

Section V – Planning Period Projections and Strategies

The purpose of this section is to produce projections of population and solid waste generation, including residential, commercial, industrial and special categories of waste such as exempt. All assumptions and sources of information are detailed. Waste reduction strategies which will be implemented throughout the planning period are specified with accompanying projected amounts of solid waste that will be recycled or composted. This section also discusses whether existing programs are sufficient to address the amount of yard waste, scrap tires, lead-acid batteries and household hazardous waste generated in the district. To remain consistent, it is important to note that waste reduction means source reduction, recycling, composting, documented land application or yard waste, resource recovery, and incineration.

A. Planning Period

The planning period for this update is 15 years beginning January 1, 2013 thru December 31, 2027. The reference year for this update is 2009.

B. Population Projections

Table V-1 presents the population projections for Mahoning County for the 2009 reference year and for each year of the planning period. The District's 2009 population was determined to be 239,675 as explained in Section IV.

Youngstown had the most severe population decline of all 25 major cities in Ohio. According to the US Census Bureau, Youngstown's population was 95,706 in 1990. As the manufacturing base and joblessness continued to spiral out of control in the past 20 years, residents left Youngstown to seek employment elsewhere. In addition to Youngstown, most of the townships, villages, and other cities lost population since the last update. The Census Bureau data demonstrates that the entire Mahoning Valley which includes Trumbull County and the City of Warren declined from 594,746 in 2000 to 556,976 in 2010, a loss of 6.4%. According to US Census Bureau data, the District lost 18,732 residents between 2000 and 2010, a 7.3% loss.

Mahoning County's population has steadily decreased since 1980 as the industrial job base commenced a steep decline with nearly all the Youngstown area steel mills closing in 1977. The District's population decreased by over 24,000 residents between the 1980 and 1990 census. In 1970 at the height of the area's industrial base, there were 304,545 residents. The District's population projections as listed in Table V-1 are based on the data obtained from the U.S. Census Bureau for 2010 and the Ohio Dept. of Development OSR projections for 2011 through 2027. The projections were determined by applying the average per/year rate of decline between 10-year intervals (2010 – 2020, and 2020 – 2030). The data shows that the District's population is projected to decline by 4.3% from 2009 (239,675) to 2027 (229,365). According to ODOD projections, the District's population will only be 226,800 by 2030, a tremendous loss of 30,755 residents or 11.9% from 2000.

C. Waste Generation Projections

1. Residential/Commercial Waste Generation

The District's population and waste generation rates, based on landfill disposal plus waste reduction data, are widely accepted parameters for determining and projecting the residential/commercial waste generation for a predominantly urban district as Mahoning County. Due to the continued population decline anticipated for the planning period with a projected loss of 8,416 residents over the 15-year planning period (2013 – 2027), the total residential/commercial waste generation level will decline from 257,710 tons in the reference year 2009 to 215,474 tons in 2027 (Table V-2).

Rationale for Residential/Commercial Waste Projections – Table V-2

The District researched various sources and means to provide a realistic projection scenario that included current and anticipated trends in commercial activity, population decline, estimated waste reduction strategy outcomes, and reviewing historical data. The current Plan projections were based on the 2002 Ohio EPA guideline: “Estimating Per Capita Residential/Commercial Waste Generation”. The projections proved to be significantly different than the actual weights and Pounds/Per Person/Per Day (P/P/D). Due to the differences, the District did not use this source for projections in Table V-2.

2009 Tons Projected in Draft	Actual	Difference
Residential/Commercial: 297,513 tons	257,710 tons	-39,803 tons
P/P/D 6.60	5.89	-.71

Historical Perspective

The District reviewed residential/commercial waste totals from 2006 thru 2009.

Total Residential/Commercial Waste Generation:			
2006	2007	2008	2009
311,651 tons	296,061 tons	300,758 tons	257,710 tons
6.80 P/P/D	6.49 P/P/D	6.63 P/P/D	5.89 P/P/D
2006 to 2007 = P/P/D decreased 4.6%			
2007 to 2008 = P/P/D increased 2.2%			
2008 to 2009 = P/P/D decreased 11.2%			

The District attributes the dramatic drop between 2008 and 2009 due to the nationwide recession with less MSW disposed along with less waste reduction totals. This mirrors the national trend between those years as evidenced in the US EPA publication “Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2009”. The per capita rate nationwide fell only slightly from 2000 to 2005: 4.72 to 4.67 P/P/D; then dramatically declined from 4.63 in 2007 to 4.34 in 2009. As in Mahoning County, the primary reason was the massive economic downturn and recession that began in 2008 and aggressively continued through 2009. Because of the

wide variance and anomaly due to the recession, the District believes basing projections solely on historical performance is not the most realistic method.

The District reviewed numerous studies that unfortunately were outdated or not relevant to Mahoning County. The District decided to base projections on EPA's "Municipal Solid Waste in the United States: 2009 Facts and Figures" document which details the average MSW - P/P/D decline between 2000 and 2009 was .04. Thus .04 was subtracted from the projected P/P/D from each year of the planning period based on the US EPA's study.

When considering the projected loss of population and resulting commercial activity that will occur throughout the timeline, the P/P/D decline rate appears realistic and achievable as the overall goal is to reduce the MSW generated from Mahoning County residents, businesses, schools, and institutions. The decrease is conservative ranging from a P/P/D decline of -.007% to -.008% as the District projects a decline of 42,236 tons from the reference year (257,710 tons) to 2027 (215,474 tons). This is a more realistic approach than that which was utilized in the current Plan in which the District over-projected the MSW total by almost 40,000 tons in the reference year.

The District's waste generation projections were developed as follows:

GR – Generation rate in pounds/person/day.

P – Population of the District (2009 – 239,675)

2,000 – Conversion factor of pounds to tons.

365 – Conversion factor of days into years.

TPY – Tons per year

$$\frac{\text{TPY} \times 2,000}{\text{P} \times 365} = 5.89$$

Calculations for V – 2 are as follows:

Sample Year 2018

$$237,257 \times 2,000 = 474,514,000$$

Divided by

$$236,045 \times 365 = 86,156,425$$

$$= 5.51 \text{ P/P/D}$$

Vindicator Study

As detailed in the January 23, 2011 front-page article in the Vindicator newspaper, the District's main commercial corridor: the seven-mile stretch of Rt. 224 in Boardman Township, continues to show a decline in growth. The Vindicator staff conducted a study between December 6 thru 10, 2010 to determine which businesses were operating and the

percentage closed with vacant storefronts. The results were that on Rt. 224, a full 17% of available commercial space was vacant with no identifiable tenant to enter. In addition, Market St. in Boardman, another commercial strip that had been host to vibrant commercial activity in past years, had a full 20% vacancy rate. The Vindicator study found an alarming 28% vacancy rate in the Boardman Plaza, once one of the top shopping areas in the county. To further prove that commercial activity has been declining with the 73 vacant store fronts on Rt. 224 as per the study, the Mahoning County sales tax decreased from 28-million in 2008 to slightly over 26-million during the reference year, a 7% decline. Thus with a continued population decline throughout the planning period and a decline in commercial activity as evidenced by the Vindicator study, the residential/commercial waste generation level will decline throughout the planning period as detailed in Table V-2.

2. Industrial Sector

Adding the tonnages of industrial solid waste that was generated in Mahoning County as detailed in the 2009 Facility Data Report (FDR) and disposed: 48,817 tons, to the tons of industrially generated solid waste recycled as detailed in the Annual District Report: 110,716 tons; provides a 2009 total industrial waste generation level of 159,533 tons. Compared to the District's 2003 industrial waste generation level of 130,642 ton, this demonstrates an increase of 28,891 tons or 22 %. The increase is due to the lack of mandated reporting in the last plan update which consequently did not supply accurate recycling tonnages in the industrial sector. Commencing in November 2005 with the passage of the City of Youngstown Scrap Metal Processor's Ordinance (Appendix N) which required monthly, accurate reporting of all residential/commercial and industrial metals being recycled; the District has been able to accurately track the tonnage of recyclables generated in the industrial/manufacturing sector.

The District firmly believes that utilizing the monthly, mandatory scrap metal reports, and the weights of industrially-generated, non-metallic recyclable materials that may be reported from various private recycling facilities, along with the industrially generated solid waste placed in landfills as detailed in the FDR and confirmed by District records – an accurate industrial waste generation level has been determined for this update. In addition to more accurate reporting requirements since the last update, the increase is a result of Mahoning County recently being host to numerous expansions in the manufacturing sector due to the natural gas, oil, and related drilling projects that demand vast amounts of pipe and metal equipment manufactured in Youngstown.

Natural Gas and Oil Drilling Projects Planned

As is widely accepted, industrial waste generation is directly proportional to the projections in industrial employment and factory investment. In 2010, V&M Star Steel, an international company headquartered in Paris, France, commenced a 650-million dollar expansion of their Youngstown facility in order to manufacture pipe and related steel products. In addition, as of this Plan drafting, a 400-million dollar steel mill is being negotiated with an international company for placement in Campbell. These major steel producing plants provide the justification for the District's projected slight and not

extreme decrease in industrial waste generation throughout the planning period as per Table V-3. As the District had experienced a massive shut-down of steel manufacturing operations for the past three decades, 2010 and 2011 marked the rebirth of the Youngstown-based steel industry with these investments. The motivation is the long-term natural gas and oil drilling that will occur in New York, Pennsylvania, and Ohio for the next several decades, and the resulting steel pipe and related equipment necessary for this massive project.

As detailed in the Business Strategies Today April 2011 edition, “*The Marcellus Shale gas field will be developed. Buried up to depths of 9,000 feet and beneath approximately 60 percent of Pennsylvania’s total land mass into eastern Ohio and beyond, sits the largest onshore reserve of natural gas in the world.*”. Geologists estimate the existence of 500 trillion cubic feet of natural gas. In 2009, Pennsylvania’s economy was significantly enhanced by the creation of 29,000 new jobs due to this project. Logic dictates that this trend will eventually overflow into neighboring Ohio.

This publication referenced and others highlight the direct economic impact as industries involved in drilling, excavation, production equipment (which benefits Youngstown-based manufacturers such as V&M), pipeline installation, exploration activities, and water transportation – will all benefit. From the “Tapping Marcellus Shale Potential” April 2011 article included in the Business Strategies Today edition, “by 2020, an estimated 212,000 new jobs will be created due to the Marcellus Shale development”. It is obvious that Youngstown and Mahoning County based manufacturing plants will experience an influx of orders for metal pipe and related equipment in order to fulfill the requirements of this project.

Further Industrial Expansion Projected

As part of the nationwide “green revolution”, several new Youngstown-based manufacturers are expanding with significant demand for their metal-based products. As highlighted in the April 2011 issue of the Youngstown/Warren Business Journal, Northern States Metals located in the Salt Springs Road Business Park doubled its workforce in 2010 and have a 230% increase in sales in just 4 years due to the demand for their Solar FlexRack system which has gained worldwide notoriety. Noteworthy is the District’s commercial/industrial waste reduction coordinator who conducted a waste assessment of this manufacturer in 2009 with a resulting waste reduction program implemented.

In April 2011, Youngstown Pipe and Supply Co. announced its expansion and relocation to the former Cold Metal Products building in Campbell. The company provides steel pipe, pipe valves and fittings, tubing, structural steel, and plate burnouts to industries mainly in Ohio and Pennsylvania. With the gas drilling project underway, they anticipate an increase in orders and 115 jobs have been created as of the summer of 2011.

According to Brian Benyo, President of Brilex Industries featured in the April 2011 edition of the Business Journal, the Mahoning Valley can expect to see an increase in demand for workers in the skilled trades. Mr. Benyo is a founding member of the

Mahoning Valley Manufacturing Association which conducted a survey and found that area manufacturers had 161 job openings they could not fill due to the shortage of qualified, skilled applicants. The surveyed companies projected that in three years; more than 300 jobs would be required to manage the growth they expect. As further proof of the projected increase in growth in the manufacturing sector, since the last plan update, numerous 2-year community colleges and technical schools have opened or expanded in Mahoning County that specialize in training potential workers in skilled trades in order to supply manufacturers with trained workers needed such as fork lift and heavy machinery operators, equipment specialists, mechanics, and truck drivers.

The U.S. Dept. of Labor statistics show that the Mahoning Valley unemployment rate went from 13.8% in March 2010 down to 10.3% one year later. According to the U.S. Bureau of Labor Statistics, the Mahoning Valley had the third highest job growth in the entire nation from March 2010 to March 2011 with 5,900 new jobs added. In 2011, Forbes magazine named the Youngstown – Warren – Boardman area as the fifth-fastest growing industrial area in the United States. The Youngstown Warren Regional Chamber of Commerce's Vice President, Mr. Walter Good states: "We expect that growth to continue based on the strong interest we are receiving for additional economic development projects in our area". In 2011, Forbes and Manpower magazines listed the Youngstown area as the fourth-best area in the entire country to find a job.

On June 16, 2011 during the Board of Commissioners meeting, an official announcement was made by the Regional Chamber that Extrude Aluminum, Inc., a Canadian-owned company with only one facility in the United States which is located in Mahoning County, will greatly expand their current facility by 80,000 square feet at an investment cost of 14-million dollars. Mr. Thomas Presby of the Chamber announced that Mahoning County is the third largest aluminum extrusion area in the entire country, and the facility located in Jackson Township will greatly expand the company's output. Todd Perren, Controller for Extrudex, stated this is the company's fourth expansion in Mahoning County in the past 13 years. The company provides custom aluminum extrusions for industrial and residential architecture, electrical transportation, marine, and consumer-goods applications. This is further evidence that the industrial waste generation level will not decline significantly as one would expect in contrast to other areas of Ohio and the nation as more manufacturing operations are shipped overseas. It also demonstrates that the metal recycling weights as reported from the scrap metal processing facilities since 2005 in compliance with the Youngstown Ordinance, will continue to remain at high levels throughout the timeline as indicated in Table V-6.

More compelling evidence of the rebound of the District's manufacturing base since the last plan update was detailed in the July 2011 edition of the Business Journal. In 1997, Coronado Steel Company, a small foundry located on Funston Drive in Youngstown, was on the verge of terminating operations. In 2008, they had sales of 22-million dollars and increased its customer base and work force dramatically. Coronado has undergone seven expansions and casts parts used in a variety of other industries. Hynes Industries, another local manufacturer, states that they are "60% ahead of where they were a year ago (2011 vs. 2010)" and continues to rehire employees previously laid off during the 2008

recession. Hynes is a steel service center that buys steel in large quantities from producers and processes coils, slabs, bars, and wire to customer specifications (Dennis LaRue – Business Journal July 2011).

However, the Department of Jobs and Family Services' projections of future employment in the Mahoning Valley do not mirror the anticipated employment increases as per the journals and newspaper articles. Thus, the District and Policy Committee had discussion during the Plan drafting process and chose the conservative avenue and based the industrial waste generation levels on the DJFS employment projections. However, for SIC 33 which is "primary metal manufacturing", the District lessened their projected job loss from -2.6% to -2.1% based on known job gains already obtained due to the Marcellus Shale project. The less severe job loss of .5% was selected through numerous discussions with District staff concentrating on the knowledge gained through the waste assessments completed and how they demonstrate an upward trend in the primary metal manufacturing segment. Since this is a projection based on the knowledge available at drafting time, the District did its best in order to arrive at a reasonable, realistic percentage for SIC 33 as the more severe drop of 2.6% was not considered practical. A full percentage adjustment was discussed; however, the staff and Policy Committee agreed that the .5% was more appropriate and realistic.

The District put much thought and research into this section as the logic for supporting significant job growth with accompanying waste generation increases was present; however, the District decided to follow the DJFS projections. The District realizes that a significant change in waste generation as included in Section One would be a circumstance for a Plan revision. If the employment and accompanying industrial waste generation volumes rise significantly above projections as stated in Table V-3 which were based on DJFS data, then the Policy Committee would have to commence the process of a plan revision to address this issue. As a reliable and widely accepted source for waste generation projections is required, the District chose to base projections on DJFS and not on the articles referenced.

