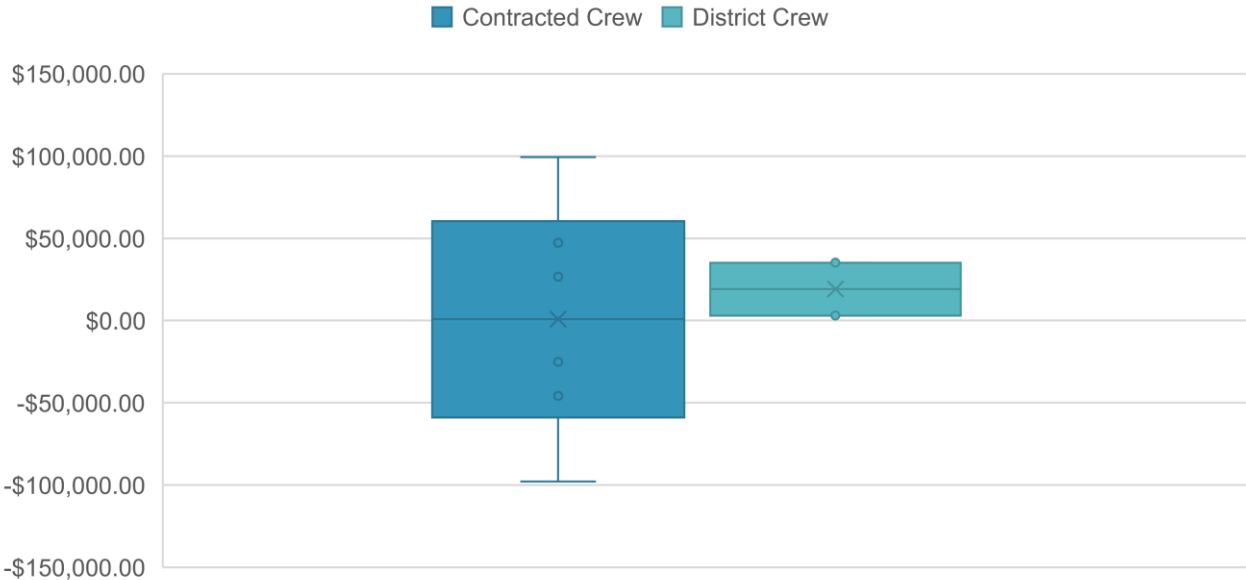
*Baseline Summary*

Projected 2019 revenues and expenses were analyzed in the tables above showing the difference in efficiently selling recyclable commodities to support the District’s recycling program. Table 16 and Figure 4 below summarize the resulting annual net revenues.

**Table 16. 2019 Net Revenue/Expenses Comparison in Baselines 1 and 2 for Drop-Off Collection Crews**

	With the ACRC Current Operations			Without the ACRC Operations		
	Minimum	Maximum	Average	Minimum	Maximum	Average
<b>Contracted Crew</b>	\$47,395.53	-\$97,772.79	-\$25,188.63	\$99,317.67	-\$45,850.65	\$26,733.51
<b>District Crew</b>	-	-	\$35,231.94	-	-	\$3,039.78

**Figure 4. 2019 Average Net Revenue/Expenses for Contractor and District Drop-Off Collection Crews**



On average (see Figure 3), the contractor-operated crew results in a higher net revenue than if the District were to operate drop-off collections. However, the contractor-operated crew has a lower possible net revenue than the District-operated crew. Depending on what bid results could be from potential haulers, the District can decide which is more economically feasible.

## 2019 Budget Assumptions

The “2019 With Current ACRC Operations” column in the options below are an average of actual revenues and expenses in 2015 to 2018 with the ACRC in operation.

The “2019 Without ACRC Operations” column in the options below use an average of each line item of 2015 to 2018 revenues and expenses in Baseline 2: Contractor Operated Drop-Offs to project 2019 revenues and expenses because a contracted crew has a higher average annual net revenue (see Figure 3). Additionally, the options use the average projected Contract Service expense (\$171,562.56 per year) plus any additional costs related to the option for meeting state requirements.

