

Section IV – Reference Year Population, Waste Generation, and Waste Reduction

The purpose of this section is to list population projections, waste generation and waste reduction estimates for the reference year which is 2009, and to make any necessary adjustments to waste generation estimates.

A. Reference Year Population and Residential/Commercial Waste Generation

Population

As mentioned previously, the planning period is 15 years from 2013 through 2027 with the reference year being 2009, the year prior to the commencement of drafting the Update. Table IV-1 presents the District's population and generation rate for 2009.

The reference year population was determined by interpreting the average population loss for each year between 2000 and 2010 as per the US Census that was released in 2011, and applying that amount to 2009. The District determined that the population in 2009 was 240,696. (2010 actual population as determined by US Census = 238,823, plus the average per/year loss of population between 2000 and 2010 = 1,873, added to 238,823 = 240,696). However, the Ohio EPA Draft comments corrected the 2009 population amount in accordance with Ohio Revised Code section 343.01 (A) (2) and the Format which states that the population of a district must be adjusted to include only municipalities in which a majority of the population resides in the SWMD. The adjusted population for 2009 is **239,675**. This included adjusting the populations of four municipalities that have a majority of their population in other SWMD's: Alliance City (Stark County), Columbiana City (Columbiana County), Salem City (Columbiana County), and Washingtonville Village (Columbiana County). In addition, Youngstown has a very small amount of population in Trumbull County (10), thus adjusted.

The District decided not to seek population data from the local planning commission or other local sources as the Census data was available. The population level demonstrates the continued exodus of residents since the last planning period as economic and employment opportunities have decreased since 2003, the reference year for the current Plan.

During the late 1970's, Youngstown suffered the closing of major steel manufacturing facilities with the loss of over 100,000 residents over the next three decades. The suburban communities have also suffered a loss of population due to the economic climate in the area, but not to the extent that the City has incurred. Most analysts including the Chamber of Commerce predict a continuation of population loss, but not to the drastic extent that occurred in the past three decades. V&M Star Co., an international company has committed to a 650-million dollar expansion of the current steel pipe production facility, and the GM Lordstown facility in neighboring Trumbull County has

added an extra shift in order to produce a new, fuel efficient vehicle. Thus the population decline will continue, but ease in severity during the 15-year planning period.

Generation Rate

Although the District realizes that the Franklin Associates “Characterization of Municipal Solid Wastes in the United States”, prepared for the U.S. Environmental Protection Agency, is an excellent source to determine residential/commercial waste generation, it was decided to utilize the exact and comprehensive waste reduction and disposal data collected by the District and as permitted in Format 3.0. According to the US EPA’s “Municipal Solid Waste in the United States” publication released December 2010, the national average waste generation rate for 2009 was 4.34 pounds/person/day (PPD). The national rate declined from 4.67 in 2005 to 4.34 in 2009. Mahoning County’s rate declined from 6.42 PPD in 2003 to 5.89 in 2009. As is demonstrated throughout this section and subsequent sections, the District’s aggressive waste reduction efforts are the primary reason for the significant reduction.

The District has actual waste disposal, recycling, and composting weights/data from both in-district and out-of-district landfill and transfer facilities, recycling processors including buyback centers, scrap metal processors, and the Greenstar and Associated Paper Stock Material Recovery Facilities (MRF), and from registered composting facilities. The District utilized the Ohio EPA’s 2009 Facility Data Report (FDR) and confirmed the tonnages listed with the monthly reports received from the three in-district landfill facilities. Starting in 2011, all designated facilities had to complete a monthly weight/fee form which details generation points, type of waste, and exact tonnages (Appendix G).

Residential/Commercial Waste Disposed in 2009

Note: The data below is from the 2009 EPA FDR. After much consultation with the EPA, the District has accepted and confirmed the data and a total of **198,177 tons** of in-district Municipal Solid Waste (MSW) was generated. The FDR had **48,817 tons** of Industrial Solid Waste as generated, and **5,798 tons** of Construction and Demolition Debris (C&DD). There were **1,767 tons** of Exempt Waste generated.

Sources – EPA’s 2009 Facility Data Report with the in-district landfill tonnage data (rounded to whole numbers) confirmed by the District monthly reports from facilities.

Landfill/TS	MSW	Ind.	C&DD	Exempt	Total
ETSI Transfer Station	5,921	0	0	0	5,921
Total Waste Log. TS.	13,644	0	0	0	13,644
Akron Central TS	168	0	0	0	168
Cleveland TS	3	0	0	0	3
Kimble Landfill	124	19	0	0	143
Lake Co. SW Facility	614	0	0	0	614
American Landfill	631	996	0	0	1,626
Countywide Disposal	22	1,213	0	553	1,788
Kimble Transfer	1	0	0	0	1
Mahoning Landfill	72,102	8,758	882	1,214	82,957
Carbon Limestone	83,773	36,357	4,004	0	124,135
Central Waste	21,174	1,474	912	0	23,560

Total:	198,177	48,817	5,798	1,767	254,560
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Note: Kimble Transfer Station reported less than one ton so rounded to whole number.
Bolded facilities are located in Mahoning County.

Formula: Tons of Residential/Commercial Waste Disposed: **198,177 tons**
 Added to the tons of Residential/Commercial Waste Reduction and Recycling (as determined by the monthly Allied/Republic curbside data reports, monthly Allied/Republic drop-off sites data reports, the quarterly community recycling coordinators' overflow reports, the Youngstown Ordinance-mandated monthly scrap metal processors' weight reports, data obtained from the Associated Paper Stock MRF, data obtained through the 2009 Board of Health waste haulers' survey forms, data obtained through the YSU re:CREATE program for reuse initiatives, data obtained from non-profit centers for reusable items, data obtained from the Ohio EPA and Mahoning County Board of Health for all registered Class IV composting facilities and the YSU Class II composting facility, and data obtained from non-mandated reporting entities in neighboring districts (i.e. Table III-5 lists Girard Recycling located in Trumbull County) that reported acceptance of Mahoning County-generated residential/commercial recyclable materials:**59,533 tons**.

Note: 2,281 tons of Mahoning County-generated tires were incinerated by the Liberty Tire company at their waste-to-energy (WTE) plant and is included in the total. This is "resource recovery" which is included in the definition of "waste reduction" as per Format 3.0.

Total residential/commercial waste generation: **257,710 tons**.
 Population in 2009: **239,675** .

$\frac{257,710 \text{ tons} \times 2,000 \text{ pounds/ton}}{239,675 \text{ persons} \times 365 \text{ days/year}} = 5.89 \text{ pounds/person/day}$

Rationalization

The P/P/D amount of 5.89 is reflective of the actual reported tonnages of disposed and reused/composted/recycled data from various entities as listed previously. The current Plan has 6.42 P/P/D which is significantly more than the 5.89 P/P/D that will be used in this Plan Update. This is consistent as the District has strengthened its ability to obtain accurate and comprehensive data from numerous waste generating sources. In particular, the mandated City of Youngstown Ordinance approved in November 2005, requires accurate monthly reporting from scrap metal processors which provide tonnage data that previously was not available. Future waste generation is expected to increase proportionally to the increase projected by US EPA. Had the District experienced a significant drop in the total waste generation level, then there would be cause for concern as to the accuracy P/P/D amount: however, this is not the case. The District has excellent cooperation from the various entities essential in making the waste generation level accurate.

Regarding open dumping, the District is confident that no significant illegal open dumping occurred during 2009 as the District's Litter Law Enforcement program has done an excellent job in halting the previously increasing existence of dumps. The materials cleaned-up from the dumpsites are included in the in-district landfill disposal tonnage and thus not needed to be counted separately. The Youngstown Litter Control and Recycling Program and the District conducted numerous community clean-ups with all the litter placed in District located landfill facilities, thus accounted for.

Hence, the District shall use the disposal plus recycling method as in the last plan update for residential/commercial waste generation values in this update.

B. Industrial Waste Generation

Industrial solid waste data presented in this section includes all manufacturing process wastes and packaging materials used to ship items into the manufacturing process. All Mahoning County-generated solid waste produced by industry includes all industrial solid waste disposed in landfill facilities or recycled. The District did not include industrial solid wastes for recycling credit that were generated from these waste streams: train boxcars, metals from demolition activities, and ferrous metals resulting from salvage operations conducted by licensed motor vehicle salvage dealers.

The District expended significant time and energy in conducting a survey of industries located within the District. The survey form is included in Appendix F. The survey solicited information about waste generation amounts, composition, disposal, and recycling. District staff completed the survey project with assistance from staff from the Youngstown Litter Control and Recycling Program and Youngstown State University (YSU) re:CREATE and Recycling. Although not required as stated in the Format, the District desired to complete the survey in order to compare results to the disposal information contained in the 2009 Facility Data Report provided by Ohio EPA and the District's monthly landfill reports provided by the in-district facilities, and the monthly recycling reports provided by the scrap metal processing facilities as required in the Youngstown Ordinance referenced previously.

As required in the Format, this Update includes the essential industrial waste generation information such as the number of industries in each SIC category, waste generation and number of employees by category, and waste reduction data which was obtained from actual monthly reports as highlighted previously. The survey results are included in Appendix F, and a total of 512 surveys were hand-delivered, faxed, e-mailed, or mailed to industries which had SIC codes 20 through 39. The response rate was 22.5% (115 responded vs. 397) which was superior to past plan update survey attempts; however, not sufficient to utilize as the sole source in order to ascertain the accurate industrial waste generation level. The Format states that without use of a survey, the District could use several other methods to obtain data. The District used two of the methods in order to arrive at the industrial waste generation level: results from recyclers and recycling brokers (actual monthly reports), and use of the Harris Ohio Industrial Directory. Hence,

the District arrived at the final industrial waste generation amount by using the recycling plus disposal method with the limited survey results as a secondary source.