Summary

To generate Table V-3, the change per year of employment for SIC Categories 20, 24, 25, 27, 28, 30, 32 thru 37 and 39 was directly obtained from the Ohio DJFS, and for the remaining industries, an average of all manufacturing SIC categories growth/decline was used. The average value of - 1.58 % was used for SIC categories 22, 23, 26, 29, 31, and 38. Details about altering category 33 were explained previously.

SIC Categories 20, 24, 25, 27, 28, 30, 32, 33, 34, 34, 36, 37 and 39 total decline = 20.59 divided by 13 = average of 1.58% decline as used in Table V-3. The District could not satisfactorily match those categories (22, 23, 26, 29, 31, and 38) to the Ohio DJFS list, thus the rationale for using an average for projection purposes.

3. Total Waste Generation

The residential/commercial and industrial waste generation estimates from Tables V-2 and Table V-3 were copied into Table V-4 in order to present the total waste generation which includes the exempt waste category that consists of construction and demolition debris (C&DD). As evident in Table V-4, the total waste generation will decline from 2009 at 424,808 tons to 2027 at 335,458 tons (-89,350 tons).

The exempt category will remain frozen as in the current Plan due to a lack of any reliable sources that counter such prediction. The District realizes that an unexpected spike occurred with the 2010 Facility Data Report information with 9,491 tons reported; however, this is considered a one-year anomaly and should not be used to project increases throughout the timeline.

Youngstown and surrounding communities have contracted for companies to demolish and/or deconstruct dilapidated structures at an average rate of 300 or more per year. The number of structures slated for demo annually will remain fairly constant throughout the planning period as city officials have stated that thousands of structures remain to be demolished, thus the rationale for freezing the reference year confirmed total of 7,565 tons. The 2010 amount reflects a significant increase in demolition activity that is not predicted to occur throughout the timeline.

During Oct. 2011, the District obtained the 2010 Facility Data Report from Ohio EPA and noted an extreme increase in the tons reported by Total Waste Logistics (TWL), a transfer station in Trumbull County, which ceased accepting waste in mid-2011 (letter in Appendix G). The variance between the projected tons for disposal in the original Draft and the amount reported in FDR is 23,519. The amount has been changed to reflect the tonnage as listed in the 2010 FDR and from the 2010 ADR Comments received from Ohio EPA. The District still has concerns about the reliability of the tonnage reported from this now closed facility as it does not reflect the trend from historical data.

TWL went from reporting 13,644 tons in 2009 as listed in the 2009 FDR to 37,777 tons in 2010 or 177% increase. As this facility no longer accepts waste and is located in Trumbull County, the District's ability to inspect their logs to verify the spike in transferred waste has been severely compromised. The District will accept the 37,777 tons reported as disposed by TWL in 2010 realizing this facility closed in mid-2011 and thus will not present the District this challenge in future years.

The District commenced survey activity and drafting of the update immediately after the official start date of December 9, 2010, thus all narratives and most tables were completed and reviewed by the Policy Committee when the 2010 draft FDR was released. The District considers the 2010 spike in the tonnage of residential/commercial metals reported as recycled an anomaly which will not continue as discussed further on in this section. As indicated in the notes in Table V-5, the District corrected the 2010 ADR that was originally submitted prior to June 1, 2011 with the addition of Ferrous Metal tonnage that was re-submitted to Ohio EPA. The corrected amount is listed on the 2010 ADR Comments received from Ohio EPA and is 39,781 tons. Basing projections on 2009

was deemed more logical and realistic rather than on 2010 which had reported significant increases in disposal amounts and tonnages recycled.

Although the 2011 FDR was not available during the Draft comments correction's phase, the District reviewed the 2011 monthly fee reports submitted by the Carbon Limestone Landfill and noticed a significant spike in disposal tonnage during a 3-month period. The following statement was submitted by Mr. Heher, Carbon Limestone Landfill operator that confirms this spike is a one-time situation. Thus, the District shall not use this one-time event for projection purposes.

Statement Dated February 15, 2012 from Michael Heher, Carbon Limestone Landfill:

“The attached information contains the total tonnage for soil removal at the Glacier Hills and Mahoning Valley Service Plazas located in Springfield Township, Mahoning County, Ohio. This was a one time operation which resulted in the disposal of 56,942.32 tons of soil being disposed of at the Carbon Limestone Landfill in Poland Township, Mahoning County, Ohio. We classified this as a solid waste and paid the appropriate fees.”

D. Projections for Waste Stream Composition

Waste stream composition will not change significantly during the planning period as the overall decline will not affect any one material specifically. As per instructions in Format 3.0, only if the relative composition of the waste stream is expected to change significantly over the planning period should projections through a separate table be necessary. The 2009 waste stream composition percentages as referenced in Table IV-10 are not projected to significantly change during the timeline.

E. Waste Reduction Strategies through the Planning Period

The District will continue with the implementation of strategies that coincide with the goals of the 1995 State Plan and Format, Version 3.0.

Goals

- 1) Ensure the availability of waste reduction and recycling opportunities/programs for residential/commercial waste.
- 2) Reduce and/or recycle at least 25% of the residential/commercial and/or 50% of the industrial waste generated.
- 3) Provide informational and technical assistance on source reduction.
- 4) Provide information and technical assistance on recycling, reuse, and composting opportunities.
- 5) Provide strategies for managing scrap tires and household hazardous wastes (HHW).

- 7) Continue with the District's market development strategy. *Local solid waste management districts are encouraged to conduct market development activities to promote the use of recycled products and to develop local markets for recovered materials.*

Tables V-5 and V-6 provide projections of tonnages recovered through waste reduction activities for residential/commercial programs and the industrial programs throughout the planning period. These programs will adequately serve to reduce the quantity of solid waste disposed in landfills. This section lists all the waste reduction strategies that will be implemented throughout the planning period with the State Plan Goals that will be achieved by each strategy. The District shall not implement additional strategies as the current list provides ample opportunities for effective waste reduction and will maintain the District above the waste reduction levels listed in the Goals.

Due to the District's revenue generation projections which remain conservative, funding for additional programs is not available. The waste reduction percentage increases or decreases listed with each strategy description are based upon historical data which generally entails years after 2005 and observed trends locally such as the downward spiral with commercial activity as noted in the Vindicator study referenced previously, and not statewide or national studies as these have proven ineffective with past updates. For example, in the current Plan the District utilized complex metrics based on extrapolation methods that often proved unrealistic as in the case of the School Fiber Program that resulted in a projection of just 1,410 tons (current plan, Table V-5). This is 88.2% less than the actual amount recovered as listed in the 2010 ADR and Table V-5: 2,654 tons. The District assumed a more common sense and conservative approach to project weights from strategies as this will result in more realistic outcomes. Although the District realizes that mathematical calculations are important for various sections of the Plan, projecting weights from strategies entails concentration on numerous local factors that the Policy Committee, Board of Directors, and District staff have considered and researched in order to arrive at the assumed percentage. The director and staff continually consult local experts such as operators of landfills, scrap metal processing facilities, business and industry officials, MRF operators, and others so that the District can determine the most reasonable projections for strategies, disposal tonnage trends, and for budgetary matters – all of which are covered in this Plan Update.

The District needed to add new programs in the previous (due Oct. 2005) draft due to the low waste reduction rates of past years. However, as disposal fee revenues have significantly declined since 2006 as discussed in Section VIII, and realizing that the variety of waste reduction strategies provided to the residents, businesses, and industries in the current Plan sufficiently cover the generated waste materials as listed in Tables IV-10 and 11; no new strategies are necessary in this Update. However, various existing strategies are expanded to more aggressively provide the programs and activities to further advance compliance with the State Plan Goals.

<u>Program</u>	<u>Goals</u>
Residential/Commercial Waste Reduction Strategies	

<i>Community Recycling Drop-off Sites:</i>	1, 2
<i>Curbside Recycling Program:</i>	1, 2
<i>Holiday Tree and Gift Wrap Special Collection:</i>	1, 2
<i>Appliance Recycling Drives:</i>	1, 2
<i>Business Recycling Program:</i>	1, 2, 3
<i>Rural Recycling Ed. and Awareness Program:</i>	3,4,5,7
<i>School Fiber Program:</i>	1, 2, 4
<i>Leaf Collection and Composting Program:</i>	1, 2, 4
<i>Backyard Composting Ed. & Awareness Program:</i>	4
<i>Tire Recycling Drives, Central Container:</i>	5
<i>Electronics Recycling Drives:</i>	1, 2
<i>Community Recycling Coordinators/Overflow Reports:</i>	1, 2, 4, 7
<i>Household Hazardous Waste Ed., Awareness, Drives:</i>	3, 5
<i>Household Battery Collection Program:</i>	1, 2
<i>Lead Acid Battery Recycling Program:</i>	5
<i>Education and Awareness Program:</i>	3, 4, 7
<i>District Website/Recycling Catalog:</i>	3, 4, 7
<i>Litter Prevention Programs:</i>	4
<i>YSU re:CREATE Program:</i>	1, 2, 3
<i>YSU Recycling Program:</i>	2, 3, 4, 7
<i>Pay As You Throw Promotions:</i>	3
<i>Litter Law Enforcement Program:</i>	3, 4
<i>Recycling Companies/Brokers/MRF:</i>	7
<i>Motor Oil Collection:</i>	5
<i>Mahoning Co. Board of Health Landfill Inspection/Well Tests:</i>	5
<i>US EPA WasteWise Program:</i>	3, 4, 7
<i>County and Municipal Assistance:</i>	none
<i>Scrap Metal Recycling/ R/C:</i>	1, 2
Industrial Waste Reduction Strategies	
<i>Industrial Recyclers/Brokers Monthly Reports:</i>	2
<i>Commercial and Industrial Waste Reduction/Assessments:</i>	3, 4, 5, 7
<i>Materials Exchange:</i>	4

Residential/Commercial Waste Reduction Strategies

The list of residential/commercial waste reduction strategies follows and although no new strategies are presented; certain expansions in existing strategies are detailed. All reference year strategies were explained in detail in Section IV, thus repeating is not necessary. The only strategies listed in Section IV that will not be included are the “Recycling Initiative/Competitive Funding” program and the “Build America Beautiful” program; both due to limited results and the decision by the District’s Policy Committee and Board of Directors to use the funds for the more productive strategies that will continue as detailed in this Section. Source reduction, although not quantifiable for inclusion as a separate strategy in Table V-5 or V-6, is an integral part of several strategies as explained under certain program descriptions that follow. The Format 3.0 states that inclusion of source reduction programs that provide information and technical

assistance is mandatory as per Goal 3, thus strategies with Goal 3 listed will serve in this education and awareness aspect.

Community Recycling Drop-off Sites

Goals 1, 2

As detailed in Section IV, the District had 43 community recycling drop-off sites in 2009; however, due to lack of performance, contamination challenges, and the cost of the drop-off bin servicing contract; the District downsized the number of sites to 37 as of the end of 2010. The District will sustain a total of 35 sites throughout the planning period which will be fully adequate. All drop-off sites can be used by residents and commercial entities. The sites are concentrated near multi-family dwellings and in urban, suburban and rural communities. Rural communities do not have curbside service. The cost of maintaining the drop-off site program includes the bin servicing costs which are contracted to a private company; repair, painting and/or replacement of dilapidated bins; and site improvements for pads, fences, and sheds. 2013 projected cost: \$490,000.00.

In 2007, Allied/Republic Waste Services was awarded the bin servicing contract, and they added #3 thru #7 plastics to the previously limited list of just #1 and #2. The following materials will continue to be accepted at all the 35 community drop-off sites throughout the planning period unless drastic market conditions occur that absolutely prevent such acceptance. With two large-scale material recovery facilities located in Mahoning County, this is extremely unlikely.

Newspapers, magazines, catalogs, ad slicks, manuals, pamphlets, junk mail, bagged shredded paper, paper bags, envelopes, office paper, notebook paper, maps, phone directories, gift wrap, and soft-back books; metal (steel and aluminum) food and beverage cans; glass beverage bottles; # 1 thru # 7 plastics; and cardboard and paperboard boxes. The plastics are limited to beverage or food containers such as the "clam shell" plastic containers used by restaurants for take-outs, or non-hazardous soap containers such as dish soap, shampoo, and laundry detergent.

The communities listed below will have the accompanying number of drop-off sites that will remain throughout the planning period (2013 thru 2027). Note: circumstances may warrant the relocation of one or more sites; however, relocations will not lessen the total number of sites that will remain at or above 35 which will also provide compliance with the state mandated access goal that is detailed in Section VII. Between 2006 and 2010, the District worked with each township, city, and village in order to determine the number of drop-off sites necessary to serve residents and small businesses. As noted below, several rural communities and small cities such as Campbell selected to have only one site as this was determined adequate by District and community officials. The District closely monitored the progress of each site during the five-year period in order to determine which sites would remain constant throughout the planning period. In several cases, small rural townships such as Goshen needed an additional site due to factors such as a shared school district and the resulting influx of students, teachers, parents, and staff. Variables such as schools and other institutions being located in these communities, and the number of apartment complexes and multi-family dwellings, led the District to

determine if more than one site was needed. Hence, there will remain a minimum of 35 community recycling drop-off sites throughout the planning period.

Community	2009 Population	Curbside	2013 # Drop-off Sites
Austintown Township	35,502	yes	4
<i>Note: Austintown has numerous, large apartment complexes that serve thousands of residents. The curbside recyclers use the drop-off sites for cardboard which is not accepted at curbside. This community has one of two super sites with 7 bins.</i>			
Beaver Township	6,528	no	1
<i>Note: Beaver Township is rural and the current bin is adequate for the residents. If significant population growth occurs, consideration will be given to transfer a site from neighboring Boardman Township to Beaver Township.</i>			
Beloit Village	986	no	1
<i>Note: Beloit Village is rural and the current bin is adequate and available for residents of Sebring which does not have a site.</i>			
Berlin Township	2,395	no	1
<i>Note: Berlin Township is rural and the current bin is adequate.</i>			
Boardman Township	39,602	yes	4
<i>Note: Boardman Township has numerous apartment complexes for thousands of residents. The curbside recyclers use the drop-off sites for cardboard which is not accepted at curbside</i>			
City of Campbell	8,533	yes	1
<i>Note: Campbell is provided curbside recycling and has apartments for a limited percentage of the population, thus the need for a drop-off site.</i>			
Canfield Township	6,974	yes	3
<i>NOTE: Canfield city and township are provided curbside recycling service, yet there is a considerable apartment-dwelling population for the drop-off sites. Mill Creek Metro Park is a popular drop-off site within the township and demonstrates the District's ability to work cooperatively with the park district and other public entities.</i>			
Coitsville Township	1,643	no	1
<i>NOTE: Coitsville, although not considered rural, is not covered under the curbside recycling program due to the distance between residential dwellings. One site is adequate for the township.</i>			
Ellsworth Township	2,410	no	1
<i>NOTE: Ellsworth is rural and one site is adequate.</i>			
Goshen Township	3,463	no	3
<i>NOTE: Goshen is rural and will have at least two sites in order serve all residents. (Note: the Colonial Estates site – third site currently, may close in 2015 unless tonnage increases warrant continued presence. The District will continue to work with the Goshen Township trustees throughout 2013 and 2014 on further promoting the site with a final decision made in December 2014.)</i>			
Green Township	3,309	no	1
<i>NOTE: Green is rural and needs one site to serve all residents.</i>			
Jackson Township	2,283	no	2

NOTE: Jackson is rural and has 2 sites for residents since a major highway artery is located within the township – Rt. 18 and Rt. 45 intersection. In addition, major commercial enterprise growth has occurred and will continue in the area.

Lowellville Village 1,159 yes 1

NOTE: Although Lowellville has curbside, its location and tourism with a popular bike trail make the necessity for a drop-off site relevant.

Milton Township 2,872 no 2

NOTE: Milton Township also includes Craig Beach which during the first half of 2010 had the highest per/capita producing drop-off site in the District. Being a tourist and recreational community, two sites are necessary to handle the overflow that results from non-residents visiting the area in the summer months.