GT assumes that if the District crew collects recyclables from the drop-off program that they will not be sorted but will be sent to the Waste Management recycling facility in Akron Ohio under the same terms as the current plastic and metal containers that are shipped there currently.

## Meeting State Access Requirements with Baseline Data

### *Suggestion 1: Additional Drop-Off or Curbside Programs*

Using the standard demonstration of achieving the State Goal 1, OEPA requires that districts must provide 90% of the District population access to recycling opportunities. In order to meet this requirement, the following table summarizes the number of credits that would need to be added to the District’s infrastructure in order to meet the 90% access credit requirement.

**Table 17. Additional Credits to Meet 90% Access**

	2017	2020	2025	2030	2035
Total County Population	53,628	53,980	54,870	55,790	57,010
Total Population Credit	47,211	47,357	47,725	48,106	48,611
Percent of Population	88%	88%	87%	86%	85%
Total Credits Needed to Reach 90%	48,265	48,582	49,383	50,211	51,309
Additional Credits Needed to Reach 90%	1,054	1,225	1,658	2,105	2,698

In Table 17 above, 1,225 credits would need to be added to reach the 90% access goal in 2020. The addition of one full-time or part-time drop-off site, non-subscription curbside program(s) in a community or communities that have at least 1,225 total residents, or subscription curbside program(s) that have at least 4,900 total residents would meet this requirement. However, the additional credits needed drivers slightly increases every year afterwards. Therefore, additional recycling infrastructure may be needed in those following years.

### Option 1a: Additional Drop-Off

An additional qualified 2,500 credits towards the drop-off program would allow the District to meet 90% access for recycling. The estimated cost of one additional credit-qualifying drop-off was added to the following budget. In the future, the District would need to consider a second additional drop-off qualifying for at least a 2,500 credit by 2035 to keep up with projected population growth.

**Table 18. Budget for Additional Drop-Off Program**

Category	2015-2018 Average	Contractor (Baseline 2)		District (Baseline 1)	
		2019 With Current ACRC Operations	2019 Without ACRC Operations	2019 With Current ACRC Operations	2019 Without ACRC Operations
<b>Total Revenue</b>	\$892,838	\$892,838	\$314,956	\$892,838	\$314,956
ACRC/Recycling Center (Expense)	\$740,947	\$629,805	\$0	\$740,947	\$195,256
Drop-off Recycling Contractor (Expense)	\$0	\$178,162	\$178,162	\$6,599	\$6,599
<b>Total Expenses</b>	\$857,606	\$924,626	\$294,821	\$864,205	\$318,515
<b>Net Revenue</b>	\$35,232	-\$31,788	\$20,135	\$28,633	-\$3,559
<b>Previous Year's Balance</b>	N/A	\$201,400	\$201,400	\$201,400	\$201,400
<b>Final End of Year Balance</b>	N/A	\$169,612	\$221,534	\$230,033	\$197,840

The 2019 projections include the Baseline 2 and 1 budget projections plus an additional \$6,599 for one additional drop-off location.

### Option 1b: Additional Non-Subscription Curbside Program

An additional non-subscription curbside program would also allow the District to meet 90% access for recycling in 2020. By adding a non-subscription curbside program to one of the more populated communities without drop-offs (Montgomery Twp., Orange Twp., Milton Twp., Perry Twp., Clear Creek Twp., or Mohican Twp.), the District would gain enough credits to earn 90% access. Non-subscription credits are worth 100% of the jurisdiction's population. Montgomery Township was used in the analysis as it is the most populated community (after City of Ashland and Jackson Township where drop-offs are already being counted for credits), and this would result in giving the District 2,691 additional credits. The Board does not directly have the ability to implement a non-subscription curbside recycling program in any of the above communities. This option would be directly dependent on the communities listed above in voluntarily implementing the curbside program. The District could provide technical assistance with the program initiation if requested by the community.