Methodologies for Non-responding Industrial Entities

First Method: Table IV-3 - The District attempted to calculate the industrial waste generation level by using the number of employees as listed in the 2009 Harris Ohio Industrial Directory for non-responders, and the generation data reported on returned surveys for each of the SIC categories (20 through 39 excluding 21) applied to the non-responders. For example, SIC 20 survey responders showed 2,309 tons generated for 220 employees = 10.50 tons/employee. This generation rate was applied to the non-responders. This is not accurate as the result, 137,028 tons was below the actual industrial waste generation total - 159,533 tons.

Second Method: Table IV-3A - The District utilized the waste generation data from the surveys within each SIC category that had a greater than 20% respondent rate and used Table JJ-2 as per Plan Format for SIC categories that had less than a 20% respondent rate. The number of employees was taken from the 2009 Harris Ohio Industrial Directory. The total of 150,361 tons is closer to the actual amount of 159,533 tons.

Third Method: Table IV -3B - The District put aside the survey data and used the Harris employee numbers for each SIC category and the JJ-2 Format data for waste generation rates. The result was 129,762 tons which also was not accurate.

Table IV-3C - Final Method: By utilizing the data from the Ohio EPA 2009 Facility Data Report for the disposal of industrial waste that was generated in Mahoning County which matched the District's landfill tonnage reports received from in-district facilities; and data from the mandatory monthly reports received from the scrap metal processing facilities that included the tonnages of metals recycled that were generated in Mahoning County industries; the **District generated a total of 159,533 tons** of industrial solid waste in the reference year. The **2009 FDR states that 48,817 tons** of industrial waste was disposed in landfills. The District's ADR states that **110,716 tons of industrially generated waste was recycled** as determined through the receipts of accurate data from scrap metal processing facilities. The percentages listed in Table IV-3A were applied to the 159,533 tons for the amounts listed under each SIC category as waste generated. The Harris Directory and Table JJ-2 were used in the Table IV-3A calculation. Thus this final method utilized a hybrid approach with methodologies from the previous attempts in order to arrive at the total of **159,533 tons** which matches the FDR for disposal and the recycling/waste reduction reports received from private recycling facilities. In summary, recycling plus disposal was the method that the District firmly believes is most accurate since actual data was reported through mandatory reporting mechanisms as explained previously, and no estimations had to be made to arrive at the total of 159,533 tons.

SIC categories 33: Primary Metals Industries, 34: Fabricated Metal Products except machinery and transportation equipment, and 35: Machinery except electrical – comprise the majority of industrial waste generation as would be expected considering the manufacturing history of the area which has witnessed a rebirth since the last update. As

will be presented in more detail in Section V, Mahoning County's industrial and manufacturing output has had significant positive changes in the past five years which the District anticipates will continue throughout the timeline. The 159,533 tons generated for 2009 is consistent with the past Plan Update's 2003 reference year total of 130,642 tons as the increase is attributed to the primary and secondary metals industry expansions to prepare for the Marcellus Shale project with more details in Section V.

C. Exempt Waste

This category includes all exempt waste disposed in landfill facilities which is not characterized as solid waste. This includes but not limited to construction and demolition debris (C&DD) and non-toxic foundry sand. Based on the 2009 Ohio Solid Waste Facility Data Report (FDR), 7,565 tons of exempt waste was disposed in landfills that was generated in Mahoning County. The FDR lists 5,798 tons as C&DD and 1,767 tons as Exempt. This amount is consistent with the amounts listed on previous Facility Data Reports: 2008: 6,076 tons, 2007: 8,021 tons, and 2006: 8,487 tons. See Table IV-4.

The justification for the significant increase from the current Plan's reference year of 2,128 tons is due to the massive amount of residential and commercial facilities demolished in the City of Youngstown that commenced in 2007 with Mayor Jay Williams and City Council making this a priority. Prior to his administration, less than 100 structures were demolished annually. Beginning in 2007, that amount tripled and in 2009, 316 structures were demolished in the City of Youngstown alone (source – Bill D'Avignon, Director, Community Development Agency of Youngstown).

In 2009, the District received a Community Development Grant from the ODNR Division of Recycling and Litter Prevention for the purpose of providing funds to the local Habitat for Humanity affiliate in order for them to purchase equipment and have the funds to construct a large warehouse to store materials generated from demolition projects. Since the facility was not built until 2010, the recycling of demolition-generated exempt waste was not implemented in the reference year – thus the District is confident that all of the demolition material was placed in landfill facilities. However, for future District plan updates, the amount of demolition-generated waste that was recovered and recycled will be a vital component in accounting for all the tonnage of exempt waste generated. It is estimated that 10 tons of material per home can be recovered and recycled, thus vastly decreasing the amount that must be placed in landfill facilities. The District realizes that exempt waste which includes C&DD material is not considered solid waste, and thus can not be included in the District's recycling percentage. However, the District believes that it is prudent to capture and divert as much demolition-generated C&DD waste as possible. C&DD waste, when not recovered and recycled, wastes valuable natural resources and energy. Since the recovery and reuse of C&DD materials is extremely difficult to track and quantify, the District will not project it in this update.

D. Total Waste Generation

Table IV-5 lists the total waste generation for 2009 along with the generation rate as stated in pounds/person/day. The District remains confident in the accuracy of these weights as they are based on actual weight reports from the numerous sources listed

previously. The District used the Ohio EPA's FDR along with actual reports from landfill facilities, recycling entities, composting entities, and reuse entities. Hence, **424,808 tons** of residential/commercial, industrial, and exempt waste was generated during 2009 as per below.

198,177 tons of residential/commercial waste disposed in landfills

48,817 tons of industrially generated waste disposed in landfills

7,565 tons of exempt waste disposed in landfills

59,533 tons of residential/commercial waste reduction (including 2,281 tons of tires at Waste to Energy Facility)

110,716 tons of industrial recycling

Total: 424,808 tons of waste generated.

9.71 P/P/D

NOTE: 2009 ADR vs. Actual 2009 R/C waste reduced tonnage is 250 tons due to the amount that was reported after the ADR due date in 2009 from Tree and Lawn Landscape Company (Table III-6). Also, adjustments were made after receipt of the Ohio EPA Draft comments, specifically subtracting the 78 tons that were estimated for the backyard composting program, and adding a net gain of 42 tons from Struthers Composting. 2009 ADR reported amount: 59,283 tons vs. actual 59,533 tons.

E. Reference Year Waste Reduction

Waste reduction means source reduction, recycling, yard waste composting, documented yard waste land application, MSW composting, resource recovery, and incineration. "Source reduction" is not utilized for reference year calculation as the District determined it is non-quantifiable since specific tonnages diverted from the disposal stream through reports or surveys were not available.

The District successfully implemented the waste reduction strategies as stated in the current Plan Update that was given final approval in March 2007. Each waste reduction strategy for residential/commercial and industrial waste is thoroughly reviewed in this section. Waste reduction data was obtained through actual weight reports from various entities, including Allied/Republic Waste Services that provided service for both the curbside and drop-off recycling programs reaching all residents of Mahoning County; monthly reports from scrap metal processors who separated the residential/commercially generated metals from those generated through industrial and manufacturing sources (sample of completed report from US Trading in Appendix N); the YSU re:CREATE program with the Materials Exchange reports; YSU Recycling reports; the Industrial Solid Waste Survey project conducted by District staff; annual composting report data obtained by the District from Ohio EPA; tire recycling data obtained from Ohio EPA; quarterly overflow reports submitted by the District's community recycling coordinators; the APS MRF data; the monthly reports submitted by Cintas for the business recycling program; the household battery weights submitted by the contracted processor; and from buyback facilities located within and outside of the District.

Please note that the commercial/industrial waste reduction assessment program was utilized for both commercial/institutional and industrial entities in 2009; however, the District decided to place it under "industrial waste reduction" as the basic concept for this

program originated with the Youngstown State University's former Center for Engineering Research and Technology Transfer (CERTT) program that ceased operations in 2004 and which primarily centered on manufacturers rather than commercial enterprises. This strategy, although placed under industrial, provided service for both types of waste generated in the reference year: commercial and industrial as is detailed further on in this section.

Residential/Commercial Sector

Table IV-6 lists the amounts of solid waste reduction that occurred during 2009. All amounts are based on actual weight reports and not estimated. No double counting occurred as the District made sure to follow the solid waste trail from vendor to processor to end-user. The District automatically discredited tonnages associated with any program that had the potential for double-processing or double-counting with a private buyback selling to another processor and the District counting both weights.

The District's initial Technical Advisory Committee (TAC) formed in 1990 designed the residential recycling programs which have expanded through current times. The current District's director who was the lead writer of this update, was a member of the original TAC and helped develop the opportunities to recycle as listed in this section. Once the curbside and drop-off recycling programs were implemented in the mid-90's, the TAC was abolished as its work was successfully accomplished.