Poland Township 11,217 yes 1

NOTE: Poland Township and Poland Village are provided curbside service. The single site is one of two District super sites with 5 bins placed to handle the massive amount of material brought for recycling. Although the District strongly encouraged township and village officials to host a second site, it was not completed. In 2006, for a brief period, a second site was established within the village; however, certain residents complained to officials and it was decided to remove the site. Thus, the large drop-off site will adequately handle their needs throughout the planning period.

Smith Township 3,959 no 1

NOTE: This is a rural community and the site adequately serves residents and small businesses.

Springfield Township 6,111 no 1

NOTE: Springfield Township is rural and the site is adequate for all residents. See New Middletown which is located within the township.

New Middletown 1,536 yes 1

NOTE: New Middletown is located within Springfield Township and has both curbside and a drop-off site to service all of the Village and Township.

Struthers City 10,852 yes 2

NOTE: Struthers has curbside recycling and two sites to serve all residents and small businesses. Two sites are needed as the city is located near portions of Youngstown, Campbell, and Lowellville, thus overflow from those communities.

Youngstown City 73,644 yes 4

NOTE: Youngstown has full curbside recycling service throughout all 7 wards and has a sizeable apartment-dwelling population, thus the need for the drop-off sites. The largest site is on the campus of Youngstown State University (YSU) and is open for all District residents. The remaining sites are placed in the east, south, and west sides of town. With a continual decline in population, 4 sites are adequate to cover the entire city.

During the reference year, 3,956 tons of material was recovered and recycled through the District's drop-off recycling program, a 101 % increase over the previous reference year - 2003. However, the increases have been modest since then ranging from +4% (2006-07), -.02% (2007-08), +18% (2008-09), -1.8% (2009-10). Considering these variable percentages and the fact that the population will continue to decline, the District projects a modest increase of 1 % by weight each year throughout the planning period primarily

due to the education and awareness programs referenced later on in this section that will more aggressively promote this strategy in all classroom and adult group presentations.

The main cost of this strategy is the contract for servicing the drop-off site bins which will reach \$420,000.00 in 2013 and continue with an annually projected inflationary increase of 1% throughout the planning period. In addition, costs for repairing, re-labeling, re-painting, and in some cases, replacing the bins will be necessary at a total cost of \$50,000.00 annually throughout the timeline. District staff will perform the essential functions of monitoring the bins and sites along with the community recycling coordinators, arranging for bin pulls and bin repairs, and associated tasks. The District will budget \$20,000.00 per year for site improvements to handle cracked concrete pads, broken fences, adding storage sheds, and related necessities.

Curbside Recycling Program

Goals 1, 2

The District will continue the successful and convenient curbside recycling program with the bi-weekly collection of *newspapers, magazines, catalogs, shiny ad slicks, phone books; metal (steel and aluminum) food and beverage cans, glass beverage bottles, and # 1 thru # 7 plastic food and beverage containers*. Styrofoam and cardboard are not included for acceptance; however Styrofoam may be reused through the YSU re:CREATE program and cardboard may be taken to the community drop-off sites.

The curbside service is provided at no cost to the residents or the District as per the 1994 Allied/Republic Waste Services agreement that will continue as long as the Carbon Limestone Landfill remains in operation projected throughout this planning period. The Agreement is in Appendix J. In 2009, 95,149 homes were covered under the curbside recycling program.

Planning Period thru 2027 Curbside Communities and Coverage	
Using Ohio Dept. of Development data and as presented in Table VII-2	
Community	2009 # Homes
Austintown Township	16,905
Boardman Township	19,606
Canfield Township and City	6,208
Poland Township and Village	5,850
Lowellville Village	549
City of Struthers	5,045
City of Campbell	4,059
City of Youngstown	36,197
Village of New Middletown	730
TOTAL:	95,149

The District will not have the financial resources or the need to expand the curbside recycling program into the rural communities as they have ample recycling opportunities through the availability of at least 35 community recycling drop-off sites. The main emphasis will be expanding the education and promotional aspects of curbside recycling by encouraging residents to either commence or expand participation. Youngstown will

continue to be of primary focus as the participation rate as highlighted in Section IV is low. Youngstown has witnessed a significant decline in population with many streets having abandoned houses and structures in the past several years. Thus the challenge remains for the District with the Youngstown Litter Control and Recycling program staff to motivate remaining residents to participate. This will be accomplished through a renewed and more vigorous school classroom educational campaign with both District and YLCR staff meeting with school administrators, attending PTO meetings, setting up recycling displays at special events, and through attending Block Watch and other community organizational meetings. Promoting the no-cost and convenient curbside recycling program will be of primary importance throughout all seven wards of Youngstown throughout the timeline. Involving City Council members is essential as they can act as a conduit to reinforce the curbside recycling message. As indicated in the education/awareness component further in this section, the District will continue to promote the advantages of residents utilizing the free curbside service provided through the contribution of Allied/Republic Waste Services.

The routes will not change significantly with minor adjustments made to promote efficiency. The curbside collection schedule will remain on a bi-weekly basis throughout the planning period, and the materials acceptance list will remain as current. District cost for the curbside collection service is zero; however, replacement bins (generally 18-gallon) are necessary each year at a projected cost of \$30,000.00 based on current costs. The District realizes that purchasing and providing curbside households with toters on wheels would be one excellent way to increase both participation and weights recovered; however, due to the conservatively-projected revenues as explained in Section VIII, the District will not have the funds to purchase the toters. Thus, the District will not use any of the revenues as projected in the Section VIII for this purpose. However, the District will continue to research outside grant opportunities, foundation funding, and contributions from private companies in order to obtain the toters in the future. At this time, the District can not predict such funds will be obtained as no such resources are available.

The District projects a continual participation increase due to expanded awareness; however, the loss in population makes any significant weight increase moot. In reviewing curbside data, it is apparent that fluctuations have occurred similar to the drop-off program: -7.6% (2007-06), +8.4% (2008-07), +3.2% (2009-08) and -4.7% (2010-09). However, due to the comprehensive education and awareness programs completed during the first 3 quarters of 2011 where there was a renewed emphasis on curbside recycling, the curbside weights increased 7% over the same period in 2010. A conservative 1% increase in weight per year is projected and is realistic and achievable. In addition, it is highly anticipated that the cities of Campbell, Struthers, and Youngstown will eventually implement variable rate structures into their trash servicing contracts, thus providing further financial motivation for those residents to more aggressively use the free curbside recycling program to lessen their generation level. This is discussed further in this section.

Holiday Tree and Gift Wrap Special Collection

Goals 1, 2

There will be no changes in this strategy throughout the planning period as the District will continue to offer residents the opportunity to have their unwanted trees and gift wrap reused and recycled. The District will continue its excellent partnership with the Ohio Division of Wildlife for the reuse of the trees, and it will continue to provide capacity in the drop-off site bins for the acceptance of gift wrap. The District projects an annual increase of 3% by weight of the trees recovered through the planning period. Although the continual increase in weights over the past several years ranged in the 20% level (2009-08), the District believes the participation will continue to increase but the population will not – thus a more modest projection is suitable.

Appliance Recycling Drives

Goals 1, 2

The District will continue to provide mini-grants to those communities that desire to implement appliance recycling drives. In 2010, communities with populations exceeding 10,000 received \$2,500.00 and those under 10,000 received \$1,500.00. The grant funds cover awareness/promotions, providing a registered and qualified refrigerant remover, providing a suitable site for the event, having a local scrap metal processor provide containment and equipment for the storage of the appliances, and staffing needs. The District will provide funding to continue the appliance mini-grant program throughout the planning period, and conservatively projects an annual weight increase of 5% based on District historical data such as the 53% in 2009 from 2008, and the future need for such recycling events. Logic may dictate a recycling rate above 5%; however, the population will continue to decline, thus the justification for the lower rate. Each mini-grant recipient must provide accurate weight information to the District so that the number of each type of appliance is recorded with appropriate weights that must be verifiable.

Beginning in 2013, only those communities willing to host an appliance recycling drive open to all District residents will receive mini-grant funds of \$2,000.00 for a one-day or multiple-day event, regardless of population. The District has an annual adjustment rate of 1% increase per year to account for inflationary considerations. The District will budget funds to permit a total of 7 community appliance recycling drives each year throughout the Plan timeline. District staff will continue to provide technical assistance to the community recycling coordinators who implement the drives.

Business Recycling Program

Goals 1, 2, 3

This strategy will continue throughout the planning period and the focus will shift toward providing the necessary technical assistance and awareness materials so that company employees are more motivated to participate compared to current levels. Contrary to when the current plan was drafted and paper markets were scarce, the District currently has two material recovery facilities; thus the markets for acceptance of office paper, publications, cardboard, and food and beverage containers are excellent. There are several companies that provide office paper collection, thus lessening the need for the District to add new businesses to the current office paper collection route which is handled by a private company contracted through the District, and the field operators who are staff members. The District projects an additional 15 new businesses will join the program each year throughout the planning period. In 2009, 456 businesses and

institutions were participants in the program, and the District projects 726 businesses and institutions will be participating by 2027.

The recyclable materials collected in this strategy by the District's staff and the contracted company will continue to be brought to either the District's drop-off recycling bins; to the Greenstar or APS MRF facilities; or to an acceptable recycling processor approved by the District. The materials include office paper, shredded paper, publications, newspapers and magazines, journals, brochures and related paper items; metal (aluminum and steel) food and beverage cans, glass bottles, cardboard, and #1 - #7 plastic containers. The contracted company will continue to provide the District with accurate monthly weight reports for the materials recovered, and a 3% increase in the weight of the paper and publications recovered is projected yearly based on past data. The weights from businesses that directly contract with private recycling companies on their own will be included with all weights reported from private recycling companies, brokers, and material recovery facilities such as APS.

The District staff responsible for managing this program will provide information to commercial enterprises and institutions through brochures, presentations, and related methods about the benefits of source reduction, recycling, and composting; and how reducing solid waste can lead to substantial cost savings. District staff will instruct commercial and institution officials on the methods to accomplish source reduction which is to eliminate the initial generation of waste materials. The commercial/industrial waste reduction coordinator and other staff as highlighted in Section IV will instruct officials on how to apply source reduction techniques to focus on those materials officials deem important to eliminate from generation. Implementation of processes such as improvements in operational and management practices will lead to source reduction.

In 2013, the District will budget \$50,000.00 for the purpose of contracting with a private company for the collection of recyclable materials from businesses and institutions. The District will budget an annual inflationary increase of 1% throughout the planning period to provide sufficient funds for the contracted company to service all the businesses and institutions that desire to participate. The District will retain the two field operators who will continue to service approximately 100 accounts.

Rural Recycling Education and Awareness Program **Goals 3, 4, 5 and 7**

The RREAP program targets the townships of Beaver, Berlin, Ellsworth, Goshen, Green, Jackson, Milton, Springfield, Smith; and the villages of Sebring, Craig Beach, New Middletown, and Beloit. The annual community recycling assistance provided to these rural communities in order for them to provide one or more recycling drop-off site(s) for their residents, will continue throughout the planning period. However, to increase productivity with the personnel available, the District will not assign one educator solely for the rural communities as had been done previously. Instead, the District's two educators will share time between rural and suburban communities providing excellent educational presentations and awareness programs. They will also more aggressively

assist the Youngstown Litter Control and Recycling Program staff with education and awareness activities in the city as their recycling participation rate needs improvement.

The educators will conduct presentations, organize special awareness events such as recycling festivals, and maintain a “rural recycling educational resource center” housed at District headquarters for students and adults residing in the communities listed previously. The administrative staff will require a quarterly progress report from the educators that details the number of presentations given, special activities/contests implemented, and the rural audience reached. Specific outcomes will be delineated in order to determine if rural students are receiving sufficient information and motivation in order to commence waste reduction practices. This strategy not only ensures that rural communities possess the ability to provide sufficient recycling and source reduction opportunities for their residents, but serves to provide essential information that will motivate residents and commercial/institutional entities to increase their recycling participation. In addition, the program serves to provide the knowledge essential to the proper maintenance and disposal of agricultural pesticides and related hazardous chemicals and materials. Proper disposal via recycling of tractor tires is also an important element of the program that will be emphasized in rural community presentations. Since the waste reduction weights generated as a result of this program are included in separate strategies such as the drop-off recycling sites, backyard composting workshops, and re:CREATE program; no weight projections are included under this strategy.

The two educators will continue to stress the need for source reduction so that solid waste is prevented from being generated through more efficient agricultural planning and the utilization of behaviors that will lead to this end. The source reduction lesson will be presented to rural school administrators and teachers so that schools practice cost-effective, source reduction techniques. The educators will continue to work with rural school administrators and teachers to provide lesson plans and activities that will coincide with their earth-related science curriculum. In addition, the RREAP program will include urging commercial and institutional entities to commence waste reduction programs with assistance from the District’s waste assessment program staff as detailed in this section. A strong RREAP message will continue to focus on encouraging residents and especially business officials that they should pursue purchasing recycled-content supplies whenever possible. This will strengthen both Ohio and national markets for recyclable materials and prove as a cost-benefit for commercial entities.

The personnel costs associated with this program are included in providing funding for the two education specialists. Additional revenue will be sought by the District making application each year to the USDA for grant funds as in the past. However, this source is unpredictable and fluctuates from year to year, thus the District does not predicate the RREAP program on USDA grant funding.

School Fiber Program

Goals 1, 2, and 4

This strategy is an essential part of the educational outreach provided to schools regarding the importance of reducing solid waste through recycling. This program will continue throughout the planning period with the only expansion being the addition of the

schools listed in Section IV, P. 66, all located in Youngstown. The staff of the YLCR program and the District's educators will actively work with the school administrators in order to convince them to accept a bin and commence a recycling program. The District will continue to provide the resources for the servicing of the exterior fiber bins throughout the planning period, and continue to educate students, teachers, school staff and administrators of the importance of reducing their school's solid waste stream through recycling classroom paper and publications. Projected is an annual increase of 1% by weight each year throughout the planning period based on the vast increase from previous years: +9% (2006 – 07), +15 % (2007-08), and +7% (2008-09).

The only cost associated with this strategy is for the servicing of the 4-cubic yard, exterior bins placed at each school. This cost is already included in the drop-off site bin servicing contract, thus no separate cost. The educators will continue to actively promote this program during all classroom presentations and attend PTO and other school organization meetings to stress the importance of recycling both in school and at home.

Leaf Collection and Composting Program

Goals 1, 2, and 4

The District will continue to supply grant funds to the following communities as listed in the current Plan to implement leaf collection and composting programs: cities of Youngstown, Campbell, Struthers; townships of Austintown, Boardman, Canfield; and villages of New Middletown, Lowellville, Beloit, and Sebring. The District will not expand this grant program for other communities as the remainder are primarily rural and traditionally handle leaf collection and composting through backyard composting mechanisms. The District recorded 263 tons of leaves collected and composted in 2009 which represented a 49% increase over 2008 due to the addition of communities to the mini-grant program. As presented in Table V-5, the total amount for this strategy is 432 tons as Canfield City, Sebring Village, and Poland Village did not receive mini-grant funds in 2009 and yet provided the service. As note previously, after submission of the Draft Plan Update, Ohio EPA provided additional information regarding the Struthers composting site, thus an additional 42 tons was added (109 tons actual – 67 tons previously).

Projected is a continued increase of 5% annually as education and awareness is advanced for the need to compost and not landfill leaves and associated organic materials. As further proof that this upward trend will continue, late in the Plan drafting phase, Austintown Township reported their 2011 leaf collection total which showed a 30.5% increase over 2010, thus a conservative 5% increase is realistic. The District will not increase the current leaf collection/composting grant amounts, and this will necessitate more in-kind and financial contributions from the communities in order to sustain this valuable program which residents now demand.

2011 Amounts

Youngstown:	\$26,000.00
Boardman:	\$13,000.00
Austintown:	\$13,000.00
Campbell City:	\$4,000.00

Struthers City:	\$4,000.00
Canfield Township:	\$7,000.00
Lowellville Village:	\$2,000.00
New Middletown Village:	\$2,000.00
Beloit Village:	\$2,000.00
Sebring Village:	\$2,000.00
Total:	\$75,000.00

Note: Varying amounts are a result of the negotiated financial need and in consideration of the resources available within each community. Population was the most significant factor in determining grant amounts. Each community will maintain control over the method used to complete the program. One community may select to bid out the service whereas another may use their road department and purchase bags to distribute to residents. Communities must provide the District an accurate and detailed report that lists the number of bags of leaves collected, the total weight or cubic yards, and the name/address of the registered Class IV composting facility that the leaves were transported for the purpose of composting.