**Table 19. Budget for Additional Non-Subscription Curbside Program**

Category	2015-2018 Average	Contractor		District	
		2019 With Current ACRC Operations	2019 Without ACRC Operations	2019 With Current ACRC Operations	2019 Without ACRC Operations
<b>Total Revenue</b>	\$892,838	\$892,838	\$314,956	\$892,838	\$314,956
ACRC/Recycling Center (Expense)	\$740,947	\$629,805	\$0	\$740,947	\$195,256
Curbside Non-Subscription Assistance (Expense)	\$0	\$72,585	\$72,585	\$72,585	\$72,585
Drop-off Recycling Collection (Expense)	\$0	\$171,563	\$171,563	\$0	\$0
<b>Total Expenses</b>	\$294,781	\$990,612	\$360,808	\$930,192	\$384,501
<b>Net Revenue</b>	\$598,058	-\$97,774	-\$45,852	-\$37,353	-\$69,545
<i>Previous Year's Balance</i>	N/A	\$201,400	\$201,400	\$201,400	\$201,400
<i>Final End of Year Balance</i>	N/A	\$103,626	\$155,548	\$164,046	\$131,854

The 2019 projections include the Baseline 2 and 1 budget projections plus an additional \$72,585 estimated for education (\$15,000) and recycling containers (\$57,585).

The containers were estimated by using Ashland County's average persons per household (2.43 people). The recycling containers are estimated to be \$52 each for a total estimated 1,107 households in Montgomery Township.

**Option 1c: Additional Subscription Curbside Program**

An additional subscription curbside programs could also allow the District to meet 90% access for recycling in 2020. By adding at least four (4) subscription curbside programs to a few of the more populated townships such as Jackson, Montgomery, Sullivan, and Orange Townships used in the analysis, the District would gain an additional 2,865 credits. Subscription credits are worth 25% of the jurisdiction's population. The Board does not directly have the ability to implement a subscription curbside recycling program in any of the above communities. This option would be directly dependent on the communities listed above in voluntarily implementing the curbside program. The District could provide technical assistance with the program initiation if requested by the community.

**Table 20. Budget for Additional Subscription Curbside Program(s)**

Category	2015-2018 Average	Contractor (Baseline 2)		District (Baseline 1)	
		2019 With Current ACRC Operations	2019 Without ACRC Operations	2019 With Current ACRC Operations	2019 Without ACRC Operations
<b>Total Revenue</b>	\$892,838.40	\$892,838.40	\$314,955.97	\$892,838.40	\$314,955.97
ACRC/Recycling Center (Expense)	\$740,947	\$629,805	\$0	\$740,947	\$195,256
Curbside Subscription Assistance (Expense)	\$0	\$163,954	\$163,954	\$163,954	\$163,954
Drop-off Recycling Contractor (Expense)	\$0	\$171,563	\$171,563	\$0	\$0
<b>Total Expenses</b>	\$857,606	\$1,081,981	\$452,176	\$1,021,560	\$475,870
<b>Net Revenue</b>	\$35,232	-\$189,143	-\$137,220	-\$128,722	-\$160,914
<b>Previous Year's Balance</b>	N/A	\$201,400	\$201,400	\$201,400	\$201,400
<b>Final End of Year Balance</b>	N/A	\$12,257	\$64,179	\$72,678	\$40,485

The 2019 projections include the Baseline 2 and 1 budget projections plus an additional \$163,954 estimated for education (\$15,000) and recycling containers (\$148,954).

Net revenue is also negative in this option and would require the District to implement additional revenue sources in order to afford assisting communities to implement subscription curbside services.

*Suggestion 2: City of Ashland PAYT Program*

An alternative demonstration of meeting the requirements of State Goal 1 is for the District to meet a total access credit of 80%, as long as the largest community in the District has both a non-subscription curbside recycling program and a volume-based trash program. The City of Ashland is the largest community in the District, and it already operates a non-subscription curbside recycling program and a curbside trash collection program (not volume-based). The Board does not directly have the ability to implement a PAYT non-subscription curbside recycling program in the City of Ashland. This option would be directly dependent on the City to voluntarily implementing the curbside program. The District could provide technical assistance with the program initiation if requested by the community.