A comprehensive list of District waste reduction programs implemented in 2009 that targeted the residential and commercial sector is listed. The following information is included for each program: entity responsible for maintaining the program; service area which benefited; amount and type of material reduced and/or recycled; and general assumptions associated with future projections of quantities recovered or reduced. Section V provides rationale for the weight percentage projections. The District refers to these programs as "Opportunities to Recycle".

Opportunities to Recycle

Community Recycling Drop-off Sites – Program Began in 1991

The District provided all residents and commercial entities with 43 community drop-off recycling sites during 2009, and 3,956 tons of newspaper, office paper, shredded paper, magazines, ad slicks, manuals, pamphlets, and other publications; cardboard, metal (steel and aluminum) food and beverage cans, glass bottles, and plastic containers 1 thru 7 excluding Styrofoam (handled through the YSU re:CREATE program which is discussed in this section). In 2005, the District had just 24 drop-off sites, and through obtaining ODNR – Division of Recycling and Litter Prevention grant funds in 2007 was able to obtain new compartmentalized recycling containers and open 19 more sites. However, due to the lack of performance and cost-efficiency of some sites, the District closed the Carson' Landing, Habitat for Humanity of Mahoning County, and Goshen Township Rt. 165 sites in early 2010. Participation and drop-off weights will not significantly decline as there were 37 sites as of plan drafting time in mid-2011 for residents and commercial

entities to take their recyclable materials. Commercial entities such as construction and remodeling companies use several sites for their cardboard and other materials, thus the District has placed extra 30-cubic yard cardboard bins at these sites. The District welcomes commercial entities to transport recyclable materials to the community drop-off sites year-round.

Responsibility: The District is responsible for maintaining the drop-off recycling sites through providing funds to drop-off site communities to hire a local recycling coordinator. The actual servicing of the bins was conducted through contracting with a private company. In 2009, Allied/Republic Waste Services located in Austintown, Ohio, was the contracted company to provide the service. The contract was awarded previous to 2009 through the standard County bid procedure and was eligible for renewal thus providing service through 2009. A total of 62 each – 30 cubic yard compartmentalized bins; 8 each – 10 cubic yard bins; 3 each – 20 cubic yard bins; and 6 each – 4 cubic yard bins, were placed throughout the 43 active community recycling drop-off sites in 2009. Different sized bins permitted extra capacity for the acceptance of various materials that would overflow at certain sites. For example, the McCune Park Canfield site had a regular 30-yard bin and an extra 4 yard cardboard bin due to the overflow of this material. Other sites overflowed with cans/bottles, and some with paper/publications – thus the logic for smaller bins to handle said overflow material.

Allied/Republic hauled the loaded bins to their recycling storage area in Poland Township, and then materials were transported to the Greenstar MFR located in Pittsburgh, Pennsylvania. The District provided annual recycling assistance funds to all the townships, cities, and villages that hosted one or more of the community drop-off sites. All sites were open to all Mahoning County residents and commercial enterprises.

The annual recycling assistance funds continue to be used to maintain each site in a safe and aesthetically pleasing manner; promote the recycling site through local mediums including schools, youth groups, service organizations, and others; and submit quarterly overflow reports that detail all recycling activity that resulted in materials being sent to a processor directly without utilizing the District's bins. The communities must designate a resident to serve as their recycling coordinator (RC), and they must attend two District meetings per year for updates and training. During the plan drafting phase, on September 14, 2011, the District held a community recycling coordinators' workshop themed on the planning of local awareness events such as the Beloit Village annual "Go Green" festival which serves to promote the use of the drop-off site. In 2009, two RC required meetings were conducted.

The District is responsible for providing funding to each community for site repairs or expansions. For example, in 2009, the Poland Township recycling site needed relocated due to a variety of factors. The District provided funds for a 110 ft. long cement pad, and the township supplied funds for fencing. The District supplied each host community with necessary signage including a standard District sign that provided credit to each community, and *no dumping of non-recyclable items* signs at selected sites that have experienced such activity. The District provided funds for a litter collection and recycling

crew through the Mahoning County Sheriff's Department Day Reporter program whereby non-violent offenders performed service hours monitored by deputies. This program continues so that a crew is available for all special recycling events and to perform emergency clean-ups of overflow situations with certain sites, especially after holidays.

Service Area: The service area for each of the active recycling drop-off centers is the entire Mahoning County as all residents and commercial enterprises may take their materials to any of the District's sites. The District has 14 townships, 6 villages, and 4 cities including Youngstown, Ohio. The number of community recycling drop-off centers in each location in 2009 were as follows:

Community	# Drop-off Sites	# Bins
Austintown Township:	4	13 ea.
Beaver Township:	1	2 ea.
Beloit Village:	1	1 ea.
Berlin Township:	1	2 ea.
Boardman Township:	5	11 ea.
Campbell City :	1	1 ea.
Canfield Township:	3	7 ea.
Coitsville Township:	1	1 ea.
Ellsworth Township:	1	2 ea.
Goshen Township:	4	4 ea.
Green Township:	1	2 ea.
Jackson Township:	2	3 ea.
Lowellville Village:	1	1 ea.
Milton Township:	2	3 ea.
Craig Beach Village:	1	2 ea.
Poland Township:	1	3 ea.
Sebring Village:	1	2 ea.
Smith Township:	1	2 ea.
Springfield Township:	1	1 ea.
New Middletown Village:	1	2 ea.
Struthers City:	3	4 ea.
Youngstown:	5	5 ea.
Youngstown State University:	1	5 ea.

The Map located in Appendix E shows the distribution of the sites throughout the District.

Amount and Type of Material: 3,956 Tons of newspaper, magazines, catalogs, office paper, bagged shredded paper, ad slicks, manuals, pamphlets, gift wrap, and other publications; cardboard, metal food and beverage cans, glass bottles, and plastic containers numbers 1 thru 7 excluding Styrofoam, were deposited in the 43 community recycling drop-off sites during 2009. In 2007, Allied/Republic, the company contracted to service the drop-off sites, began accepting # 1 thru # 7 plastic containers, including laundry detergent bottles, plastic take-out food containers, and similar non-hazardous

liquid containers. In addition, they included all paper and publications except hard-bound books unless the covers were removed. This expansion in the materials accepted greatly helped the District offer residents and commercial/institutional entities a more comprehensive recycling program.

Allied/Republic provides the District with accurate monthly reports which include only the weights of the materials in the bins at the 43 drop-off sites. All the materials were hauled by Allied/Republic to the recycling transfer facility located in Poland Township, loaded into large trailers, and transported by truck to the Greenstar MRF in Pittsburgh, Pennsylvania. The Greenstar MRF located in Mahoning County officially opened in 2010. No double-counting occurred as only Allied/Republic collected and transported the materials to Greenstar and included only drop-off weights in the monthly report.

Assumptions: In 2003, the drop-off recycling program netted just 1,971 tons of material. Compared to 2009 with 3,956 tons, that equates to a 101% increase. This dramatic increase is due to the expansion of the program with 43 sites in 2009; the additional materials added to the acceptance list; and most importantly the result of an aggressive and focused educational and awareness campaign that commenced in 2005 in order to increase participation. More details about the educational and awareness efforts follow.

The District confirms that there will be at least 35 community recycling drop-off sites throughout the 15-year planning period commencing in 2013. The District closed 4 sites in 2010, and will close additional sites by January 1, 2013. The closing of the sites is necessary as the revenue stream has decreased from current Plan projections made prior to the 2008-09 nationwide recession that significantly impacted the District's financial situation. The 35 permanent sites will satisfy the recycling needs of all Mahoning County residents and commercial entities. The District predicts a consistent yet modest increase of 1% in tonnage per year throughout the planning period as education and awareness efforts continue to expand and reach more residents and businesses.

In 2009, the District expended a total of \$561,341.00 for servicing the bins via the Allied/Republic contract, for site improvements that included repairing cracked cement bin pads and worn fences, and for repair of damaged and rusted bins. That amount was reduced to \$532,634.00 in 2010 due to the closing of the sites listed previously and lower pricing for bin pulls with the District paying just \$84.00 per 30/yd bin pull. The amount in the mid-90's was over \$100.00 per pull, thus an excellent price. With markets strong, the District anticipates bin pull servicing costs will remain fairly constant for the next several years.

The drop-off sites will continue to provide access for residents and commercial and institutional entities to deposit the materials as listed previously with the possible expansion of Styrofoam in the next several years. Currently, neither the APS MRF or the Greenstar MRF accept Styrofoam, thus it is reused by local outlets through the re:CREATE program explained later in this section. However, the District is researching markets that will permit such acceptance since the demand is increasing. The District will continue to utilize 30 cubic yard, compartmentalized recycling bins that permit the

separation of paper and cardboard from bottles and cans. Neither MRF facility permits recyclable and non-recyclable materials mixed together, thus the District will continue to educate the public on the necessity to separate recyclables from non-recyclables, and how to properly prepare the items to prevent contamination.

Strengths/Weaknesses of Program:

The strengths include convenient accessibility for all residents throughout Mahoning County along with commercial and institutional entities, and the capacity for the acceptance of numerous materials, not just a limited list as in past years. The main challenges include maintaining bin servicing costs by continuing to work with each community's recycling coordinator to make sure each bin is completely filled when pulled, and making sure that the company contracted to pull bins does so as promptly as possible. Delayed bin pulls cause material overflow problems which demand significant labor to properly restore the site to its original condition. The District and the contracted company have established excellent lines of communication, thus overflow occurrences will continue to drop throughout the timeline. Once a problem in the past, bin contamination is now minimal due to the aggressive educational and awareness efforts employed by the District's educators and other staff since 2005.