The District lists this activity as including Goal # 4 as staff will continue to meet with community officials to provide the necessary technical assistance essential to producing the outcome anticipated – increasing the volume of leaves that are not disposed but instead recovered and composted. The staff will attend local government meetings to explain and further educate township, village, and city officials about the importance of implementing leaf collection programs so that this valuable natural resource is recovered and not destroyed. The educators will continue to be assigned the task of assisting each community through the implementation process and serve as an excellent resource.

Private Composting Facilities Reporting

The District obtained yard waste composting weights in 2009 through Ohio EPA for the private composting facilities as listed in Section IV, and will continue to do so throughout the timeline. With declining population and subsequent commercial activity as predicted in the rationale provided previously, the District projects a flat-lining of the weights from 2011 onward as presented in Table V-5. Maintaining the conservative projection mode, the District used the lesser, projected weight of 2011 to remain constant throughout the timeline thus not providing an unrealistic expectation for private composting companies. The District used the updated amount listed on the 2010 ADR Comments received from Ohio EPA and noted the extreme increase over the previous year. During the Draft Plan corrections phase, the preliminary data showed that the 2011 amount would be nearer the 2009 total, so the District used the original Draft projection of 3,702 tons as realistic for the remainder of the timeline.

Backyard Composting Education and Awareness Program

Goal 4

The District will continue this popular strategy which serves to provide residents with the technical information necessary and the backyard composting units essential, in order for them to take their generated food scraps and other organic waste and compost the material rather than continue the disposal option. The District will host a minimum of 6 backyard composting workshops annually; restricted to those who have not attended

previously. Although the District believes there will be continual gains in weight diverted from the disposal stream through this strategy, we can not count this tonnage as it is an estimate which is not permissible for use as per the Format instructions.

The District will provide the backyard composting bins to workshop attendees with their contribution of \$20.00 for the \$40.00 cost for each unit (2010 cost). Thus, the District will need to budget funds for these units as part of the supplies budget throughout the planning period. The District shall budget \$7,000.00 for years 2013 thru 2020, then increase the amount to \$13,000.00 from 2020 thru 2024 to accommodate an anticipated increase in those wanting to learn and perform the program, and \$18,000.00 from 2025 thru 2027 for additional bins for the anticipated increase in interest. The District firmly believes that within the next ten years, Ohio will pass legislation to ban all organics from disposal facilities, thus the need for increased funds for the bins at different stages of the planning period.

Tire Recycling Drives/Centralized Container

Goal 5

The District will continue to provide tire recycling drive mini-grant funds to communities that desire to host an event. In 2009, 9 events were held with 114 tons of tires recovered and recycled. The District will continue to provide sufficient funds for up to 10 separate community events to occur each year throughout the planning period, and projects no increase in the number of tires/tonnage recovered each year from the amount listed for 2010 onward based on past aggressive efforts that have resulted in a significant portion of unwanted tires already out of the waste stream. Each of the 10 communities must use the mini-grant funds to find a suitable location to hold a one or multi-day event; find a qualified vendor to collect, transport, and recycle the tires; and provide awareness through newspaper, TV, internet, or radio advertisements. The District will post the tire recycling drive information on its website and promote each event during classroom and adult group presentations. Each community may decide whether to charge a fee for tires brought to their event in order to help cover cost. Accurate and complete reporting from each mini-grant recipient is mandatory and detailed weights must be presented with verification. Communities will open their tire recycling drive to all District residents and will receive \$1,000.00 in mini-grant assistance beginning in 2013 and continuing throughout the planning period with an annual inflation adjustment of 1% annually.

In addition, the District will continue to provide a centrally located container for the placement of unwanted tires collected by townships. The weight of the tires (20 tons in 2009) will continue to be included in the overall tonnage provided by Liberty Tire. Tire recycling weights reported by qualified private recycling companies such as Liberty Tire, will continue to increase by a conservatively projected 5% based on historical data. The District reported a 33% increase in tire recovery between 2009 and 2010: 2,167 tons/2,888 tons.

Illegal Tire Dumps

In reviewing the list of illegal dumpsites as presented in Table III-8, there are 44 sites that have tires that must be cleaned up throughout the timeline. The District will continue to work cooperatively with the Youngstown Litter Control and Recycling Program to

remove debris and tires from these identified sites located in the city. As with the awarding of the Ohio Division of Recycling and Litter Prevention “Tire Amnesty Grant” funds in 2010, the District and YLCR staff will aggressively continue to seek grant sources to cover the costs of tire removal. In the meantime, the YLCR staff will continue to monitor and clean up small sites such as those with 30 or less tires. Assistance for monitoring the tire sites will be provided by the Litter Law Enforcement Deputy in an effort to apprehend those who would attempt to add loads of tires to the current sites or create additional sites, and to make the public aware that the dumping of tires is illegal.

Electronics Recycling Drives

Goals 1, 2

The District will continue to provide mini-grant funds to communities in order for them to implement electronics recycling drives. Four events occurred in 2009 with 76 tons recovered as per Table V-5. The District anticipates a minimum of 4 communities will host the e-drives each year throughout the planning period with Youngstown being the main event as in the past. The District projects a 1% annual increase in the weights recovered as the participation has settled over the past several years since residents have had abundant opportunities to recycle their unwanted electronics. The 114% increase from 2006 to 2007 and 26% increase from 2007 to 2008 have subsided considerably, thus the rationale for a more modest annual weight increase of just 1% with the 2010 weight of 67 tons.

Electronics such as flat-screen TV sets and computers are constructed with “planned obsolescence” so that replacement within a few years is a necessity. Electronics will not be built to last longer but to be obsolete within a limited time period, thus the justification for an annual modest increase in the weights recovered considering the decline in population that will occur throughout the timeline.

In 2010, the District provided mini-grant funds to communities that hosted electronics recycling drive events, whether they were one-day or multi-day drives. Based on population, those in larger communities received \$900.00 and those in smaller communities received \$500.00. Beginning in 2013, only those communities that elect to host e-drives open to all District residents may be eligible for mini-grant funds which will be \$1,000.00. An annual 1% adjustment is factored in the grant amount to account for inflation. As a condition of receiving the grant funds, communities must find a suitable location to hold the event, provide personnel along with the Sheriff’s Dept. Day Reporters to unload vehicles, promote the event with District assistance, and submit an accurate weight report that details the number of units collected in each category (i.e. computers, laptops, monitors, etc.), and the total weight. Verification of the weight or volume is mandatory as well as information about the recycling company that accepts the electronics. Companies utilized must be pre-approved by the District to make sure they are qualified, have an appropriate past record of providing service, and are in good standing with all regulatory agencies such as the local Board of Health.

Community Recycling Coordinators and Overflow Reporting Goals 1, 2, 4, and 7

The District will continue to provide townships, cities, and villages with annual community recycling assistance grants in order for them to provide one or more

community recycling drop-off sites for their residents. Each community that receives the annual assistance must assign a resident to be their community recycling coordinator (RC). The RCs must submit a quarterly overflow recycling report to the District that specifies the type and amount of material that was reused or recycled and not placed in the drop-off recycling bins. These materials may be generated from special recycling events such as Girl Scout newspaper drives or charitable aluminum can drives. The District will make sure that double-counting does not occur with these totals by reviewing which buybacks or MRFs the materials are sent for processing. The RCs will continue to provide education and awareness materials to residents as they promote their recycling site(s). The District projects no significant weight increase in overflow materials reported throughout the planning period based on historical weights and conditions. Several communities provide outlets for special materials such as lead acid batteries, vehicle oil, and Styrofoam peanuts and chunks. These material amounts will be included in the quarterly overflow reports along with all reuse activities such as exchanges for books and educational supplies as is done in the New Middletown drop-off site.

The communities that host one or multiple drop-off recycling sites will continue to receive annual financial assistance for the operation and maintenance of the site(s), and assistance from District staff and Sheriff's crew for overflow materials. The amounts for each community are based on the following factors: number of drop-off sites in each community as detailed previously in this section, the population of the community, historical performance data, extra materials accepted such as vehicle oil or Styrofoam, and whether the site is open Monday thru Saturday during daylight hours which is considered full-time or if the site is part-time. An annual inflation factor of approximately 1% will be added to the 2013 amounts listed below throughout the planning period.

Community	Annual Assistance 2013
Austintown Township	\$42,000.00
Beaver Township	\$11,000.00
Beloit Village	\$3,000.00
Berlin Township	\$11,000.00
Boardman Township	\$42,000.00
Campbell City	\$11,000.00
Coitsville Township	\$11,000.00
Ellsworth Township	\$9,000.00
Goshen Township	\$9,000.00
Green Township	\$9,000.00
Jackson Township	\$9,000.00
Milton Township	\$9,000.00
Lake Milton State Park	\$9,000.00
Lowellville Village	\$3,000.00
Poland Township	\$30,000.00
Smith Township	\$17,000.00
Springfield Township	\$13,000.00
Struthers City	\$11,000.00
Canfield Township	\$20,000.00
City of Youngstown	\$200,000.00

TOTAL:	\$479,000.00
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The District holds firm that the community recycling coordinators are the foundation of the overall recycling strategy as they serve as the local conduit that reaches residents and businesses. The RCs will distribute valuable information to residents, businesses, and institutions regarding source reduction, recycling, reuse, composting; and with the District's mini-grant program detailed in this section for appliance, tire, and electronics drives – they will implement special recycling events. The District's educators will continue to provide fliers and other resources to the RCs so they may advance their education and awareness outreach endeavors. The RCs must attend two meeting/training sessions per year as stated in each community's agreement with the District. The RCs will continue to be trained in how to create media press releases and how to generate more enthusiasm with their residents and businesses about the need to participate in recycling and composting.

The educators will provide information to the RCs about the benefits of purchasing recycled-content office supplies and other materials. The RCs can take the information to their local government officials to make them aware of the benefits of buying recycled content supplies which will ultimately help expand markets in Ohio and nationwide. In addition, the RCs can help influence local procurement decisions involving the materials selected for paving projects within a township or village. The use of recycled-content, rubberized asphalt has numerous environmental advantages and should be applied to replace traditional paving material whenever possible.

Household Hazardous Waste (HHW) Education/Awareness/Collection: Goals 3, 5

The District will continue to conduct one HHW drive annually throughout the planning period specifically for residents, and the staff will continue to include HHW alternatives and safe disposal practices in all classroom and other presentations. The District projects a 1% annual decline in the volume of HHW items taken to the events over the planning period. Although a decline of 27% occurred between 2008 and 2009, a more tempered decline is projected. This will be a direct result of the aggressive awareness and educational campaign to motivate residents to use alternatives and thus replace the harmful items they may have used previously. An emphasis on source reduction will be made throughout the county regarding the need to prevent purchasing HHW products and the safer alternatives available.

The HHW collection event will be hosted in a central location for convenience, and it will be advertised on TV, radio, and in the local newspapers. The educators will continue to discuss the importance of avoidance in all presentations; however, they will promote the annual event several months in advance to prevent these harmful substances from entering the solid waste stream. Source reduction is the central theme; however, once present in the waste stream, then the safer option is to bring HHW to the annual event rather than disposal destined for landfills.

Included in this strategy is a pharmaceutical take-back program that has been and will continue to be implemented by local law enforcement agencies such as Austintown and

Boardman Police Departments. In 2011, nine separate events were implemented. The pharmaceutical items are all safely disposed. No projection of weight is applicable. In addition to the special take-back events, in 2011 the Austintown Township Police Dept. was awarded a grant from the National Association of Drug Diversion Investigators which will provide a permanent, secure drop-off box at police headquarters. All medications accepted are logged into evidence as procedure dictates and then incinerated. The educators will continue to promote these events and stress proper disposal options as outlined by the Board of Health and EPA. The HHW and pharmaceutical events, as are all special recycling events, will be posted on the District's website.

The District has included the implementation of an HHW drive in the budget section with \$40,000.00 allotted for this purpose in 2013 and assuming a 1% annual inflation rate through 2027. The private company selected through the Mahoning County bidding process, must be fully licensed and qualified to handle all materials. The District will not accept the popular compact fluorescent lights as there are local alternatives such as Home Depot and Lowe's stores that recycle them. These common household hazardous waste items are anticipated to be continued for acceptance: *thinners, acids, antifreeze, aerosol cans, lighter fluid, roof coatings, varnish, insecticides, auto fluids, used motor oil, propane cylinders, adhesives, LABs, gasoline, herbicides, pool chemicals, solvents, photo chemicals, wood preservatives, household cleaners, oil based paint, bleach, poisons, greases, and pesticides.*

Household Battery Collection Program

Goals 1, 2

Household batteries are considered a universal waste material and must be handled appropriately. The District will continue to have approximately 45 separate entities house the Green Team Battery Collection Bins, including public libraries, several on campus at Youngstown State University, and in schools. The number of sites may alter during the timeline as schools are consolidated or library branches close due to budgetary constraints. Included are dry cell household batteries: AA, AAA, 9 V, 6 V, C's, and D's. In 2009, 11 tons of household batteries were collected and sent to qualified end-users for recycling, and the District projects an annual 5% increase by weight due to the increased popularity of portable electronic devices that use such batteries, rechargeable and non-rechargeable. Although the District recorded a 20% increase between 2007 and 2008, and an 8.7% increase between 2008 and 2009, a more modest 5% increase is projected. The District will continue to promote the safe recycling of household batteries in schools, during adult group presentations, and on the District's website.

The Sheriff's Department Day Reporters' crew will collect the batteries from the various entities throughout the District and transport them to the battery sorting center located in the District offices. A staff member will sort the batteries according to end-user specifications and package them ready for shipment. The District will continue to provide funds throughout the timeline for the processing of the batteries which is assumed at \$30,000.00 in 2013 with an annual 2% inflationary increase.

Lead Acid Battery (LAB) Recycling Program

Goal 5

The District will continue the LAB collection and recycling program through ensuring that at least two community recycling drop-off sites provide acceptance; the private scrap metal processing companies continue to accurately report the weights of LABs brought to their respective facilities each month through the mandatory reporting requirement discussed previously; and through acceptance during the District's annual HHW event. The District believes that past trends of an annual increase will not continue as evident by the significant decline experienced in 2009 (-31%) and more severe in 2010 at just 17 tons. However, the District will continue to make residents and businesses aware of the need to keep LABs in the recycling stream and not in the solid waste stream. Effective January 1, 1993, LABs have not been accepted for disposal at any landfill within the District. LABs are a potential hazardous waste if not handled appropriately, thus the District will continue to educate residents of the need to recycle them properly through the opportunities available. The District projects no annual weight increase throughout the plan timeline.

The only separate cost associated with this strategy is the \$500.00 that each of the two communities will receive annually that hosts the LAB collection opportunities. Currently Milton and Berlin Townships provide for the acceptance of LABs, and if one or both discontinues, then the District will make sure that two other communities will host the program.

Education and Awareness Program

Goals 3, 4, 7

The District will continue to provide residents with excellent waste reduction and recycling education and awareness programs and activities throughout the planning period. Components include advertising, presentations, promotions, creating and distributing pamphlets/fliers/posters, appearances on local media programs/outlets, contests, and special events. The District will continue to sponsor recycling-themed contests and awareness activities centered on America Recycles Day and Earth Day. An emphasis will be placed on providing awareness regarding the advantages of variable rate opportunities and the importance of source reduction; the proper method to place curbside recyclables in the bins provided and the materials accepted; the proper methods to recycle unwanted tires, electronics, and appliances; the location of community drop-off sites; the importance of purchasing recycled-content supplies; and the importance of using safe alternatives to household hazardous waste products.