**Table 21. Budget for Technical Assistance to the City of Ashland**

Category	2015-2018 Average	Contractor (Baseline 2)		District (Baseline 1)	
		2019 With Current ACRC Operations	2019 Without ACRC Operations	2019 With Current ACRC Operations	2019 Without ACRC Operations
<b>Total Revenue</b>	\$892,838	\$892,838	\$314,956	\$892,838	\$314,956
ACRC/Recycling Center (Expense)	\$740,947	\$629,805	\$0	\$740,947	\$195,256
Education Staff (Expense)	\$17,343	\$31,811	\$31,811	\$17,343	\$17,343
Drop-off Recycling Collection (Expense)	\$0	\$171,563	\$171,563	\$0	\$0
<b>Total Expenses</b>	\$857,606	\$932,495	\$302,690	\$857,606	\$311,916
<b>Net Revenue</b>	\$35,232	-\$39,656	\$12,266	\$35,232	\$3,040
<i>Previous Year's Balance</i>	N/A	\$201,400	\$201,400	\$201,400	\$201,400
<i>Final End of Year Balance</i>	N/A	\$161,743	\$213,665	\$236,632	\$204,439

The 2019 projections include the Baseline 2 and 1 budget projections plus an additional \$15,000 for PAYT education.

*Summary of Option Costs*

Table 22 below summarizes the basic new program expenses added to each option above. However, it does not demonstrate the effects they have on other revenues and expenses in the District's budget. Therefore, the tables below summarize the final revenues and expenses of the District for each option. This cost is assumed in the District's budget if the District decides to fund one of these options to meet Goal #1 of the Ohio EPA State Goals.

**Table 22. Summary of Options' New Programs Costs**

Option	Cost
Option 1a: Add Drop-Off	\$6,599
Option 1b: Add Non-Subscription Curbside	\$72,585
Option 1c: Add Subscription Curbside	\$163,954
Option 2: Add PAYT	\$15,000

**Table 23. 2015 – 2018 Average Baseline Expenses and Revenues**

Category	Baseline				2015-2018 Average
	2015 District	2016 District	2017 District	2018 Estimated District	
<b>Total Revenue</b>	\$791,163	\$886,467	\$990,271	\$905,652	<b>\$893,388</b>
<b>Total Expenses</b>	\$769,981	\$876,951	\$869,932	\$913,562	<b>\$857,606</b>
<b>Net Revenue</b>	\$21,182	\$9,516	\$120,339	-\$7,910	<b>\$35,782</b>
<i>Previous Year's Balance</i>	\$58,273	\$79,454	\$88,970	\$209,309	N/A
<i>Final End of Year Balance</i>	\$79,454	\$88,970	\$209,309	\$201,400	<b>\$144,783</b>

## Contractor Crew Options

**Table 24. Summary of Option Expenses and Revenues  
(Contractor with Current ACRC Operations)**

Category	2015-2018 Average District	Scenario 1a: Add Drop-Off	Scenario 1b: Add Non- Subscription Curbside	Scenario 1c: Add Subscription Curbside	Scenario 2: Add PAYT	Transfer Station
		2019 With Current ACRC Operations				
<i>Total Revenue</i>	<b>\$893,388</b>	\$892,838	\$892,838	\$892,838	\$892,838	\$700,181
<i>Total Expenses</i>	<b>\$857,606</b>	\$924,626	\$990,612	\$1,081,981	\$932,495	\$703,231
<i>Net Revenue</i>	<b>\$35,782</b>	-\$31,788	-\$97,774	-\$189,143	-\$39,656	-\$3,050
<i>Previous Year's Balance</i>	N/A	\$201,400	\$201,400	\$201,400	\$201,400	\$201,400
<i>Final End of Year Balance</i>	N/A	\$169,612	\$103,626	\$12,257	\$161,743	\$198,350

**Table 25. Summary of Option Expenses and Revenues  
(Contractor Without ACRC Operations)**

Category	2015-2018 Average District	Scenario 1a: Add Drop- Off	Scenario 1b: Add Non- Subscription Curbside	Scenario 1c: Add Subscription Curbside	Scenario 2: Add PAYT	Transfer Station
		2019 Without ACRC Operations				
<i>Total Revenue</i>	<b>\$893,388</b>	\$314,956	\$314,956	\$314,956	\$314,956	\$700,181
<i>Total Expenses</i>	<b>\$857,606</b>	\$294,821	\$360,808	\$452,176	\$302,690	\$703,231
<i>Net Revenue</i>	<b>\$35,782</b>	\$20,135	-\$45,852	-\$137,220	\$12,266	-\$3,050
<i>Previous Year's Balance</i>	N/A	\$201,400	\$201,400	\$201,400	\$201,400	\$201,400
<i>Final End of Year Balance</i>	N/A	\$221,534	\$155,548	\$64,179	\$213,665	\$198,350

Each option uses an average of 2015, 2016, 2017, and 2018 expenses and revenues from the Baseline 2 (Contractor-operated drop-offs) to project 2019 expenses and revenues.