Curbside Recycling Program – Began in 1991

The District's curbside recycling program commenced in 1991 and was made permanent through the 1994 Carbon Limestone (previously BFI) Agreement (Appendix J) that provides for bi-weekly collection at no cost to residents or the District for the life of the Carbon Limestone Landfill (26 years without expansion permits approved – 2009 FDR). The District's curbside recycling program is non-subscription, meaning that all households in the following communities were covered and will continue to be through the life of the landfill which will surpass 2027 (Section VI, Table 4): cities of Youngstown, Struthers, Canfield, and Campbell; villages of Lowellville, Poland, and New Middletown, and the townships of Austintown, Boardman, Canfield, and Poland. In 2009, 3,793 tons of newspaper and other publications, metal (steel and aluminum) food and beverage cans, glass bottles, and plastic (#1 thru #7) containers were collected. Cardboard is not collected at the curb due to the volume limitations of the curbside bins; however it was and shall continue to be accepted at all the community drop-off sites.

Because of the declining population from 254,620 in 2003 to 239,675 in 2009, the curbside recycling tonnage has not met expectations. In Youngstown, entire streets have become abandoned during the past 6 years with approximately 300 homes demolished annually. Because of the low curbside recycling participation rate in Youngstown due to the exodus of residents, the entire curbside tonnage is below the level in 2003 of 4,318 tons. However, through the aggressive education and awareness strategies as presented in this update, the District is confident participation will increase.

Responsibility

Allied/Republic Waste Services is responsible for collecting the curbside recycling bins set-out by residents on a bi-weekly basis. In 2009, the materials were transported to the Allied/Republic recycling storage area in Poland Township and then transported by truck

to the Greenstar MRF in Pittsburgh, Pennsylvania for processing. In 2010, the Greenstar MRF opened in Mahoning County. Allied/Republic provides the District with a monthly curbside weight report separated by material and by community so that the District maintains a record of weights to determine progress within communities. Allied/Republic's in-kind contribution for providing free bi-weekly curbside collection is valued at approximately \$1,200,000.00 per year.

The District distributes 18-gallon curbside recycling bins to those residents who are new to the community or who have never participated until motivated through the education/awareness outreach program. The District permits residents to have two District-provided bins; however, extra containment is encouraged through residents supplementing the bins with old laundry baskets or plastic beverage crates. The District plans to distribute a minimum of 2,500 new bins annually based on historical data. The District will constantly research grant opportunities in order to provide funds to eventually transition from the 18-gallon bins to 65-gallon totes. Allied/Republic has the specially designed truck to handle this type of collection; however, this is not listed as a strategy since the District doesn't have the funds to purchase almost 100,000 totes with lids. Only through external funding such as grants will this be possible as the cost will exceed 3-million dollars.

In 2009, the District provided 2,644 new bins to curbside customers. The District is the clearing house for missed pick-ups and transfers the daily list to the service provider – Allied/Republic. The District follows-up daily to make certain that all misses are collected in a timely fashion as this is a priority in order to maintain customer satisfaction.

The District's staff, particularly the education specialists, and the Youngstown Litter Control and Recycling Program (YLCR) manager and educator, promote curbside recycling at all awareness events. Events and awareness activities are described in subsequent sections. A curbside sign-up sheet is a mandatory item included at all festivals, fairs, and other general public events involving the District or YLCR staff. The District maintains responsibility for promoting and continuing to educate the public about curbside recycling. Curbside recycling is promoted during all classroom, youth, and adult group presentations; and the District's recycling flier is distributed in order to increase awareness. In 2009 for America Recycles Day, the District implemented the first-ever "Curbside Madness" contest that focused on getting new curbside participants and increasing the participation from existing recyclers. The District will continue to promote the curbside recycling program as a tool in helping residents reduce their waste generation level in order to take advantage of the variable rate financial incentives discussed further on in this section.

Service Area:

The non-subscription, curbside recycling bi-weekly collection service was provided in 2009 to the following communities: townships of Austintown, Boardman, Canfield, and Poland; cities of Campbell, Canfield, Struthers, and Youngstown; and the villages of Lowellville, Poland, and New Middletown. In the reference year using the Ohio Dept. of

Development data, 95,149 District homes were covered on the curbside program. The District does not anticipate expansion into the rural townships as the logistics are too challenging and not cost effective. The amount of fuel necessary to operate curbside trucks that must travel much further between homes does not lend to making this an environmentally responsible action. Most importantly, the rural communities have ample community drop-off sites, so access is guaranteed. Currently, condo associations that have indicated a willingness to participate in the program and who are located within the service area are included. Single family units and dwellings up to a four-plex were included in the program in 2009 and will continue to be included.

Amount and Type of Material:

During 2009, 3,793 tons of the following materials were collected in the curbside program: newspaper, magazines, catalogs, office paper, ad slicks, phone books, metal (steel and aluminum) food and beverage cans, glass beverage bottles, and #1 - #7 plastic containers. Styrofoam is not accepted; however, residents are urged to utilize the YSU re:CREATE program discussed further on in this section to find reuse options. The 2009 curbside material breakdown is as follows: paper/publications – 1,593 tons, beverage and food cans – 569 tons, plastic containers – 228 tons, glass bottles – 1,403 tons.

During the reference year, the curbside materials were transported by Allied/Republic Waste Services to the recycling storage facility located in Poland Township, and almost immediately loaded into trailers for transport to the Greenstar MRF located in Pittsburgh, PA. However, in 2010 the new Greenstar MRF opened in Poland Township. As with the drop-off materials, these are considered valuable commodities and thus they are quickly processed and sold to end-users and manufacturers so that the post-consumer recyclables are made into usable products once again.

Allied/Republic is solely responsible for providing accurate, monthly curbside weights that are separated by material and by community. The District, in reviewing the monthly reports, determines communities where more awareness and educational resources are needed. Currently as in 2009, the lowest participation rate is in Youngstown. The 3,793 tons collected in 2009 would have been significantly higher if the Youngstown participation rate matched that of the suburbs. During the Curbside Madness contest that began in November 2009 where communities competed against each other for prizes, Youngstown's pounds/person was just 6.25 versus Poland Township at 24.72. Hence, during the planning period, a major focus will be increasing Youngstown's participation rate as this will significantly increase the overall tonnage for the District.

As a consequence of the Curbside Madness contest held in November and December 2009 and continued through several months of 2010; the following pounds/person by community was calculated using the exact weight reports received from Allied/Republic broken down by community and by material for each month.

<p><u>Reference Year 2009 (Nov. and Dec.) Pounds Per Person Curbside Rate</u></p>
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Poland Township and Village:	24.72 Pounds/Person
Canfield Township and City:	21.18
New Middletown Village:	16.18
Struthers City:	15.06
Lowellville and Coitsville:	13.53
Boardman Township:	13.40
Austintown Township:	9.45
Campbell City:	9.21
Youngstown City:	6.25

Source: District database for curbside recycling statistics and analysis maintained by Waste/Stats. Specialist and approved by Director. Weights per community supplied by curbside provider Allied Republic Waste Services.

Assumptions:

The District will continue to expand its promotion of the curbside recycling program concentrating efforts on Youngstown, and anticipates a conservative 1% weight increase for each year of the planning period. The increase is based upon the premise that a more aggressive and focused awareness campaign to increase curbside participation throughout the seven wards in the City of Youngstown will be successful, and that the implementation of a variable rate incentive program will commence during the planning period whereby the contracted service provider will offer an option to Youngstown residents between limited and unlimited collection. Youngstown residents have paid a flat fee for trash service; however, the option of a multi-tiered system that rewards those who take advantage of the free recycling and leaf collection programs available – will save residents money. The District will encourage the cities of Campbell and Struthers to follow Youngstown’s lead and institute a variable rate program since they also contract-out for citywide collection. The variable rate system is a key factor to increasing curbside participation during the planning period.

The District will not have the financial resources to expand the current service area during the planning period, nor should such consideration be granted as the urban and suburban population centers are fully covered with free, non-subscription curbside service that is praised by local government officials as a tremendous community service. Non-curbside communities in the reference year and continuing throughout the timeline, will have convenient access to the numerous drop-off sites.

Concentrating educational and awareness efforts on the low performing curbside communities will be a focus for the future. Specifically, the District educators will assist the Youngstown Litter Control and Recycling program staff in targeting school children, grades 3 thru 6, in order to teach them the importance of practicing the 3 R’s: reduce, reuse, and recycle. Within the first quarter of 2013, the YLCR staff and District educators will meet with the Youngstown City School administration in order to plan an increase in presentations to students in the targeted grades. These grade levels are traditionally seen as the best hope to instill in children the importance of recycling, and their need to stress this point to their family members and friends.

The blight and poverty in Youngstown over the past decade has severely hampered the City with their curbside participation rate in comparison with the suburbs. Inner city neighborhoods have traditionally suffered from numerous vacant/abandoned homes, thus making the neighbor-to-neighbor curbside awareness connection much more difficult than in townships such as Poland or Canfield. To address this problem will be the continued deconstruction of vacant dwellings conducted by the City of Youngstown with green spaces created where dilapidated homes once stood. This aesthetically positive use of land will hopefully motivate city dwellers to locate neighbors through community block watch groups that are not currently recycling. The increase in curbside recycling weight between 2010 and 2011 was approximately 11%, thus the course is correctly set and progress with Youngstown's curbside recycling participation will continue to be made. The District will work cooperatively with the YLCR staff to further enhance awareness and educational offerings so that more residents participate in the program.