The District will continue to fund two full-time education specialists who will concentrate efforts on making school students, grades K-12, more aware of the need to reduce solid waste and its importance to natural resource conservation, pollution prevention, and lessening our dependence on landfills and incinerators. In collaboration with the Youngstown Litter Control and Recycling Program's education specialist (YLCR) who will be funded through the annual recycling assistance designated for Youngstown; the two educators will work with children, teachers, and school administrators to greatly expand awareness of the need to reduce solid waste, and the economic advantages associated with such action. Litter law enforcement will be strongly reinforced by both educators in all presentations.

An emphasis will be placed on promoting curbside recycling within the seven wards of Youngstown as their participation is low. This will be accomplished by the District and YLCR program staff targeting elementary-level school students through classroom educational programs that explain the importance of curbside participation, and the convenient way in which those not currently participating may receive a free bin and commence recycling. The students will learn exactly what items are included in the recycling program, and how the materials should be placed in the bin. They will learn how to access route information which will be available during the classroom presentations through showing a large map of the city and when the trucks collect from each ward. Specifics about all aspects of curbside participation will be provided to the students with a handout so that they can take the information home to their parents or guardians. Students will be encouraged to share the information with other family members, friends, and neighbors.

The District will accompany YLCR staff members to meet with various school officials, especially the Youngstown Board of Education and Superintendent, Dr. Hawthorne in January 2013. They will seek the full support of these school administrators to encourage students and parents to participate in curbside recycling. Having these officials support the curbside participation educational and informational campaign is essential for success in gaining access into each school and classroom.

The District and YLCR staff will develop a presentation appropriate for community service organizations such as Rotary groups that promotes the importance of curbside participation. They will be encouraged to start door-to-door campaigns to sign up those in Youngstown that do not participate. A display themed on curbside recycling will be created and taken to fairs and festivals which are very popular and well attended. This will have a positive impact on both city and suburban residents, and it will motivate them to expand their curbside participation.

It is anticipated that together the City and District educators will complete over 700 classroom presentations annually throughout the planning period; initiate at least one major school contest per year; and produce two awareness events each year centered on Earth Day and/or America Recycles Day. Contests such as the “Cash for Cans”, “Design a Placemat” and “AT&T Phone Book Recycling Challenge” have been extremely successful, and the educators will continue to implement various contests throughout the timeline. The educators will complete summer programs at most of the Mahoning County Library branches and with the special youth events conducted throughout the District. In addition, the director and staff will present programs to community groups such as Rotaries, Kiwanis organizations, and garden clubs. These adult group presentations are an excellent way to express the importance of recycling and reducing the District’s solid waste stream, providing the benefits of source reduction, explaining the concepts integral to the Build America Beautiful program explained in Section IV, and encouraging audience members to purchase recycled-content office supplies. Although the Cash for Cans contest remains popular, with the overall declining population will be a

corresponding drop in student enrollment, thus the rationale for no increase in tonnage as per Table V-5.

Target Audiences

The following are target audiences for educational and awareness activities:

1. **Residents:** *This includes all people living in residential dwellings, including single family homes, condominiums, apartments, and mobile homes.*
2. **Schools:** *This encompasses all primary, secondary, college, and vocational schools and includes students, teachers, professors, instructors, administrators, support staff, and other staff.*
3. **Industries:** *This consists of manufacturers categorized as industrial under the North American Industry Classification System. This group is the main focus of the commercial/industrial waste coordinator discussed further on in this section although the educators will also assist in this effort.*
4. **Institutions and Commercial Businesses:** *This target audience includes people in the following segments: government offices, non-profit organizations, commercial businesses (retail and services), hospitals, churches, non-residential quarters, special events/sports venues, and transportation centers.*
5. **Communities and Elected Officials:** *This target audience includes the following segments: policy makers; elected officials; community leaders; influential members of society; and community groups such as homeowner associations, citizen groups, and grass-roots organizations.*
6. **Curbside Communities:** *Emphasis will be placed in Youngstown in order to increase the curbside recycling participation level. Included are schools, parent/teacher organizations (PTO), youth and adult organizations, city-based Rotary and other community service organizations, and block watch organizations.*

As listed under the Business Recycling Program and the Commercial/Industrial Waste Reduction/Assessments program, staff members will be providing comprehensive awareness to business and manufacturing officials to assist them in reducing their solid waste stream in an environmentally-responsible and cost-effective manner. The educators will work with school administrators to make sure that sporting and other highly attended events have containment for beverage cans and paper. The District will provide bottles bins and other appropriate containers for such events, especially football games. The educators will conduct solid waste assessments in selected schools so students, faculty, and administrators realize the volumes of solid waste by material (i.e. lunch bags, recyclable containers, etc.) and then create solutions for recovery and recycling. In 1998, this was completed in Boardman High School and videotaped for future use which resulted in the school implementing their successful recycling program. The goal will be to vastly increase awareness of the availability of curbside recycling for those students and adults living in the specified communities, and stressing the availability of the community drop-off sites.

The administrative staff and education specialists will address elected officials on a regular basis in order to update them on important solid waste management topics. This includes presentations during township trustee meetings, commissioners' staff meetings, and city council (Campbell, Struthers, and Youngstown) meetings. Regularly updating public officials on the District's progress in achieving its solid waste reduction goals is vital in order to maintain their support for future initiatives. Included will be information about the benefits of purchasing recycled-content office supplies and the basic elements of source reduction and its connection to a variable rate system that provides a financial incentive for residents to participate in waste reduction endeavors.

The District's staff will continue to write copy and place recycling and litter prevention-themed ads on local media including area TV stations, local radio stations, and in the area's newsprint publications. The ads serve to notify residents of various special recycling events, the annual HHW drive, and information on how to participate in the District's drop-off and curbside recycling programs. The District will spend up to \$40,000.00 annually on this strategy throughout the planning period with an annual inflation rate adjustment of 1 % through 2027.

The District's staff will continue to create four editions of the popular Green Scene (GS) electronic newsletter that will be sent to thousands via e-mail. Included will be specific information about upcoming recycling drives and events, and a link to the popular "Materials Exchange" that is discussed later in this section. The GS serves as an excellent medium to reinforce the waste reduction ethic for residents, businesses, schools, and industries. Articles about the importance of source reduction and the ways to eliminate waste prior to being generated will be in at least two editions each year. Articles about purchasing recycled-content office supplies will be highlighted, and information will be presented geared toward townships, cities, and villages to apply for the Division of Recycling and Litter Prevention "Scrap Tire" grants where communities may receive funds for purchasing and applying recycled-content paving on public areas. There is no cost associated with this strategy as it is paperless and no postage is required. The educators are responsible for producing the GS.

The District's most visible presence each year is the awareness opportunity afforded through the Canfield Fair, one of the largest county fairs in the country. District staff will have recycling and litter prevention fliers and information available for residents who stop by the government building where the display is housed. An estimated 50,000 residents will view the display and speak with District staff during the 6-day event. A central theme will remain source reduction so that attendees learn the basic methods to prevent the generation of solid waste. Also, market development will be highlighted so that business officials visiting the display may learn about the importance of buying recycled-content supplies. Contractors and pavers will learn about recycled-content alternatives which will further improve the economy in Ohio and the nation.

Through the Sheriff's Day Reporters' program; cardboard and beverage container recycling opportunities will be plentiful at the Canfield Fair and at the various summer festivals throughout the District such as local church events and the annual Youngstown

Italian Fest that draws upwards of 30,000 attendees. The Sheriff's crew will place bins and empty them when full, and transfer the recyclables to one of the District's community drop-off sites. The District will include \$7,000.00 per year for in-house printing costs of fliers, posters, large signs, and brochures that serve to enhance the education/awareness outreach activities. This is included under the category of Office Overhead in Section VIII. A 1 % annual inflationary factor is included for the printing costs. All fliers and brochures will be printed on recycled-content paper.

District staff will continue to do interviews when invited on local TV programs such as the WKBN 27 Morning Show that has featured staff several times in the past few years. This free opportunity reaches over 100,000 residents with the message of the need to recycle and prevent litter. Source reduction will remain a focus in all media interactions since preventing the generation of solid waste is the primary method to handle the solid waste stream in a cost-effective and environmentally-responsible manner. The educators will continue to promote the purchase of recycled-content school and office supplies during presentations, especially to school administrators who make the procurement decisions. They will emphasize the ethic of natural resource conservation during presentations to motivate students and parents to choose products made from post-consumer materials which has vast environmental and economic benefits for Ohio.

The education and awareness program will be evaluated quarterly using the following criteria:

- 1) The recycling participation rate increase in each community where presentations and programs were completed as determined by the exact monthly curbside and drop-off recycling weights received from Allied/Republic, the company that provides free curbside service and currently has the drop-off servicing contract.
- 2) The evaluation by teachers and business leaders regarding presentations and programs as surveyed by the director on a quarterly basis through either written or verbal form.
- 3) The increase in phone call activity and e-mails to staff regarding interest in waste reduction alternatives. Phone log surveys are conducted by the staff on a periodic basis to determine what mediums motivated callers to seek information.
- 4) The opinions of the community recycling coordinators who meet with District officials twice per year as to the effectiveness of the outreach and educational initiatives.
- 5) The opinions of local government officials who meet with District officials each January at the County Engineer's office, as to their approval and view of the effectiveness of outreach initiatives

District Website Including Recycling Catalog

Goal 3, 4, 7

The District's popular website: www.greenteam.cc will continue to provide important recycling, reuse, composting, and source reduction information to all residents and business and industry officials. The "Recycling Catalog" will be updated quarterly so correct and specific information about all private and/or public opportunities to recycle various materials is presented; and information about recycling, reuse initiatives including the nationally recognized YSU re:CREATE program, Materials Exchange,

business recycling, composting including the backyard composting workshops, community reuse projects entitled “drop and go”, the alternatives to household hazardous wastes, and opportunities to recycle tires will all be included in a convenient, navigational style. The website will provide information and updates about area processors and the two MRFs in operation within the District, and related market development activities. Promoting the use of recycled-content products and materials will be included in order to spur more purchases of these products.

District staff, in conjunction with the Mahoning County IT Dept., will continue to provide the website for the thousands that utilize it to access recycling and related information. It is anticipated that by 2013, all curbside bin requests will be handled via the website with phone call assistance limited to those without internet access. Currently, the only mechanism to order and obtain a curbside bin is to phone the District and this consumes valuable time and energy. When the switch to ordering via the website occurs, an estimated 50% of the current phone traffic volume will be reduced, thus freeing staff time for concentration on other pressing tasks.

The website will feature information on source reduction so that viewers including homeowners, apartment dwellers, business owners, and manufacturing officials; can learn techniques applicable to their situations so that solid waste generation is lessened at the source. Homeowners can realize that bringing reusable bags to a store prevents getting plastic ones. Business owners can identify areas where publications are replicated or management practices are wasteful such as employees using disposable coffee cups or paper plates in the cafeteria. Source reduction will remain a priority element and information regarding the methods to prevent the generation of waste will be included.

The website will also contain the *Recycling Report Card* which is an objective mechanism developed by the District in 2009 to evaluate community recycling success through per capita ratings. The rating from highest to lowest assists community officials and residents in evaluating whether their reuse, recycling, and composting opportunities are sufficient to maximize their waste reduction potential. Perhaps after viewing a 6-month rating, a community with a low per capita number will analyze their current offerings and decide to utilize the services of the YSU re:CREATE program to implement several community reuse events in order to boost their numbers, or work with the District educators to target schools and community groups to increase awareness. The *Report Card* posted on the website will continue to be an excellent tool in creating awareness about which communities are meeting expectations and which need improvement. As part of the website, the *Recycling Report Card* is not presented as a separate strategy.

Litter Prevention Programs

Goal 4

The District will continue its affiliation with Keep America Beautiful and the Adopt-A-Road campaign in order to continue to provide community organizations the motivation to adopt sections of county roads and to keep the District as litter-free as possible. The District will continue its strong affiliation with Ohio Dept. of Transportation (ODOT) and the Adopt-A-Highway program for state highways such as the Rt. 46 Canfield Rotary

section and many others. The ODOT program involves volunteers within community organizations such as Rotary and Kiwanis who maintain a 2-mile section of state road in a nearly litter-free fashion through semi-annual clean-ups. ODOT provides vests and bags, and there is no cost to the District as volunteers provide their own gloves. ODOT collects the bags of litter afterwards and handles disposal and related costs.

The District will continue to provide funds for the Mahoning County Sheriff's Dept. Day Reporters' program as detailed in Section IV for the clean-up of specific township and city roads and public lands; for assistance in various special recycling drives and in handling the periodic overflow of materials at the community recycling sites. Regarding clean-ups, the District has initiated a policy of not source-separating potentially recyclable materials from clean-ups as injuries and other dangerous hazards could occur by the overt handling of litter. Thus, no recyclable tonnage will be achieved from this program, but a constant supply of litter estimated at 4,000 bags per year will be collected through these programs and safely disposed in District-located landfill facilities. In 2009, a total of 4,379 bags of litter was collected.

Essential to this strategy is the constant awareness that must occur to coincide with the actual clean up activities. All District residents regardless of age, must learn that littering is illegal and if caught, citations will be issued with stiff penalties resulting. This will be accomplished through the hundreds of classroom and adult group presentations that will be given by the District and YLCR educators, through the District's website and Green Scene e-newsletter, through advertising, and through information supplied during the Canfield Fair and other special events. With the anti-littering message will be information provided to residents about alternatives such as recycling and composting of solid waste.

The District will continue to provide funds to the Mahoning County Sheriff's Dept. for the use of the Day Reporters who are non-violent offenders supervised by a deputy. The District will provide \$120,000.00 in 2013 with a 1 % annual inflation rate for this program throughout the planning period in order to have a supervised crew assist in all the various clean-up and recycling activities, and collect/transport the household batteries and overflow recyclables. In addition, the crew will transport and collect recycling containment for special events such as fairs and festivals. The District will budget \$2,000.00 annually for litter collection supplies that will be used in District and community clean-up projects, and a 1% annual inflation rate is assumed. No weights are associated with the Day Reporters as they are included in other strategies such as electronics drives and drop-off sites, and no waste reduction weights are associated with the litter clean ups as the material is placed in District-located landfill facilities which are mandated to provide monthly detailed weight reports. The District will continue to keep a record of the number of bags of litter collected; however, quantifying a weight is very difficult thus not done for this update.

YSU re:CREATE Program

Goals 1, 2, 3

The District will continue to provide annual financial assistance to fund the nationally recognized Youngstown State University (YSU) re:CREATE program. No significant changes will occur with the program. In 2006, the program achieved national status from

the US EPA WasteWise organization during their award's ceremony in Washington, DC. The goal is to provide reuse opportunities throughout the District and technical assistance on source reduction techniques. The program includes a manager who oversees the "Materials Exchange", a web-based reuse opportunity for materials generated in the residential/commercial sectors, but the focus will be primarily with the industrial sector; and community reuse projects such as "Drop and Go" events which consist of one-day activities where an entire community brings unwanted, reusable items for local charities. The District will require the re:CREATE program to implement at least 3 community reuse programs each year. The Materials Exchange is discussed under Industrial Waste strategies.

This program provides for the distribution of information through numerous venues themed on the importance of reuse and source reduction. In addition, the program works in conjunction with the local Habitat for Humanity Restore and their deconstruction facility endeavors. Since the reuse of deconstruction materials is gaining popularity, the re:CREATE manager will continue to assist in providing awareness of the advantages of reusing or recycling C&DD materials. The amount of C&DD material diverted from the waste stream is extremely difficult to quantify, thus no separate amounts will be listed. In addition, C&DD materials are not countable toward waste reduction percentage goals.

The re:CREATE program diverted 170 tons of reusable items in 2009, and the District anticipates an annual increase of 2% by weight throughout the planning period as this program continues to gain notoriety. It is noteworthy that the program produced just 38 tons in 2006 and has increased each year. The program had a 5.3% increase between 2009 and 2010, thus the rationale for the 2% annual increase as per Table V-5.