## District Crew Options

**Table 26. Summary of Option Expenses and Revenues  
(District Crew with Current ACRC Operations)**

Category	2015-2018 Average District	Scenario 1a: Add Drop-Off	Scenario 1b: Add Non- Subscription Curbside	Scenario 1c: Add Subscription Curbside	Scenario 2: Add PAYT	Transfer Station
<i>Total Revenue</i>	<b>\$893,388</b>	\$892,838	\$892,838	\$892,838	\$892,838	\$700,181
<i>Total Expenses</i>	<b>\$857,606</b>	\$864,205	\$930,192	\$1,021,560	\$857,606	\$703,231
<i>Net Revenue</i>	<b>\$35,782</b>	\$28,633	-\$37,353	-\$128,722	\$35,232	-\$3,050
<i>Previous Year's Balance</i>	N/A	\$201,400	\$201,400	\$201,400	\$201,400	\$201,400
<i>Final End of Year Balance</i>	N/A	\$230,033	\$164,046	\$72,678	\$236,632	\$198,350

**Table 27. Summary of Option Expenses and Revenues  
(District Crew Without ACRC Operations)**

Category	2015-2018 Average District	Scenario 1a: Add Drop- Off	Scenario 1b: Add Non- Subscription Curbside	Scenario 1c: Add Subscription Curbside	Scenario 2: Add PAYT	Transfer Station
<i>Total Revenue</i>	<b>\$893,388</b>	\$314,956	\$314,956	\$314,956	\$314,956	\$700,181
<i>Total Expenses</i>	<b>\$857,606</b>	\$318,515	\$384,501	\$475,870	\$311,916	\$703,231
<i>Net Revenue</i>	<b>\$35,782</b>	-\$3,559	-\$69,545	-\$160,914	\$3,040	-\$3,050
<i>Previous Year's Balance</i>	N/A	\$201,400	\$201,400	\$201,400	\$201,400	\$201,400
<i>Final End of Year Balance</i>	N/A	\$197,840	\$131,854	\$40,485	\$204,439	\$198,350

Each option above uses an average of 2015, 2016, 2017, and 2018 expenses and revenues from the Baseline 1 (District-operated drop-offs) to project 2019 expenses and revenues.

*Summary of Options and Scenarios*

The following table summarizes the projected annual net revenues for each option using a contracted crew or District crew to collect materials from the drop-offs.

*Summary of Options to Meet State Goal #1*

**Table 28. Summary of Projected 2019 Annual Net Revenue/Expenses**

Category	Contractor		District Crew	
	2019 With Current ACRC Operations	2019 Without ACRC Operations	2019 With Current ACRC Operations	2019 Without ACRC Operations
<b>2015-2018 Average District</b>	\$35,782			
<b>Option 1a: Add Drop-Off</b>	-\$31,788	\$20,135	\$28,633	-\$3,559
<b>Option 1b: Add Non-Subscription Curbside</b>	-\$97,774	-\$45,852	-\$37,353	-\$69,545
<b>Option 1c: Add Subscription Curbside</b>	-\$189,143	-\$137,220	-\$128,722	-\$160,914
<b>Option 2: Add PAYT</b>	-\$39,656	\$12,266	\$35,232	\$3,040
<b>Transfer Station</b>	-\$3,050			

The table above present different options and estimated outcomes based on the net revenue/expenses. Expenses in “With Current ACRC Operations” include expense line-items which accrue with current operations of the ACRC averaged from 2015-2018. Estimations of how each scenario effects line-items within the expenses were adjusted and discussed in the Study above. All scenarios could fluctuate based on actual contract rates, recycling revenue (which fluctuated based on market conditions) opportunities, and the final staffing involved.