Strengths/Weaknesses of Program:

Strengths include the free and convenient curbside recycling opportunity afforded to over 90,000 District residents, and the increase in materials accepted which include all paper and publications (except hardback books) and #1 thru #7 plastic containers. Residents can either pick up their curbside recycling bin during normal District office hours (M-F, 8 AM to 4:30 PM), or if they can wait, a bin will be delivered within three weeks. The main challenge continues to be missed stops which have declined significantly in the past several years due to streamlining the process for reporting misses. Residents simply phone the District and it is reported to Allied/Republic for collection. Misses are generally collected within hours, thus the District has seen improvement in this area of concern. As noted previously, the challenge of achieving increased participation in Youngstown will be a focus for the District staff along with the YLCR program. Increased educational programming along with engaging more community organizations such as block watches are the keys to achieving this objective.

Holiday Tree and Gift Wrap Special Collection – Program Began 1992

The Ohio Division of Wildlife states that approximately 24 to 30 million holiday trees are sold in the U.S. each year. The average weight is 50 pounds thus that represents over a billion pounds of wasted trees if they are not reused appropriately. The District's Holiday Tree and Gift Wrap Special Collection program ran from December 2009 through January 2010 as it does each year. 36,600 Pounds of trees were brought to the community drop-off recycling site locations during daylight hours with the District's office in the South Side Annex as the main site for all of Youngstown and neighboring Boardman Township. The Ohio Division of Wildlife took the trees for use as fish habitat in area lakes. This reuse (included in the definition of recycling as per the Format 3.0) is environmentally responsible and provides a necessary protection for the fish in area lakes. The District does a thorough job in providing awareness so that the trees are free of decorations. Artificial trees are reused through the YSU re:CREATE program which supplies them to charities. Allied/Republic Waste Services, beginning in 2007, began accepting shiny paper including gift wrap as the Greenstar MRF granted permission for

acceptance, thus the drop-off sites were already equipped to handle this material during the reference year.

Responsibility

The District continues to coordinate this successful program with the Ohio Division of Wildlife so that the trees are reused in an environmentally responsible manner. The District is responsible for awareness and promotions and has a series of print ads placed in the Vindicator, the area's largest newspaper in terms of circulation, and advertisements on local TV stations. The District creates an attractive flier that is distributed by the education specialists throughout the schools, libraries, and public institutions. The District's website features information about the program that is viewed by thousands of residents.

In 2009 and continuing, the District provides funding for the Mahoning County Sheriff Department's Day Reporting crew which consists of deputies supervising non-violent offenders who collect litter and assist with recycling. The Sheriff's crew handles transporting the trees to a central location for the Wildlife Department to gather them for reuse. Once the Dept. of Wildlife obtains the trees, the responsibility for handling them and placing them in designated lakes and waterways rests with them. They provide the District the number of trees received and reused to preserve fish habitat. The District does not provide the Division of Wildlife funding for this valuable service. The District provides funds for the contracted services of Allied/Republic Waste Services to pull and process all drop-off materials, thus the wrapping paper is transported to the Greenstar MRF. The District is not assessed an extra charge for the acceptance of gift wrap.

Service Area

The service area covers the entire District as there were 14 sites in 2009 for residents to conveniently drop-off their unwanted holiday trees. These communities hosted tree collection sites: Austintown, Berlin, Canfield, Ellsworth, Goshen, Green, Jackson, Poland, Milton and Smith townships; New Middletown and Lowellville villages, and Struthers and Youngstown cities. In 2009, all 43 community recycling drop-off sites provided containment for the holiday gift wrap paper as this material is accepted year-round in the "paper" compartment of the bins.

Amount and Type of Material

732 Trees were recovered during the December 26th thru January 31st event. With using the standard weight of 50 pounds per tree, this represents 36,600 pounds diverted (Table V-5). The determination of the weight of the gift wrap is not possible since the material is accepted year-round at all drop-off sites and co-mingled with fiber materials.

Assumptions

The District will continue the program throughout the timeline and it is assumed that as participation increases, an annual increase of 3% by weight will occur with the holiday tree recovery. However, it is not the intent of the District to experience an increase in the recovery of gift wrap since prevention options are encouraged. As consumers become more cost-conscious and environmentally responsible, the District assumes that the

amount of gift wrap recovered will decrease. The director appeared on the WKBN-TV Morning Show immediately after Christmas in 2009 to promote the tree program and reuse of gift wrap, bows, and bags. An estimated 100,000 area residents tuned in to the program, thus an excellent and free awareness opportunity.

Strengths/Weaknesses of Program:

The strengths include the convenient opportunities available for residents to recycle their unwanted trees and gift wrap, and the fact that wrapping paper is accepted at all community recycling drop-off locations. A challenge is the need for increased awareness through educational programming and utilization of the community recycling coordinators to better promote these opportunities. District staff will continue to work the community RCs to promote awareness of this important program.

Appliance Recycling Drives – Expansion in 2006

During 2009, the District provided appliance recycling drive mini-grants to the political subdivisions that desired to conduct an event. Eight separate appliance recycling drives occurred in 2009 with 47 tons of appliances recycled. In January of each year, including the reference year, the District submits a notice to all the townships, cities, and villages to encourage them to consider implementation of a one or multi-day appliance recycling collection event. The 2009 mini-grant level was \$2,500.00 for communities with populations exceeding 10,000 and \$1,800.00 for those under 10,000. The following communities and a state park conducted appliance recycling drives in 2009: Berlin, Coitsville, Green, Goshen, and Smith townships; and Struthers and Youngstown cities, and Lake Milton State Park.

Responsibility

The District generates contracts for the mini-grant funds and processes the resulting invoices from communities. The communities requesting to host an appliance recycling drive must confirm that they will provide a location suitable for the event; provide a professional and licensed refrigerant removal specialist; provide awareness of the event through a public service announcement or a paid newsprint, radio, or TV ad; create and post a flier regarding the date/time/location of the event; and have at least one community worker at the event to assist. The community recycling coordinators arrange all the logistics for the drive including finding a professional scrap metal processor who will provide roll-offs and heavy equipment for the collection of the materials. The communities in 2009 and continuing, in order to receive their grant funds, must provide an invoice with exact tonnages and the name/address of the private recycling processor so that the District can maintain an accurate record of weights. The District prevents double-counting by subtracting the appliance weights from the vendors who also provide recycling data to the District. The District plans to continue providing the mini-grants for this important recycling event throughout the timeline.

Service Area

Although some community appliance recycling drives are intended for residents and small businesses within the community, the Youngstown annual event is open to all District residents. As a general rule, communities do not refuse recyclers from dropping

off appliances due to their residency in a neighboring community. The Youngstown appliance recycling drive in 2009 was held at the Metalico scrap metal recycling yard located near downtown, and residents from throughout the District participated. Having the appliance drive on location with a Freon remover present, provides the convenience of not having to haul the materials from a separate site. The YLCR and District staff greatly appreciate the consideration that the Metalico officials have shown for providing an excellent venue for the appliance recycling events. Note: Metalico, as all Youngstown-based scrap metal processors, provides the District with monthly recycling weight reports in order to maintain abidance with the Ordinance referenced previously. As appliance recycling drive weights would be considered residential/commercially generated, the District did not accept R/C scrap metal weights from Metalico in the reference year thus no double-counting possible.

Amount and Type of Materials

47 Tons of appliances were recovered and recycled during 2009. Included are: refrigerators, freezers, humidifiers, de-humidifiers, air conditioners, microwaves, sweepers, metal tools and lawn mowers, stoves, washers/dryers, and similar appliance items. During the October 2009 YLCR appliance recycling event held at Metalico, the acceptance of electronics was included. Although the District traditionally warns communities of the challenges of accepting electronics at appliance drives, this event went very smoothly as two separate staging areas were designated to avoid confusion. The District does not pay residents for bringing metal appliances and other items to the drives, thus the motivation for most to buy-pass the drives and haul directly to scrap metal processors who pay.

The District is cautious to subtract the weights reported from the community-implemented appliance recycling events from the amounts reported monthly from the scrap metal processors as this could cause double-counting of materials. The District prevents such double-counting by tracking where the appliances are processed after collected. All weights provided to the District by the community officials who conducted the appliance events in 2009 were accurate and recorded as such.

Assumptions

The District will continue to provide mini-grants to communities interested in conducting appliance recycling events throughout the timeline. Beginning in 2012, all appliance recycling drives must be open to all residents and not limited to the community residents requesting funds. The District believes that empowering communities to undertake the implementation of appliance recycling drives is far superior to the District implementing a major drive annually as had occurred in the past. The District believes the participation rate will increase throughout the timeline as residents become more committed to disposing of appliances and white goods in an environmentally sound manner. Freon containing appliances are banned from sanitary landfills, thus this is not an option.

The District will continue to encourage residents to donate unwanted, but working appliances through the YSU re:CREATE program, list them on the active Materials Exchange, or take them directly to the non-profit organizations listed at re:CREATE.

Reusing and recycling appliances is an essential component of the District's overall waste reduction strategy. In 2009, the District reserved \$20,000.00 for communities to receive the appliance recycling drive mini-grants in order to implement appliance recycling events. The mini-grant program will continue as the conduit for the implementation of appliance recycling drives in the future. The District projects a 5% weight increase annually due to the popularity of this strategy and the fact that the District experienced a 34% increase between 2009 and 2010 as per Table V-5.