In 2013, the District will provide \$40,000.00 annually to YSU for the continuation of the re:CREATE program with an annual 1% increase to adjust for inflationary concerns. This will partially fund the salary and benefits of the re:CREATE program manager, and YSU will provide sufficient office space and equipment such as a computer and associated supplies. The current re:CREATE Manager possesses a Master's Degree in Business Administration, thus able to manage the program in a cost-effective and efficient manner, and able to assist community organizations with their reuse needs in a productive manner. The re:CREATE manager will administer the Materials Exchange which is discussed later in this section.

YSU Recycling Program

Goals 2,3,4,7

This program has consistently scored well in the national collegiate "Recycle Mania" competition, and it will continue to prosper throughout the planning period and be an integral part of the District's overall recycling strategy. In 1999, YSU only diverted 50 tons of recyclables from the solid waste stream. Ten years later, 666 tons were diverted which included materials collected from all campus buildings and residence halls, and the dining hall food composting program. (2006: 467 tons, 2007: 548 tons, 2008: 584 tons, 2009: 666 tons, and 2010: 660 tons)

The YSU Recycling program will continue to serve as a prime motivator for neighboring businesses and industries near the campus, to recycle and divert waste from the landfills. The program disseminates information to area organizations and businesses to promote recycling, general composting including the essentials of food waste composting, reuse initiatives in conjunction with the YSU re:CREATE program, and the importance of source reduction so the campus and neighboring businesses understand the concept of preventing the generation of waste. The YSU recycling manager will continue to address community organizations on the importance of the 3 R's – reduce, reuse, and recycle, and will provide source reduction and recycling information to the students in residence halls and campus apartments. He will work with the campus purchasing department to obtain more procurement of recycled content paper and other office supplies, and with the facilities department to ensure that when campus parking lots and other areas are paved, recycled content material is used made from Ohio's unwanted tires.

The District anticipates a continued growth of 3% by weight per year throughout the planning period, and will provide \$70,000.00 in funding in 2013 for this essential program with annual increases of 1% through 2027. In Table V-5, the YSU drop-off bin weights are included in the overall drop-off recycling strategy weights, and the YSU overflow weight (materials not acceptable in the bins such as electronics) is reflected in the recycling coordinators' overflow tonnage. No significant changes will occur with this strategy. YSU will continue to supply an office with sufficient supplies and equipment for the YSU Recycling Manager who possesses a Master's Degree in Environmental Studies, thus has the ability to perform both medium and highly technical presentations and lectures on source reduction, recycling, buying recycled-content supplies, and composting.

Pay As You Throw Promotions (PAYT)

Goals 3

The District will continue to promote the financial incentives available for residents by taking advantage of variable rate programs. The District projects a 10% annual increase in the number of residents who will use the "per bag" system available in the townships of Austintown, Boardman, Canfield, and Poland which are suburbs of Youngstown. These townships along with the rural ones, do not contract for township-wide trash collection; thus the financial incentive for a variable rate. Residents in the townships may opt for a variable rate system by purchasing bags from one or more hauling companies which then motivates them to lessen their total waste output as less bags used equals more savings. The standard rate for unlimited trash collection is about \$70.00/quarter contrasted to an average of \$32.00/quarter with a one-bag limit per week.

The District highly anticipates that the cities of Campbell, Struthers, and Youngstown will include a variable rate option in their bidding specifications for trash collection service by 2015, thus providing an incentive for residents to save money through composting and recycling. Jennifer Jones, YLCR Manager, and the District director have been in consultation with Youngstown officials to encourage them to commence this process by including in the bidding specifications a tiered-rate schedule for those that choose the option of limiting their weekly trash amount to either one can or one bag.

Officials are considering the variable rate option but have not made a decision as of the Draft due date.

The resulting tonnage generated through the variable rate programs will be reflected in the District's curbside and drop-off recycling weights, and in the weights reported from the special drives for electronics, appliances, and tires. As more residents desire to save money via PAYT, the participation in the District's free waste reduction programs will increase. Currently, residents of Youngstown, Campbell, and Struthers may include appliances and electronics with their trash. Tires are banned from landfill facilities. The staff will include information about PAYT in all adult group presentations and will continue to distribute information through brochures and displays on the website. Essential to the success of any variable rate system is the continued emphasis on source reduction which can be accomplished through application of various techniques that will be provided in presentations to adult groups so that residents have the knowledge necessary to prevent the generation of waste. Information such as bringing reusable bags to the store and similar techniques will be disseminated to residents so that they understand ways to effectively reduce the amount of trash generated and thus be able to take advantage of a variable rate system.

The staff will continue to write articles themed on PAYT for placement in the Green Scene, the District's quarterly e-newsletter, in order to generate enthusiasm and participation. Currently three companies provide a PAYT alternative for residents: Allied/Republic, Waste Management, and Waste Tech; and it is anticipated that more companies will join them by 2015 or sooner as this activity gains more recognition. Haulers that desire to remain competitive must include a variable rate option as this is becoming more popular throughout Ohio and the nation.

Litter Law Enforcement Program

Goal 3 and 4

The District will continue to provide annual funding to the Mahoning County Sheriff's Dept. for the use of one full-time deputy to serve as the Litter Law Enforcement Deputy who in addition to investigating, citing, and following up on cases; will provide information to the general public and businesses about source reduction, recycling, reuse, composting, and the dangers of illegally dumping scrap tires and HHW. The Deputy will enforce the ORC littering, insecure loads, and illegal dumping statutes; and will continue to encourage the Youngstown Law Dept. and the Mahoning County Prosecutor's Office to concentrate on fully prosecuting violators. Littering and illegal dumping will continued to be treated seriously because of the dedication of the District and Sheriff's Dept. to cite and prosecute violators.

As the District's population declines throughout the timeline, the number of investigations and citations will also show a gradual decrease. However, it is essential that one full-time professional is dedicated for this important program that serves to be a major deterrent to casual littering and illegal dumping activities. In the Deputy's course of investigation, information regarding reuse, recycling, composting, and source reduction will be distributed to the public. The Deputy will advise residents and businesses of the proper disposal of tires and household hazardous wastes as often these

are mixed with other illegally dumped items. The Deputy will work closely with the staff of the Youngstown Litter Control and Recycling Program to monitor former dump sites that have now been cleaned. Most notably, the massive illegal tire dump on Wilson Ave. in Youngstown, cleaned in 2010 with tires recycled through the ODNR – DRLP grant award, will be monitored weekly to ensure that no new incidents of dumping occur. The District will provide \$80,000.00 annually beginning in 2013 and continuing throughout the Plan timeline for the Deputy's services with a 1% annual inflationary adjustment. No weights are directly associated with this strategy.

Recycling Companies/Brokers/Materials Recovery Facilities

Goal 7

As detailed in Section IV, the Ohio Division of Recycling and Litter Prevention provided two Market Development Grants for the creation of privately owned and operated material recovery facilities. In 2008, the Associated Paper Stock MRF opened and in 2010, the Greenstar MRF opened. Both facilities will continue to process recyclable material generated within the District and throughout northeast Ohio, and this will motivate market development for recyclable materials in Ohio and generate more stimulus to develop and market recycled-content products. Mahoning County's curbside and drop-off recyclable materials are processed in these facilities, and the operators of both will continue to provide accurate weights to the District for ADR purposes. In addition, both facilities process significant commercial loads of cardboard, plastics, and other recyclable materials.

The District projects the weights obtained from private buybacks and brokers, and the two MRFs, to increase a conservative 1% throughout the planning period as based on historic data (2009: 19,482 tons vs. 2010: 23,382 tons or + 20%). The District realizes that with the declining population and subsequent commercial activity as reviewed previously, a decline in private processor and broker weights is logical; however, with the increases in recycling awareness through the Commercial/Industrial Waste Reduction/Assessment program; the aggressive education and awareness strategy outlined previously; and the realization by commercial entities that recycling can save costs - more materials will be handled by these facilities. A conservative 1% is applied. Included in the Section IV narrative are the various facilities that provided weights to the District in 2009 and will continue to do so on a consistent basis throughout the timeline (i.e. APS monthly as per the business recycling collection program).

Motor Oil Collection

Goal 5

The District will continue to provide outlets for used motor oil throughout the planning period with the continuation of the HHW drive where oil is accepted, and it will provide at least three community drop-off sites for acceptance. In 2009 and 2010, Goshen, Berlin, and Green Townships provided an opportunity for residents and small businesses to deposit oil. In addition, numerous private auto service companies accept used motor oil; however, their data is not acceptable as they do not separate Mahoning County-generated oil from others. The District projects no increase based on historical trends and the fact that there will be a continual population decline, thus less vehicles operating in the area.

Although promotions and awareness of the need to recycle and not discard unwanted motor oil will continue throughout the timeline, no separate budget allocation is made as the District staff will handle awareness and education. The need to recycle motor oil, and outlets for acceptance, will be featured on the District's website, in the Green Scene, and in household hazardous waste information brochures produced by the District's staff. The only cost associated with this program is the extra \$500.00 provided annually to each of the three townships that provide the opportunity for residents to recycle their unwanted motor oil. This amount will not increase throughout the planning period.

Mahoning County Board of Health Landfill Inspection and Well Testing Goal 5

The District will continue to fund the Mahoning County Board of Health throughout the planning period for the inspection of landfills, both closed and active, and for the testing of wells for residents living in the landfill communities on an as needed basis as determined by the Policy Committee, Board of Directors, and the Board of Health. It is anticipated that there will be less well water testing needed throughout the planning period as the aggressive testing program conducted since the mid-90's has produced results that indicate no significant threat to the health and safety of residents in the areas targeted. The BOH staff will provide residents and businesses information on strategies to manage unwanted tires and hazardous wastes through their website, personal visits, and distribution of informational fliers at the Canfield Fair and other festivals. The BOH will actively participate in the District's annual HHW event and assist in the planning and implementation of the drive. No weights are directly associated with this strategy.

Well water testing and inspections of landfills will continue throughout the planning period as this is essential in order to continue monitoring any potential pollution risks for residents. However, the level of activity will be slightly reduced in order to supply necessary funds for the District's recycling, reuse, source reduction, and composting programs and strategies. The District will provide \$400,000.00 to the BOH for their services in 2013 and 2014, with a decline to \$300,000.00 beginning in 2015 and continuing through 2027. The District has carefully compared its level of BOH funding to other Ohio districts and has continually discovered that Mahoning County ranks in the top tier. In 2007 the District requested the Ohio Auditor's Office to perform a comprehensive performance audit, and the level of funding provided for the BOH was highlighted as it should reflect the amount of tonnage at landfills. In short, the more active the landfills become through acceptance of increased tonnages; the more funds that may be needed for inspections and well testing. If during the planning period a significant tonnage increase occurs in any one or multiple years, then the Policy Committee will recommend that the Board of Directors consider an increase in the funding allotted to the BOH for inspections and well water testing.

US EPA WasteWise Program Goals 3, 4, 7

The District will continue its active involvement with the US EPA WasteWise program as this serves to challenge the District to reach loftier waste reduction goals with an opportunity to compare results on a national level. This strategy will enhance the District's ability to provide information and technical assistance on source reduction, recycling, reuse, and composting opportunities available for all residents and businesses.

There are no weights or costs directly associated with this strategy as staff will handle the annual reporting requirement.

WasteWise is a strong proponent of source reduction so that waste is eliminated prior to being generated. Source reduction techniques will be emphasized in collaboration with the WasteWise program during presentations to adult community organizations and during the commercial and industrial waste assessments covered later in this section. Articles on source reduction and how it relates to WasteWise will be posted on the website and in the Green Scene. WasteWise is also a strong proponent of encouraging businesses and residents to purchase recycled-content office supplies and equipment thus further motivating strong support for market development which is vital for Ohio's strong recycling-related, economic future.

County and Municipal Assistance

The District will continue to provide the Mahoning County Engineer's Office funds to repair damaged county roads in the townships which have landfill facilities through 2020 at the reduced level of \$ 50,000.00 per year. Only county roads in these townships may be repaired through the utilization of District funds: Poland, Smith, and Springfield. Due to projected stagnation in disposal fee revenues, the District has to reduce the funding level from previous amounts and projects that the program will end in 2021. As is current policy, the District will require detailed annual reports from the Engineer's Office regarding county roads repaired each year. If revenues during any one year fall below projected levels, then the first item to be reduced will be road repair. This will permit funds to be used for more priority items that directly attribute to the District's waste reduction goals.

The District will continue funding the Emergency Management Agency \$10,000.00 per year for the emergency debris management program. No increase in funding is anticipated; however, if circumstances warrant increased funding due to natural or man-made disasters, additional revenue will be considered by the Policy Committee with a recommendation forwarded to the Board of Directors.

Scrap Metal Recycling Weights: Residential/Commercial Goals 1 and 2

The District will continue to ensure that all Youngstown-based scrap metal processors comply with the Youngstown Ordinance (Appendix N) detailed in Section IV. The District will encourage those scrap metal processors who do not reside within the City limits to voluntarily complete the monthly report. The scrap metal weights reported by each facility are to be Mahoning County-generated and not include auto bodies, train boxcars, or metals from C&DD loads. Due to the downward population and commercial activity trend as outlined previously, the District projects a 1% annual decrease in the metals reported.

The District acknowledges that in the past, Ohio EPA has had concerns with the significant weights reported by facilities. In Section IV, the District presented the methods used during the past several years to make sure that all scrap metal processors who complied with the Ordinance and reported weights on a monthly basis, did so in an

accurate manner. The District will further enhance its review of reporting facilities covered by the Ordinance by performing all of the following tasks.

- 1) District staff will increase the frequency of on-site visits of each facility to bi-monthly. Visits will include:
 - a) A review of the log book or other reporting mechanism as specified allowable in the Ordinance.
 - b) A review of documentation that confirms the reported amounts on the monthly reporting form were generated in Mahoning County and not in Trumbull or other neighboring counties.
 - c) A review of documentation or other definite confirmation that the scrap metals were not mixed in loads of C&DD materials.
 - d) A review of the monthly reporting form with facility operators to make sure reported weights are verifiable.
 - e) A viewing of the yard accompanied by company officials to witness the types of metal that will be included in subsequent reports.
- 2) The District will involve the Policy Committee in the review of scrap metal reports by including this item on agendas during specific months of the year. The PC, being very involved with District activities and having an industrial representative who is an 40-year professional in the private recycling business, will closely scrutinize the data and advise as to whether the numbers appear accurate or unreasonable.
- 3) The director will continue to provide information to each scrap metal facility operator so that he is assured that each one fully understands the parameters of the reporting requirement and not include items such auto bodies, train boxcars, and metals from C&DD loads.
- 4) The District will work more closely with Youngstown agencies including the Youngstown Law Department which has jurisdiction; the manager of the Youngstown Litter Control and Recycling Program who has forged strong working relationships with facilities such as Metalico; the Youngstown Police Dept. who monitors the facilities for records of persons stealing copper and other metals; and the Youngstown Finance Department which is responsible for licensing the scrap metal processors each year and who has worked closely with the District on the Ordinance and reporting project since 2005. This action will facilitate a stronger bond for oversight of the reporting requirement and enforcement of the Ordinance.

The District realizes that the reported weights in 2010 exceeded expectations and are considered an anomaly. The District, understanding that projections based on an exceptional year that is not predicted to continue, would be illogical. Thus, Table V-5 uses the reported tonnages from 2009 and not the 2010 level in projecting a decline by 1% annually.

In reviewing total scrap metal Ferrous tonnages (residential/commercial and industrial) reported on Annual District Reports, specifically 2008 vs. 2009 levels, a decline is evident. The 2009 level was the result of the recession that had a negative impact on

recycling markets and metal prices. The District believes this is the main factor in the reported increase for 2010 weights as prices resumed to pre-recession levels. However, the District believes that with declining population and commercial activity, a decrease of 1% is appropriate throughout the planning period.

2008: 194,494 tons

2009: 128,953 tons

Table V-5, “Scrap Metal Recycling”, lists Ferrous metals only as this will prevent confusion and maintain separation as to other metal materials that are counted in other strategies (i.e. Appliances or LAB). The District realizes that the weights in this category exceed national characterization studies; however as reviewed previously, Youngstown is still considered “Steel Town” with residents and commercial enterprises finely aware of the benefits of recovering and recycling metal materials both for the financial reward and to maintain abidance with the long-held ethic that steel has been and will continue to be a vital component at the heart of the workforce of the Mahoning Valley.