Strengths/Weaknesses of Program:

The strengths include the convenience of having multiple appliance recycling events each year in various locations, and through empowering local communities to plan and implement the drives, each community can design their event to match the uniqueness of their community. For example, rural events differ from inner city ones due to the amount and type of appliances brought for recycling purposes. One challenge is making sure non-appliance items are not mixed in the bins thus causing contamination. The District will continue to provide technical assistance to communities that plan and implement appliance drives throughout the timeline to make sure contamination is not an issue. Minimal contamination has occurred in the past.

Business Recycling Program – Launched in 2005

In April 2005, the District launched the Business Recycling Program (referred to in the 2009 ADR as the “commercial office paper recovery program”) with only a few businesses ready to participate and commit to reducing their solid waste volumes. In 2009 the number of businesses and institutions including government offices that participated reached 456. Prior to 2005, the District funded the Center for Engineering Research and Technology Transfer or CERTT program headquartered at YSU; however, this ended due to the poor outcomes in terms of actual solid waste diversion. The CERTT program produced very advanced, engineer-level assessments that often were not understood by business personnel. However, the BRP is hands-on as the District's staff visits and provides actual technical assistance to help with the implementation of recycling programs. Most essential is the District providing for the collection of recyclable materials on a weekly or bi-weekly basis through the District's field operator (one in 2009) and a contract with a private recycling collection company. In 2009, the contracted recycling collection company was Cintas and 410 tons were recovered. In 2010, the field operator collected materials from 111 businesses and institutions, and the contract was awarded to Associated Paper Stock (APS) through the County's purchasing procedure.

Responsibility

The District is fully responsible for the implementation, continuation, and expansion of this important commercial waste reduction strategy that has demonstrated success since 2005. The District provides awareness information through its website and brochures to businesses on how they can reduce waste in a cost-effective and environmentally sound manner. The District has designated one staff member who oversees the BRP on a daily basis. This includes analyzing the daily route for the field operator and the contracted company, and handling missed stops and other challenges with the program. The staff member is also responsible for conducting waste assessments with new businesses or

industries that are interested in implementing a program (separate strategy explained later in this section). In sharp contrast to the previous Youngstown State University CERTT program, the staff member provides prompt solutions such as the list of vendors that will immediately provide an exterior cardboard recycling bin, the location of sites for the recycling of paper, publications, and containers; and how to set-up an office recycling program. The success rate is evident by the fact that 456 businesses were covered under the program during the reference year.

The District had a full time field operator in 2009 whose mission was to collect recyclable materials from a list of businesses and entities assigned. Since the total list is lengthy, the District contracted with a private recycling collection company to handle the balance of entities. In 2011, the Board of Directors granted permission for the District to hire a second field operator in order to handle increased requests for collection. In addition, the crew leader for the Youngstown Litter Control and Recycling Program (YLCR) also collected paper/publications and containers from city-based entities throughout the year, thus assisting the District's efforts. As a back-up, the YSU Recycling Program manager collected recyclable materials from businesses when the District's field operator during 2009 was unavailable or the contracted company had a vehicle breakdown.

Service Area

The entire District is covered on the business recycling route. Businesses in the cities, villages, and townships are provided technical expertise by the District's staff on how to implement a waste reduction program as well as actual collection in some circumstances. The District encourages businesses to instill the ethic of environmental stewardship within their companies and to handle the collection and delivery of materials by themselves if possible.

Amount and Type of Materials

During the reference year and continuing presently, the District accepted the following recyclable materials in the program: newspapers, magazines, catalogs, pamphlets, brochures, phone books, office paper, bagged shredded paper, junk mail, ad slicks, and non-hardback publications; metal (steel and aluminum) food and beverage cans; glass bottles, and plastic beverage containers (#1-#7). Cardboard was accepted if placed by the interior recycling containment. Private companies collect massive volumes of cardboard in exterior containers for those who generate such quantities. Other materials such as electronics are handled through the District's special recycling events, and Styrofoam is handled through YSU re:CREATE. Note: the District does not interfere with private enterprise and encourages businesses to contract private hauling/recycling firms to handle their materials. Companies such as Waste Management, Allied/Republic, APS, Ohio Valley, and others provide recycling collection service.

The materials reported as collected and recycled in the program in 2009 by Cintas, the contracted service provider, was 410 tons. Because both the District's field operator and Cintas placed all the metal food and beverage cans, plastic beverage bottles, and glass

bottles in the District's drop-off bins along with much of the paper and publications, a total tonnage for the program is not possible, only those materials processed by Cintas.

Assumptions

The District will increase participation by businesses and institutions by adding a minimum of 15 new entities per year through the planning period. The initial surge from 2005 has subsided, and a main focus will be to retain active participation from the existing participants. In 2009, 19 new businesses were added to the program. As in other programs, the ability to retain participants is most challenging and must take priority over adding new businesses. With 456 entities participating in 2009, the District staff member in charge of overseeing the program spent considerable time and energy ensuring that entities did not drop their enthusiasm for the program. In addition, the District's revenue level will not permit significant increases in staffing or contracted companies to handle the collection of materials from more entities in the future. Emphasis will be on the District providing information and technical assistance to interested entities to foster less dependent on the District's collection program, yet able to handle their recycling program within their own staff and through their selected waste management company. The District anticipates a conservative 3% gain in the weight of paper and publications recovered through the program for each year of the planning period which will be judged through the monthly weight reports received by the contracted company.

Strengths/Weaknesses of Program:

The strengths include the popularity of the program due to the convenience of collection, and the added bonus of providing business employees additional awareness and motivation to begin recycling at home through curbside or drop-off participation. The main challenge is to assure businesses that when they are missed due to unexpected breakdowns or personnel shortages that they need to patient for the next available collection time. The District staff and contracted company have worked well together with open lines of communication so that misses are almost immediately handled.

Rural Recycling Education and Awareness Program – RREAP – Program Began in 1994

This important program began in 1994 with the drafting of the initial Mahoning County grant application submitted to the United States Department of Agriculture for an educational outreach program focused specifically on the rural communities in Mahoning County. The District credits the Ohio Division of Recycling and Litter Prevention for providing the grant application information to the District in late 1993. The grant was awarded in 1994 and the Ohio State University Extension Office director and staff assisted the District in commencing the program. In 2009 the program continued with the following rural communities targeted as per their agricultural and socio-economic background: the townships of Beaver, Berlin, Ellsworth, Goshen, Green, Jackson, Milton, Springfield, Smith; villages of Sebring, Craig Beach, New Middletown, and Beloit. The RREAP education specialist in 2009 conducted a total of 378 recycling-related presentations that reached approximately 11,742 rural residents.

Responsibility

The District assumes responsibility for maintaining the RREAP program, and as the USDA grant funding has not been consistent over the past several years due to federal budget cuts, the District has integrated the costs into its traditional education budget. Whether the USDA funds the program or not, the District has maintained an educational and awareness presence in the rural communities. The District's assistant director supervised the RREAP education specialist in 2009 along with the entire program to ensure that school students, adults, and seniors in the targeted communities were provided excellent education and awareness programs and activities regarding the need to reduce waste through composting and recycling. The District did not receive RREAP grant funds from the USDA during the reference year; however, funding was awarded in 2010 for the federal fiscal cycle.

Service Area

The RREAP program targeted the townships of Beaver, Berlin, Ellsworth, Goshen, Green, Jackson, Milton, Springfield, Smith; and the villages of Sebring, Craig Beach, New Middletown, and Beloit. The RREAP education specialist in 2009 provided 378 programs to students, K-12, in the schools located within the rural communities. In addition, she conducted 219 nature and craft activities and 3 teacher workshops. She conducted 9 backyard composting seminars in conjunction with the Mill Creek Metro Parks Farm with 303 attendees and 235 backyard composters provided. The service area shall remain consistent throughout the timeline as the agricultural center of the District is included in the areas targeted, and the socio-economic conditions remain consistent with the USDA guidelines for such classification.

Amount and Type of Materials

There were 18 community recycling drop-off sites located in the targeted rural townships during the reference year generating 1,012 tons of recyclable materials. Included are newspaper, magazines, catalogs, office paper, cardboard, ad slicks, phone books, gift wrap, metal food and beverage cans, glass beverage bottles, and #1 thru #7 plastic beverage containers. In addition, 1,945 pounds of reusable materials were diverted from the landfill through the community reuse project implemented by the YSU re:CREATE program and the RREAP education specialist. This is part of the 170 tons listed under the re:CREATE strategy. The District can not credit the estimated 78 tons of waste diversion through the 9 backyard composting workshops conducted by the RREAP educator in 2009 as estimates are not countable for Plan Update purposes. Each bin holds 1 cubic yard of organics and using the standard conversion of 3 cubic yards per ton, the District arrived at 78 tons of food waste, twigs, shredded leaves, and grass clippings. According to US EPA, the national average for food and yard waste generation is 1.16 pounds/person/per day, and yard and food waste can account for up to 25.9 % of the solid waste stream. Even though the tonnage estimated through the backyard composting workshops is not countable, the District believes this program should continue as it promotes awareness and education about the need to divert yard waste from the waste disposal stream.

Assumptions

The District will continue the RREAP program and as the USDA grant awarding consistency has become more unreliable due to less federal funds available and an emphasis on new community programs, the District will maintain a limited version which will include classroom, youth, and adult group presentations and backyard composting workshops. The District will ensure that all the rural communities listed have convenient access to community recycling drop-off sites funded by the District. In addition, the District will continue to provide annual recycling assistance grants to the following communities throughout the timeline: townships of Beaver, Berlin, Ellsworth, Goshen, Green, Jackson, Milton, Springfield, Smith; and the villages of Sebring and Beloit. The villages of New Middletown and Craig Beach do not receive direct financial assistance; however, they share in the benefit of the assistance provided to the townships they are located within: Springfield and Milton townships respectively. No separate projections for the RREAP program are necessary as the success is realized through other recycling strategies such as the community recycling drop-off sites and YSU re:CREATE program.

Strengths/Weaknesses of Program:

The strengths of the program are numerous and include classroom presentations and special programs geared to rural communities. Attention paid to rural communities is an important component for Mahoning County as often these community officials and residents feel neglected since concentration often centers around suburbs and cities. The only challenge is the inconsistent funding situation from the USDA that has occurred in the last several years. This is not the fault of the USDA as their funds have been severely lessened thus making it more challenging to fund all applicants. The District will continue the program regardless of grant award status since the rural residents greatly appreciate it as evident during township trustee meetings attended by District staff, and their increased recycling participation through the rural drop-off sites.

School Fiber Program – Began 2003 with expansion in 2005

In 2009, 84 schools were provided a 4-cubic yard paper/cardboard recycling bin for exterior placement, for the collection of all non-confidential paper, publications including newspapers, catalogs, pamphlets, and magazines; and corrugated cardboard. The District included the servicing of these bins in the drop-off site contract with Allied/Republic Waste Services, the vendor awarded the contract in 2009. A total of 2,543 tons of fiber-based, recyclable material was collected and transported to the Greenstar MRF and buy-back facilities for processing during the reference paper. 8 New schools were added during 2009, and almost all Mahoning County-based public and private schools are provided this free recycling service.

Responsibility

The District is responsible for funding this program which includes the servicing of the 4-cubic yard bins. In 2009 and continuing in 2010 and 2011, Allied/Republic was awarded this service as a component in the drop-off recycling site contract. The cost of servicing the bins is just \$10.00 per pull due to quality of the fiber and commodity value. The contracted vendor guaranteed that all the materials were taken to an appropriate recycling facility such as the Greenstar MRF in 2009. The District's educators were responsible for promoting awareness about the school fiber program during 2009 by including the topic

in all classroom presentations and addressing PTO and other school related organizations. The District retains responsibility for maintaining the bins so that those needing repair are properly handled. Each school has a method for the collection of the fiber material and transferring it safely to the exterior 4-cubic yard bins. Most schools incorporate their janitorial staff to provide the service, and others tap the resources of student environmental groups. Teachers remind students to use the bins in classrooms in order to deposit paper that will be collected for recycling.

Service Area

The District offers this free service to all public and private schools located within the political subdivisions of Mahoning County, including the City of Youngstown. Approximately 19,293 students were covered on this program in 2009 with 84 schools that had the bins. The District will not need to expand the service area. The District went from just 32 schools to 84 since 2003.

Amount and Type of Material

During 2009, 2,543 tons of paper and publications were recovered and transported to recycling processing facilities. The fiber material includes non-confidential paper, publications including newspapers, catalogs, pamphlets, and magazines, and corrugated cardboard. Only post-consumer, fiber-based recyclable materials are targeted in this program. Cans are targeted in the “Cash for Can” contest discussed later in this section. Double-counting was prevented as these tons were not included in any other recyclable tonnage numbers obtained from Greenstar or other buybacks.

Assumptions

The District will continue to provide the exterior recycling bins at the schools throughout the planning period and the bin servicing costs through a contracted vendor. However, communities may close or consolidate schools thus the number of bins, at 84 in the reference year, may change during the timeline. The District will continue to educate school staff, administrators, teachers, and especially students about the importance of participating in the fiber collection program emphasizing the benefits of recycling. The schools will continue to realize a cost-savings as the diversion of significant volumes of material from their solid waste stream saves trash-hauling costs and enhances their ability to provide other essential school programs. The District is dedicated to this important recycling educational activity that helps form the concept of environmental stewardship in students; a concept that the District encourages youngsters to continue after they complete high school by participating in the District’s curbside and/or drop-off recycling efforts and in the various special recycling drives conducted throughout the planning period. Based on the continual growth and popularity of this program, the District projects a 1% increase in weights annually through the planning period. This is conservative as there has been over a 150% increase in weight since 2005.

The following schools, all in Youngstown, do not have the exterior bins as of April 2012: Paul C. Bunn Elementary, 1825 Sequoya Dr.; Taft Elementary, 730 E. Avondale Ave.; Youngstown Christian School, 4401 Southern Blvd.; University Project Learning Center, 2800 Oak St. Ext.; Summit Academy Middle School, 810 Oak St.; and Wilson Middle

School, 2725 Gibson Street. The Youngstown Litter Control and Recycling Program staff is working with each of the schools in order to motivate the administrators to accept a bin. The District believes this goal will be achieved in the future thus reaching 100% participation of all k-12 schools. As the waste reduction educational focus intensifies for the City as detailed in Section V in order to promote curbside recycling, the schools remaining will be motivated to join the program.

Strengths/Weaknesses of Program:

The strengths include the convenience of having a bin placed at each school, thus preventing collection by an outside company or District staff. Also, the presence of the bin and implementation of recycling collection within each school serves as an educational model for students to stress to their parents in order to motivate them to participate in the curbside or drop-off programs. As contamination and missed pulls are extremely rare, the District doesn't believe there are weaknesses. The only challenge remaining is to achieve 100% participation through adding the schools listed previously.

Leaf Collection and Composting Programs – Commenced in 2006

In the reference year, the following communities were provided District leaf collection and composting program grants: Austintown, Boardman, and Canfield townships, and the cities of Youngstown and Struthers. Canfield City and Poland Village also provided their residents with a leaf collection and composting program; however, they used their own funds for implementation. In 2010, the villages of New Middletown and Lowellville were added to the list and were provided District grant assistance. In 2011; Beloit and Sebring villages and Campbell received funds. This program is specified in the current Plan with the community implementation schedule included. The District abided by the schedule.

Responsibility

The District continues to provide grant assistance to the communities listed in the preceding paragraph in order for them to implement the leaf collection and composting project. Some communities utilize the funds to contract out the service to a provider who will collect bagged leaves and transport them to a registered Class IV composting facility. Others such as Youngstown purchase and distribute the bags during special events where they have sign-up sheets and information available, and then they have their road department collect the bagged leaves and transport them to a registered Class IV composting facility. The village of Poland and city of Canfield self-funded this activity in 2009. The District funded programs are bound by a contract that stipulates that the leaves collected must be transported to a registered composting facility located in the District or an adjacent district. Leaves can not be disposed in a landfill or incinerated as this would be a violation of the contract. In addition, prior to the District reimbursing the communities for implementing the program, a weight report is required that details the volume/weight of leaves collected, the hauler and composting facility used.

In 2009, the District provided the following leaf collection and composting grant amounts to communities: Austintown: \$13,000.00, Youngstown: \$26,000.00, Struthers: \$4,000.00,

Boardman: \$5,000.00, and Canfield Township: \$7,000.00. All of the communities complied with the contractual restrictions that the leaves would be collected by a qualified collector/transporter, and transported to a registered Class IV composting facility and not placed in a landfill or taken to an incinerator.

In 2010, the villages of Lowellville and New Middletown received \$2,000.00 each for this purpose. The funding level was determined in 2005 based on the population and special needs of each community. Obviously Youngstown has 7 wards and is more challenging than a smaller village, thus it received more funding.

Service Area

The leaf collection programs, both District grant funded and community funded, encompassed all the residential dwellings in the townships of Austintown, Boardman, Canfield; the village of Poland, and the cities of Canfield, Struthers, and Youngstown. During 2010, the villages of Lowellville and New Middletown were added through the District grant assistance provided, and in 2011, the villages of Beloit and Sebring and Campbell City were added. Due to fiscal considerations, the District does not intend to add more communities as the main cities, villages, and townships are covered. Rural township residents generally compost organic waste as a conservation ethic that is ubiquitous throughout the rural community.

Amount and Type of Material

In 2009, the following communities implemented a program for the collection and subsequent composting of leaves: Austintown Township: 3,316 bags or 39,792 pounds; Boardman Township: 28,138 bags or 337,656 pounds; Canfield Township: 1,333 bags or 16,003 pounds; city of Struthers: 7,000 bags or 84,000 pounds; City of Youngstown: 4,087 bags or 49,044 pounds. Total – 526,495 pounds or 263 tons. Weights were determined through the individual reports received by each community. NOTE: The city of Canfield and the villages of Poland and Sebring continued their annual leaf collection programs thus making the total in Table V-5 (390 tons) higher than 263 tons noted above. *Conversion Source – US EPA for 33-gallon bags at 12 lbs./bag as stated in 2009 ADR.* Tables IV-6 and IV-8 both list the yard waste composting total at 4,382 tons for 2009. In addition, upon receiving further Ohio EPA composting information, an adjustment was made with the Struthers leaf composting and yard waste management program from 67 tons reported to 109 tons, an increase of 42 tons.