Industrial Waste Reduction Strategies

The District’s Industrial Waste Reduction Strategies consists of three programs: Industrial Recyclers/Brokers: Monthly Reports, Commercial/Industrial Waste Reduction Assessment Program, and the Materials Exchange; each with the goal to provide the necessary information and technical assistance for industries of any size and SIC category to implement effective and efficient waste reduction strategies. These strategies will not discriminate in terms of SIC code so that all Mahoning County-based manufacturers and industries may participate in order to reduce or recycle at least 50% of their generated solid waste. As noted in Section VII, the District has exceeded the 50% benchmark for industrial waste reduction (2009 – 69.4%) and will continue to do so throughout the timeline with the continuation of strategies as presented in this section.

As indicated through numerous publications and in other media outlets, a significant expansion in the area’s manufacturing and industrial base is probable and in direct correlation to the massive natural gas and oil drilling that will occur in New York, Pennsylvania, and Ohio over the next two decades. The technical advances made in drilling in order to extract natural gas is the main impetus behind this resurgence since metal pipe and associated products will be in high demand.

With this expansion comes industrially-generated solid waste that must be handled in an environmentally-responsible manner, thus the need for the strategies that follow in order to ensure that sufficient opportunities are available for reuse, recycling and source reduction. Providing these industries with the essential knowledge necessary to commence cost-effective waste reduction programs is integral to the District’s overall objective.

Industrial Recyclers/Brokers: Monthly Reports

Goal 2

As detailed previously, the mandatory monthly reporting requirement through the Youngstown Ordinance, includes the following industrially-generated material categories: *Ferrous Metals*, *Non-Ferrous Metals*, *Aluminum Scrap*, *Other*. These materials must be generated by District-based manufacturing facilities such as steel producers and transported to the scrap metal processing facilities covered under the Ordinance or those processors who volunteer to participate such as Broadway Iron and Metal in Alliance. The District projects an annual 1.58% decline in the weights of industrially-generated, scrap metals that will be reported by said facilities. As explained previously, the decline was determined by averaging the manufacturing sector employment decline as projected by the Dept. of Jobs and Family Services Agency for those SIC categories as noted in Table V-3. The average was a 1.58% decline, thus applied to the industrially-generated scrap metal amounts in order to obtain conservative projection. Employment increases or decreases are proportional to industrial waste generation output.

The District staff will closely monitor this strategy to ensure that all scrap metal weights reported only include District-generated metals; excluding metals from C&DD loads, train boxcars, and auto bodies. The following scrap metal processors have provided accurate, credible, and reliable industrially-generated weights to the District on a monthly basis since 2006 and will continue to do so throughout the Plan timeline pending their ability to remain operational: U.S. Trading, 1315 Poland Ave., Youngstown, Ohio: ferrous metals, non-ferrous metals, aluminum scrap, industrial metals in “other” category; Metalico Youngstown, Inc., 100 Division St., Youngstown, Ohio: ferrous metals, non-ferrous metals, and aluminum scrap; Midwest Steel and Alloy Division, 200 Division St., Youngstown, Ohio: ferrous metals, non-ferrous metals; and Broadway Iron and Metal, Inc., 300 S. Mahoning Ave., Alliance, Ohio: ferrous metals, non-ferrous metals, and aluminum scrap. These facility operators understand that the metals must be generated from manufacturing/industrial sources, and Metalico and Midwest are immediately adjacent to the mammoth V&M Star Steel Facility that has greatly expanded.

The District firmly believes that it is receiving accurate data from these facilities which further demonstrates the long-held ethic within the steel producing industry that scrap metals are an extremely valuable commodity that necessitates recovery and recycling. The prime motivators are cost-savings and revenue. Each ton of industrially-generated scrap metal diverted from the landfill saves significant disposal fees and produces revenue as per commodity value. In short, the recycling activity of District-based industries makes great economic sense in addition to preserving natural resources and the awareness of being good environmental stewards.

Commercial/Industrial Waste Reduction/Assessments Program - Goals 3, 4, 5 and 7

The District will continue to provide commercial and industrial enterprises, including institutions such as museums, libraries, and concert halls; with free solid waste assessments through utilizing trained District staff with assistance available from the manager of the Youngstown Litter Control and Recycling Program and managers of the Youngstown State University re:CREATE and Recycling programs. The current

managers of these three programs all have Master Degrees and are qualified to conduct waste assessments, especially for industries.

A District staff member is assigned exclusively for this task in addition to overseeing the business recycling program; however, during the planning period this task will be divided among various staff members who possess the ability to conduct assessments. The goal is to assist these entities in implementing waste reduction programs with attention to source reduction by providing the necessary knowledge and technical assistance required; and to provide the information and motivation for commercial/institutional and industry officials to procure recycled-content supplies and materials whenever feasible.

The program will emphasize the basic concepts of the Build America Beautiful program that were discussed in Section IV which will no longer receive funding through the Home Builders Association after 2012. The basic concepts of the program include promoting eco-friendly approaches to construction, minimizing the environmental impact of construction projects, providing information about the advantages of using recycled-content materials, and the economic advantages of practicing source reduction strategies along with recycling. Articles relating the concepts of BAB will be posted on the District's website during the construction season which commences in early April, and the Green Scene will provide at least one article each year on the importance of following the basic concepts of BAB.

The assessments will not be as technical as those from the former YSU CERTT program (Center for Engineering Research and Technology Transfer) that ended in 2004 which were done by engineering students and proved beyond the scope of company officials to comprehend. The assessments for businesses and industries will be relevant to each situation, abbreviated so that interpretation is assured, and will include follow-up so that the District knows whether actual waste reduction programs were initiated by the assessed enterprise. The District will conduct a minimum of 20 assessments per year during the planning period of which approximately half will be targeted for commercial enterprises and the other for industries, thus the reason for inclusion of this strategy under "Industrial". The District's current director brought the knowledge and skills he learned from being a staff member with the YSU CERTT program from 1999 thru 2004 to the current staff so that they were able to conduct assessments in a comprehensive and productive manner since 2005. He was trained in the Integrated Manufacturing Assessment (IMA) program in 1998 through a special workshop sponsored by the YSU's Engineering Dept. which was specifically geared toward large manufacturers such as steel producers and fabricators.

As a result of the more streamlined waste assessment process which has been implemented for the past several years, actual waste reduction programs have and will continue to be implemented by private enterprises. The assessment will be limited in length and presented to company officials during a venue deemed appropriate. They will include information about source reduction, recycling, reuse options, and the importance of buying recycled-content supplies. No separate weights are projected in Table V-6 for this strategy as the resulting recycling tonnages will be included in the weights received

from industrial recyclers/brokers who include the scrap metal processing facilities listed previously. Source reduction is extremely challenging to quantify, thus the District does not project weights related to it; however, it will be an integral part of each waste assessment.

The waste assessments will be conducted after an initial request is made to the District resulting from the education and awareness outreach referenced previously whereby businesses and industries are encouraged to reduce solid waste in an environmentally-sound and cost-effective manner. Included in the assessments will be the proper handling of scrap tires, hazardous wastes, non-hazardous wastes such as reusable paint, and components of the waste stream traditionally thought to be non-reusable or non-recyclable such as unwanted furniture or working computer monitors. Since the District has a successful reuse initiative through the YSU re:CREATE program, these materials will be handled through this mechanism and not disposed.

Specific to the industrial waste assessments strategy, the information that will be obtained during the initial meeting and walk-through will mirror the industrial survey form included in Appendix F. Source reduction recommendations will be an integral part of the assessment process as any effort to reduce the generation of solid waste at the point of origin is essential to sound solid waste management practices. Source reduction generally has cost-saving implications and recommendations may focus on operational and management practices, and increases in efficiency as noted by the District staff or director during the walk-through and informational gathering phase of the procedure.

The assessment process will include discussion about the procurement of recycled-content office supplies and other materials which serve to boost Ohio's recycling markets. The staff will point out the cost comparisons and actual environmental benefits of buying items made from recycled-content material. This may include rubberized asphalt for some industries and equipment made from recycled plastic and metal.

The most important aspect of the waste assessment program that was neglected prior to 2005 is follow-up. As evident by the lack of initiated recycling programs from the CERTT assessments completed in years past; continuing to contact company officials on a regular basis reassures them that the District is concerned about their ability to implement sound waste reduction practices and will offer technical assistance as requested. The District staff will contact each of the companies and institutions within 6-months after the assessment process is completed in order to evaluate whether some or all of the recommendations were implemented.

The District will not gear this strategy toward certain SIC categories as this has not proven productive. It is evident that particular attention will be attributed to the largest industrial generators such as V&M Star Steel and similar industries that are expanding due to the gas and oil drilling operations. Those industries that express a sincere desire to commence source reduction, recycling, composting, and reuse programs will receive first priority regardless of size or waste generation amount. The District believes this will produce more successful results in the follow-up activity with actual programs

implemented versus concentrating on less interested industries that happened to fall into SIC categories. The District's goal is to motivate and encourage commercial and industrial entities to accept assessment findings and implement waste reduction strategies because they have a sincere desire to become more environmentally conscience.

The District will provide qualified staff to implement this strategy and the necessary office supplies to complete the commercial/institutional and industrial waste assessments. In addition to District staff, the Youngstown Litter Control and Recycling Program manager possesses the ability to provide assessments thus supplementing the staff's objectives. Most of the larger industries are located in Youngstown, thus the District and City will work together to provide relevant and realistic assessments to those industries. As referenced in Section IV, the District's staff member assigned to conduct assessments in 2009 had great successes with a prime example being Northern States Metal, a growing manufacturer of metal solar energy systems.

Assessment Process

The assessment process will begin with an initial meeting of District or YLCR staff and company officials where essential and non-proprietary information is obtained, including the physical overview of the building(s), type of product(s) manufactured, quantity of raw materials or feedstock used, number of employees, current recycling initiatives and status, and related background information. Next the staff will tour the facility with industry officials to obtain a sense of the flow of solid waste and quantities and categories. Staff will take notes regarding space available for containers in the office areas and actual manufacturing floor. Often, health and associated regulations and restrictions do not permit the addition of recycling containers, thus the staff will note alternatives. Once the tour is completed, the staff will obtain any remaining details necessary in order to commence the drafting of the assessment. Once completed, the staff will contact company officials to review the recommendations and offer further technical assistance for the implementation of strategies in order to commence cost-effective source reduction, reuse, recycling, and/or composting programs. The staff will follow-up within six months to ensure that at least one or more of the strategies were implemented and request initial feedback on the success of implementation.

Source reduction will remain a primary focus of all industrial waste assessments as elimination of materials prior to generation is both cost-effective and sound environmental policy. Since industrial processes are complex and often involve high level chemistry and engineering skills, the District will rely on the strong working relationship with YSU so that professors, using the YSU Recycling and re:CREATE managers as a conduit, may provide technical assistance with these complicated challenges. For example, if a certain process is identified as outdated and wasteful, a replacement process may be issued in the assessment for the manufacturer's consideration. The access to YSU also assists with the more complex chemical processes involved in hazardous wastes that are often generated in industrial settings. Recommendations on how to divert potentially hazardous materials from disposal will be available. The assessments will be direct, easy to interpret, and have specific, realistic recommendations that are cost-effective and relevant.

The Materials Exchange

Goal 4

The District will continue to fund the YSU re:CREATE program which includes managing the Materials Exchange, a web-based avenue for generators of mainly industrial materials to communicate to non-profit organizations and private enterprise the availability of these materials. This is a non-monetary exchange thus not in competition with other popular web-based exchanges. The goal is to find entities that will accept industrial sludges, paint, petrochemicals, fly ash, and industrial-process wastes such as sludges, trimmings, and filter cake; and industrial non-process wastes such as cafeteria and packaging wastes.

The program will not change as per the description for 2009 detailed in Section IV. As per Table V-6 and as clarified in Section IV, no waste reduction tonnages were attributed to this program although 960 tons of fly ash and grate bottom ash were recorded in 2009. The challenge of quantifying the exchanged materials and those that are considered countable toward waste reduction rates; brings the conclusion not to project tonnages from this strategy. The District believes that the awareness benefits provided by the Materials Exchange are sufficient for continuation as commercial and industrial entities learn the benefits of reusing rather than disposal.

In October 2011, the Materials Exchange had these materials listed on the site (link from www.greenteam.cc) which frequently change as new listings are posted; mainly generated in the industrial/manufacturing sector. This is just a sampling of items listed.

Various Acids – Ash – Numerous Chemicals and Materials such as lime, antifreeze, sodium/potassium hydroxide, fused silica, quartz rods and tubing, iron sulfate sludge, iron oxide scale, grinding mud, zinc oxide sludge, oils and waxes – Silkscreen Ink – Various Industrially-generated Plastics – Scrap Rubber – Silicon Carbide – Various Refractory Materials.

F. Landfill and Incinerator Disposal Restrictions

Leaves and Yard Waste

Effective December 1, 1993, no source-separated loads of leaves or yard waste have been accepted for disposal at landfills located within the District. In 2009, the following registered Class IV composting facilities accepted leaves or yard wastes for the purpose of composting:

AFC Company, 5183 Western Reserve Rd., Canfield
 Boardman Township Composting, Park Ave., Boardman
 City of Struthers Composting Facility, 100 South Bridge St., Struthers
 Custom Blended Soils, 15334 Mahoning Ave., Diamond
 Dave Price Tree Service, 1620 Albert St., Youngstown
 Saunders and Sons, 3299 E. Western Reserve Rd., Poland
 Tree and Lawn Landscape, Inc., 13159 Woodworth Rd., New Springfield
 Uhrain Greenhouses, 704 Maple Ave., Boardman

Class II – Youngstown State University – (limited to on-campus generated food and other organic waste)

Enforcement of this restriction is delegated to the Mahoning County Board of Health landfill inspection program that is funded by the District.

Tires

Effective January 1, 1993, whole scrap tire loads have not been accepted for disposal at any landfill within the District. In 2007, the two Youngstown-based scrap tire recycling companies terminated operations, thus there are no scrap tire recycling companies in the District or any planned in the near future. All tires accepted in District-funded tire recycling events are transported to fully licensed recycling facilities in other counties such as the Liberty Tire company. Waste haulers and landfill operators are aware of the restrictions, and enforcement is delegated to the Mahoning County Board of Health landfill inspection program that is funded by the District.

Effective January 1, 1995, neither whole nor shredded scrap tire loads have been accepted for disposal at any landfill within the District. Landfill operators inform haulers of the restriction, and the Mahoning County Board of Health landfill inspection program that is funded by the District, is responsible for enforcement.

Lead Acid Batteries

Effective January 1, 1993, lead acid batteries (LAB) have not been accepted for disposal at any landfill within the District. Haulers are notified of this restriction by the landfill operators, and the enforcement is delegated to the Mahoning County Board of Health landfill inspection program that is funded by the District.

As detailed in this section, the District has implemented and will continue to implement strategies that provide sufficient opportunities for residents to recycle tires and lead acid batteries; and to compost yard waste.

G. Household Hazardous Waste Options

As detailed previously in this section under the strategy entitled: “Household Hazardous Waste, Education/Awareness/Collection”, the District is providing sound and sufficient opportunities for residents to handle hazardous materials. Residents will continue to have the opportunity to attend at least one HHW drive annually sponsored by the District, and the educators will provide information through brochures, videos, and website or Green Scene articles on the proper handling of various HHW items. During the commercial/institutional and industrial waste assessment process, hazardous materials will be noted and officials will be urged to seek safe and appropriate recycling options when available, or methods of disposal if necessary. The District will continue to stress source reduction so that residents, businesses, and manufacturers don’t generate hazardous materials. Alternatives appropriate to each circumstance will be presented through the District’s educational and awareness outreach.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE V-1
DISTRICT POPULATION PROJECTIONS**

YEAR	TOTAL DISTRICT POPULATION
2009	239,675
2010	238,823
2011	238,476
2012	238,128
2013	237,781
2014	237,434
2015	237,087
2016	236,739
2017	236,392
2018	236,045
2019	235,697
2020	235,350
2021	234,495
2022	233,640
2023	232,785
2024	231,930
2025	231,075
2026	230,220
2027	229,365

2009 Source of Information: Interpretation of population loss
between 2000 & 2010 US Census

2010 Source of Information: 2010 US Census

2011 -2027 Source of information: Ohio Department of Development,
Office of Strategic Research Projections thru 2030

2009 NOTE: Population corrected as per Ohio EPA Draft comments as explained in Section
IV narrative.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE V-2
DISTRICT RESIDENTIAL/COMMERCIAL WASTE GENERATION**

YEAR	TOTAL DISTRICT POPULATION	PER CAPITA GENERATION RATE (lbs/person/day)	TOTAL RESIDENTIAL / COMMERCIAL GENERATION (TPY)
2009	239,675	5.89	257,710
2010	238,823	6.41	279,242
2011	238,476	5.79	251,887
2012	238,128	5.75	249,782
2013	237,781	5.71	247,681
2014	237,434	5.67	245,586
2015	237,087	5.63	243,496
2016	236,739	5.59	241,412
2017	236,392	5.55	239,332
2018	236,045	5.51	237,257
2019	235,697	5.47	235,187
2020	235,350	5.43	233,123
2021	234,995	5.39	230,564
2022	233,640	5.35	228,018
2023	232,785	5.31	225,484
2024	231,930	5.27	222,963
2025	231,075	5.23	220,454
2026	230,220	5.19	217,958
2027	229,365	5.15	215,474

1. Decrease in per capita waste generation based on 10 years (2000-2009) of reported annual change (lbs/person/day) provided by US EPA publication "Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2009".

Sample Calculation:

2009: $257,710 \times 2,000$ (515,420,000), divided by $239,675 \times 365$ (87,481,375) = 5.89

239,675 = district population in 2009

5.89 = lb/person/day based on 2009 Ohio Solid Waste Facility Data Report & 2009 Annual District Report after OEPA Draft comment adjustments

365 = number of days per year

2,000 = conversion from pounds to tons

2010 Total R/C generation determined by subtracting 61 tons (backyard composting, from the ADR comments total of 279,303. (279,303-61=279,242)

NOTE: 2010 is considered an anomaly with the extreme volume reported in the Facility Data Report from the Total Waste Logistics transfer station located in Trumbull Co. Thus, not used for projections.

NOTE: District utilized original Draft P/P/D projections for 2011 onward as 2010 is considered extreme. The TWL transfer station closed in mid-2011, and the 2011 Facility Data Report was not available during Draft corrections' phase.

NOTE: The decline of .04 in Per Capita Generation Rate is explained in the narrative on P. 121

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
SOLID WASTE MANAGEMENT PLAN UPDATE**

**TABLE V-3
PROJECTED INDUSTRIAL WASTE GENERATION**

SIC ¹	Employment change per yr	TONS OF INDUSTRIAL WASTE GENERATION PER YEAR																		
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
20	0.00%	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026	8,026
22	-1.58%	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	49	49	48
23	-1.58%	161	159	156	154	151	149	147	144	142	140	138	135	133	131	129	127	125	123	121
24	-0.91%	875	867	860	852	844	836	829	821	814	806	799	792	785	777	770	763	756	750	743
25	0.00%	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880	880
26	-1.58%	168	165	163	160	157	155	153	150	148	145	143	141	139	136	134	132	130	128	126
27	-3.33%	2,292	2,216	2,142	2,070	2,001	1,935	1,870	1,808	1,748	1,689	1,633	1,579	1,526	1,475	1,426	1,378	1,332	1,288	1,245
28	-1.00%	6,173	6,111	6,050	5,990	5,930	5,870	5,812	5,754	5,696	5,639	5,583	5,527	5,472	5,417	5,363	5,309	5,256	5,204	5,151
29	-1.58%	312	308	303	298	293	288	284	279	275	271	266	262	258	254	250	246	242	238	234
30	-0.86%	1,517	1,504	1,491	1,479	1,466	1,453	1,441	1,429	1,416	1,404	1,392	1,380	1,368	1,357	1,345	1,334	1,322	1,311	1,300
31	-1.58%	106	104	103	101	100	98	96	95	93	92	90	89	88	86	85	83	82	81	80
32	-1.11%	1,699	1,680	1,661	1,643	1,624	1,606	1,588	1,571	1,553	1,536	1,519	1,502	1,485	1,469	1,453	1,436	1,420	1,405	1,389
33	-2.12%	114,453	112,023	109,645	107,317	105,038	102,808	100,625	98,488	96,397	94,350	92,347	90,386	88,467	86,589	84,750	82,951	81,189	79,465	77,778
34	-2.45%	12,317	12,015	11,721	11,434	11,154	10,881	10,614	10,354	10,101	9,854	9,612	9,377	9,147	8,923	8,705	8,491	8,284	8,081	7,883
35	-2.07%	7,382	7,229	7,080	6,933	6,790	6,649	6,512	6,377	6,245	6,116	5,989	5,866	5,744	5,625	5,509	5,395	5,283	5,174	5,067
36	-1.82%	1,401	1,376	1,351	1,326	1,302	1,278	1,255	1,232	1,210	1,188	1,166	1,145	1,124	1,104	1,084	1,064	1,045	1,026	1,007
37	-4.92%	385	366	348	331	315	299	284	270	257	245	233	221	210	200	190	181	172	163	155
38	-1.58%	536	527	519	511	503	495	487	479	472	464	457	450	443	436	429	422	415	409	402
39	0.00%	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784	784
TOTAL TPY		159,533	156,405	153,344	150,349	147,419	144,551	141,746	139,000	136,314	133,685	131,113	128,595	126,132	123,721	121,362	119,054	116,794	114,583	112,420
			161,285*																	

NOTE: the 2010 Facility Data Report lists a total of 161,285 tons, an increase over the Draft projection of 156,405.

The District believes that the slight (3%) increase between the projected 2010 amount and the FDR reported amount should not be used as proof that the industrial generation amounts will continue to rise. Using the original Draft projections is prudent. The 2011 FDR was not available during the Draft comment corrections phase, thus the District will use the original Draft projections for 2011 and onward as they are both conservative and realistic.

1. 1. The Change per Year of Employment for SIC Codes 20,24,25,27,28,30,32-37 and 39 was obtained from The Ohio Department of Job and Family Services, Job Outlook to 2018. For the remaining industries, an average of all manufacturing SIC codes growth/decline was utilized. This averaged value (-1.58) is the average of the reported change of employment for SIC Codes 22,23,26,29,31 and 38.

Sample Calculations:

Reported Change in Employment:

SIC Code 24 for Year 2009: 2009 value * (1+ change in employment)
875 * (1+ -0.91) = 867

Calculated Average Change in Employment:

SIC Code 22 for Year 2009: 2009 value * (1+average change in employment)
64 * (1+ -1.58) = 63

Note Some rounding occurs.

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
SOLID WASTE MANAGEMENT PLAN UPDATE**

**TABLE V-4
TOTAL WASTE GENERATION FOR THE DISTRICT
DURING THE PLANNING PERIOD**

YEAR	RES/COM	INDUSTRIAL	EXEMPT ¹ and OTHER	TOTAL	POPULATION	GENERATION RATE LB/PERS/DAY
2009	257,710	159,533	7,565	424,808	239,675	9.71
2010	279,242	161,285	9,491	450,018	238,823	10.33
2011	251,887	153,344	7,565	412,796	238,476	9.48
2012	249,782	150,349	7,565	407,696	238,128	9.38
2013	247,681	147,419	7,565	402,665	237,781	9.28
2014	245,586	144,551	7,565	397,703	237,434	9.18
2015	243,496	141,746	7,565	392,807	237,087	9.08
2016	241,412	139,000	7,565	387,977	236,739	8.98
2017	239,332	136,314	7,565	383,210	236,392	8.88
2018	237,257	133,685	7,565	378,507	236,045	8.79
2019	235,187	131,113	7,565	373,865	235,697	8.69
2020	233,123	128,595	7,565	369,283	235,350	8.60
2021	230,564	126,132	7,565	364,261	234,495	8.51
2022	228,018	123,721	7,565	359,304	233,640	8.43
2023	225,484	121,362	7,565	354,411	232,785	8.34
2024	222,963	119,054	7,565	349,581	231,930	8.26
2025	220,454	116,794	7,565	344,813	231,075	8.18
2026	217,958	114,583	7,565	340,106	230,220	8.09
2027	215,474	112,420	7,565	335,458	229,365	8.01

1. Projection for Exempt and Other waste flat-lined based on the reference year as we have no reliable metrics to determine continuation of the 2010 rate, thus projecting in a conservative manner.

Historical values fluctuate with no perceivable trend. 2010 amounts from the ADR comments with the R/C amount adjusted by subtracting backyard composting amount of 61 tons.

2010 R/C ADR comments = 279,303 tons - 61 tons = 279,242 tons.

2010 Gen. Rate calculation (450,018 * 2,000 = 900,036,000, divided by 238,823 * 365 = 87,170,395 = 10.33

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
SOLID WASTE MANAGEMENT PLAN UPDATE**

**TABLE V-5
RESIDENTIAL/COMMERCIAL WASTE REDUCTION STRATEGIES**

STRATEGY	MATERIAL ¹ REDUCED AND/OR RECYCLED	TONS REDUCED/RECYCLED																		
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
SOURCE REDUCTION STRATEGIES																				
SUBTOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RECYCLING STRATEGIES																				
Curbside	Fe, NonFe, Al, G, MP, PI	3,793	3,617	3,653	3,690	3,727	3,764	3,802	3,840	3,878	3,917	3,956	3,995	4,035	4,076	4,116	4,158	4,199	4,241	4,284
Drop Off Recycling	Fe, NonFe, Al, C, G, L/A, MP, PI	3,956	3,886	3,925	3,964	4,004	4,044	4,084	4,125	4,166	4,208	4,250	4,293	4,335	4,379	4,423	4,467	4,512	4,557	4,602
School Fiber Program	MP	2,543	2,654	2,681	2,707	2,734	2,762	2,789	2,817	2,845	2,874	2,903	2,932	2,961	2,991	3,020	3,051	3,081	3,112	3,143
Collection Drives																				
- Business Recycling Program	C, Fe, G, MP, Al, PI	410	409	421	434	447	460	474	488	503	518	534	550	566	583	601	619	637	656	676
- Appliance Drive	White Goods	47	63	67	70	73	77	81	85	89	94	98	103	108	114	119	125	132	138	145
- Electronics Drive	Electronics Equip	76	67	68	68	69	70	71	72	73	73	74	75	75	76	77	78	79	79	79
- Tire Drives	Tires	114	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147	147
Household Hazardous Waste																				
- Household Battery Collection	HHW	11	13	14	14	15	16	17	17	18	19	20	21	22	23	25	26	27	28	30
- Household Hazardous Waste Collection	HHW	10	10	10	10	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9
- LAB	HHW	58	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
- Residential Oil Collection	HHW	9	8	8	8	8	8	8	8	7	7	7	7	7	7	7	7	7	7	7
Cash-for-Cans	Al	10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Recycling Coordinators / Overflow	Fe, NonFe, Al, C, G, L/A, O, MP, PI	542	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556	556
Recyclers / Brokers / MRF's	All	19,482	23,382	23,615	23,851	24,089	24,330	24,573	24,819	25,067	25,317	25,570	25,826	26,084	26,344	26,607	26,873	27,142	27,413	27,686
Scrap Metal Recycling	Fe, Nonfe	21,753	39,781	21,535	21,320	21,107	20,896	20,687	20,480	20,275	20,072	19,872	19,673	19,476	19,282	19,089	18,898	18,709	18,522	18,337
Tire Recycling and Disposal	Tires	2,167	2,888	3,032	3,184	3,343	3,510	3,686	3,870	4,064	4,267	4,480	4,704	4,939	5,186	5,446	5,718	6,004	6,304	6,619
YSU re:CREATE		170	179	183	186	190	194	198	202	206	210	214	218	223	227	232	236	241	246	251
Composting:																				
Yard Waste	Res. Yard Waste	3,932	12,295	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702	3,702
Backyard Composting Program	Res. Yard Waste	0																		
Holiday Tree Recycling Program	Res. Yard Waste	18	17	18	18	19	19	20	20	21	22	22	23	24	24	25	26	26	27	28
Leaf Collection Program	Res. Leaves	432	331	412	433	454	477	501	525	551	579	608	638	670	704	739	776	815	855	898
SUBTOTAL		59,533	90,330	64,072	64,389	64,720	65,067	65,429	65,808	66,204	66,617	67,048	67,498	67,967	68,455	68,965	69,496	70,049	70,625	71,225
OTHER WASTE REDUCTION STRATEGIES																				
Incineration		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GRAND TOTAL		59,533	90,330	64,072	64,389	64,720	65,067	65,429	65,808	66,204	66,617	67,048	67,498	67,967	68,455	68,965	69,496	70,049	70,625	71,225

- 1) Key: Al - Aluminum; C - Cardboard; Fe - Ferrous; NonFe - NonFerrous; G - Glass; HHW - Household Hazardous Waste; L/A - Lead-Acid Batteries; MP - Mixed Grade Paper; O - Other; PI - Plastic;
- 2) 2010 based on actual data reported in ADR minus 61 tons reported for backyard composting as estimates are not permitted for planning purposes.
- 3) The amount of compost reported in 2009 contains 286 additional tons that was reported to OEPA after ADR was submitted.
- 4) Curbside: 2010 based on actual amount. Subsequent 1% growth estimated due to additional materials collected.
- 5) Drop-Off program 1% growth based on 10 year historical data review.
- 6) School Fiber program based on additional schools and increased material type. 2009-2010 actual value 1% thereafter.
- 7) Scrap Metal numbers extrapolated using 2009 as the baseline and figuring anticipated decline from population loss and historical values. 2010 omitted from trend as anomaly.
- 8) YSU recycling program coupled with "Recycling Coordinators / Overflow"
- 9) 2011 leaf collection numbers adjusted to reflect increase according to preliminary data being prepared for the 2011 ADR. 5% annual increase based on 2011 projected amount.
- 10) 2010 yard waste number reflects additional tonnage as reported on the 2010 ADR comments received from Ohio EPA.
- 11) NOTE: the 2010 scrap metal recycling tonnage matches the corrected 2010 ADR submitted to Ohio EPA and as listed on the ADR Comments received from Ohio EPA.
- 12) NOTE: the District has confirmed the 147 tons listed for the 2010 tire recycling drives as listed above.

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
SOLID WASTE MANAGEMENT PLAN UPDATE**

**TABLE V-6
INDUSTRIAL WASTE REDUCTION STRATEGIES**

STRATEGY	MATERIAL REDUCED AND/OR RECYCLED	TONS REDUCED/RECYCLED																		
		2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
INDUSTRIAL SOURCE REDUCTION STRATEGIES																				
<i>Commercial/Industrial Waste Reduction (Industrial Waste Assessments)</i>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
RECYCLING STRATEGIES																				
INDUSTRIAL RECYCLERS/BROKERS	Fe, Nonfe	110,716	98,722	97,159	95,620	94,106	92,616	91,149	89,706	88,286	86,888	85,512	84,158	82,825	81,514	80,223	78,952	77,702	76,472	75,261
MATERIALS EXCHANGE		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL		110,716	98,722	97,159	95,620	94,106	92,616	91,149	89,706	88,286	86,888	85,512	84,158	82,825	81,514	80,223	78,952	77,702	76,472	75,261
OTHER WASTE REDUCTION STRATEGIES																				
INCINERATION		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
GRAND TOTAL		110,716	98,722	97,159	95,620	94,106	92,616	91,149	89,706	88,286	86,888	85,512	84,158	82,825	81,514	80,223	78,952	77,702	76,472	75,261

For Industrial Facilities See Tables III-5 and VI-4

1. Fe - Ferrous; NonFe - NonFerrous;

2) Recycling projected at overall decline due to anticipated employment change from The Ohio Department of Job and Family Services, Job Outlook to 2018.. See table V-III for more information