The 4,382-ton amount was derived by adding the following:

Yard waste composted via private registered composting facilities:	3,932 tons
Backyard composting strategy as detailed in this section (estimate thus not countable toward total):	0 tons
Community leaf collection as detailed in this section, including the non-funded communities of Poland and Sebring with adjustment for Struthers Composting Site:	432 tons
Holiday Trees:	18 tons
TOTAL:	4,382 tons

Private Composting Facilities Reporting

As each year, the District obtained yard waste composting data in 2009 from the registered Class IV facilities located in Mahoning County through Ohio EPA. A total of 3,932 tons was reported by the facilities. The District made sure that no double-counting occurred by subtracting the amounts from other programs (i.e. community leaf collection program) from the amounts recorded by the private facilities. As required, the private composting facilities must continue to provide accurate reporting data to Ohio EPA officials in order to maintain their appropriate registration. The composting facilities report yard waste mainly generated in the commercial sector such as lawn care companies who transport massive volumes for the purpose of composting.

BREAKDOWN OF YARD WASTE FACILITIES: 3,932 TONS

CBS Topsoil, North Jackson: 2,317 tons

Dave Price Tree Service, Youngstown: 913 tons

Poland Township Yard Waste Drop-off Program through Saunders and Sons: 193 tons

Tree and Lawn Landscape, Springfield Township: 286 tons

Uhrain Greenhouses, Boardman Township: 223 tons

Assumptions

The District will maintain the leaf collection program with the communities listed in this section through out the planning period but will not add communities. The District projects that the communities will realize continued growth in participation as the popularity of reducing waste in order to save energy, resources, and revenues increases. In addition, the enhanced emphasis on variable rate systems or Pay-As-You-Throw will necessitate the inclusion of leaf collection and composting strategies in order to be cost-effective and workable. The District is committed to the continuation of this vital waste reduction program and projects a 5% weight increase each year through the planning period beginning with the 2011 weight. However, tons reported by the private composting facilities will be flat lined throughout the timeline as no evidence confirms an increase considering a continual population and commercial activity decline.

Strengths/Weaknesses of Program:

The strengths of the leaf collection program include providing the necessary funding to communities so they can design a program that is appropriate for the uniqueness of their community, and the convenience of having curbside collection during a specified time in those communities. The main challenge is to motivate residents to participate by expanding awareness. The District's educators will continue to work with each community to expand lines of communications with residents about the importance of participation.

Backyard Composting Program – Commenced in 2000

Although the program began in 1994 limited to just providing information about the benefits of backyard composting, the actual workshop phase began in 2000. The District's Rural Recycling Education and Awareness Program (RREAP) educator, Kim Lewis, conducted the workshops in 2009 as part of her duties in promoting waste reduction in the rural communities referenced previously in this Section. The workshops

were and continue to be generally held on Sundays as this is most convenient for attendees, and District residents throughout Mahoning County may attend. It is not limited to rural communities.

Responsibility

The District provides funding for staff to conduct backyard composting workshops as a part of their overall duties. The procedure is spearheaded by the RREAP educator and administrative staff who place the necessary orders for equipment and find suitable space for the events. In 2009, the RREAP educator conducted 9 backyard composting seminars in conjunction with the Mill Creek Metro Parks Farm with 303 attendees and 235 backyard composting bins provided. The District charges a fee of \$10.00 for the composting units, an excellent bargain for residents. The sign-up commences months prior to each workshop and they are generally filled to capacity. The District staff oversees the administration of this very popular program.

The Mill Creek Metro Parks Farm located in Canfield Township, is a perfect setting for the workshops and the space is donated. The District has an excellent relationship with the Metro Parks as they host one of the most active recycling drop-off sites. The RREAP educator conducts training on how to compost residentially-generated organic waste, and then distributes the portable composters to attendees. The District oversees the entire operation of this program and will continue to do so throughout the Plan timeline.

Service Area

The entire Mahoning County is included in the backyard composting workshop activity which includes all the townships, cities, and villages. Participants reside in urban, suburban, and rural communities. The RREAP educator includes information about the importance of backyard composting in every classroom and adult group presentation in order to encourage residents to participate.

Amount and Type of Material

In 2009 the RREAP Educator conducted a total of 9 workshops with 303 attendees and 235 backyard composting units distributed. Each bin held 1 cubic yard of organics and using the standard EPA conversion of approximately 3 cubic yards per ton, the District credited 78 tons of food waste, twigs, shredded leaves, and grass clippings diverted from the solid waste stream through this program. However, this is an estimate and thus **not** countable for this Update as the Format does not permit estimates for this purpose. According to US EPA, the national average for food and yard waste generation is 1.16 pounds/per person/per day and account for 25.9 % of the solid waste stream.

Assumptions

The District is committed to continuing this very popular program and will conduct a minimum of 6 backyard composting workshops annually throughout the planning period. The District projects increased participation each year, especially as variable rate trash disposal programs become more widespread and residents realize there is a significant economic incentive to reducing solid waste.

Strengths/Weaknesses of Program:

This program has numerous strengths including the popularity of the workshops as they are always sold out, and the convenience that residents may obtain a portable backyard composting unit that easily fits into compact cars for transport to their homes. The only challenge is quantifying the success in terms of tonnages diverted since estimates are not acceptable for waste reduction data. The RREAP Educator will continue to follow-up with workshop attendees to determine if they are participating after the initial instructional event.

Tire Recycling Drives/Centralized Container – Events Commenced in 2006

During the reference year, 9 tire recycling events were held in various District communities with 227,534 pounds of passenger tires recovered for the purpose of recycling. This was a 31% increase over the previous year. The tire drives were conducted by individual communities with the largest being Youngstown, and funds were provided to the communities by the District in the form of mini-grants. The communities utilized the funds by providing staff for the event, an appropriate venue, advertising in conjunction with District efforts, and finding a fully qualified tire collection/recycling company that would transport the tires and recycle them. The District provided the mini-grants as per each community's request and according to their population size. For communities exceeding 10,000 population, \$1,800.00 was provided, and for those with less population, \$900.00. The funds did not fully cover all costs associated with implementing a full scale passenger tire collection event, thus the communities contributed individually.

In addition, the District provided a container at the County Engineer's facility for all townships and villages to deposit tires collected during special clean-up events. This cost the District \$3,678.45 and resulted in 39,980 pounds of discarded tires recovered for the purposes of recycling. This convenient tire recycling opportunity is appreciated by all townships, cities, and villages. To prevent double-counting, these tires are included in the Liberty Tire total as per Table III-5 as that was the vendor utilized.

Responsibility

The District has and shall remain responsible for providing funds for the centrally located tire collection container, and for providing limited funds to communities in order for them to implement tire collection/recycling drives. The individual communities are responsible for the full implementation of the drives, including contracting with a qualified vendor to accept, transport, and provide documentation after the drive is completed as to the weight collected during the event. These are one-day events held in venues suitable for such an activity. The District greatly appreciates the officials of the Covelli Centre located in downtown Youngstown for permitting the YLCR program staff to implement drives in the parking lot of the beautiful facility. During the drives, on average 450 vehicles are unloaded with up to 10 passenger tires as the legal limit. The District's litter law enforcement deputies oversee the event to make sure participants act in accordance with local, state, and federal regulations. In addition, the District contracts with the Mahoning County Sheriff Department for a crew consisting of non-violent

offenders who often work the tire drives to handle the labor component. The District will continue to be responsible for overseeing the communities that are provided mini-grant funds to implement tire recycling events that benefit residents.

Service Area

The entire District may participate through local communities requesting mini-grant funds and technical assistance in organizing tire recycling events. In 2009, the following communities hosted tire recycling events: townships of Berlin, Coitsville, Goshen, Green, Milton, and Smith; and cities of Struthers and Youngstown. Note – Youngstown conducted two separate drives, thus a total of nine tire recycling events. For the centralized container that is available for local government road crews to deposit tires collected in clean-up activities; all townships and villages are included.

Amount and Type of Material

Nine community-based, tire recycling drives were held in 2009 with 227,534 pounds of passenger tires recovered for the purpose of recycling. In addition, 39,980 pounds of tires were recovered through the centralized tire collection container provided for local governments in order to deposit tires collected during clean-up events. A private hauler was contracted to handle the centralized container and ensure the tires were not disposed in a landfill facility. The communities that implemented tire drives had agreements with private companies to collect and transport the tires. The grand total for tire recovery in 2009 as per the ADR was 2,281 tons, all of which were transported to Liberty Tire thus no double-counting. Included in the total are tires generated from commercial entities and transported to Liberty Tire totaling 2,167 tons. Liberty Tire provided the District with accurate weights and knew to include only tires generated in Mahoning County.

Assumptions

The District will continue the community-based tire recycling drive strategy throughout the planning period with no weight increase annually from 2010 onward as the District will have declining population, thus less residents to generate unwanted tires. The District does not project an increase in the weight of the tires generated through the centralized container for use by local governments as an increased awareness of the dangers of illegal dumping, and the positive influence the litter law enforcement program will translate into less illegal dumping of tires. However, data between 2009 and 2010 shows a 33% increase in the tons of tires collected and handled by Liberty Tire which is considered resource recovery. This is due to the massive Wilson Ave. - Youngstown illegal tire dump clean-up that was completed in 2010 through the Division of Recycling and Litter Prevention grant referenced previously.

Strengths/Weaknesses of Program:

The strengths of the tire recycling events include the ability of communities to receive District funds to plan and implement an activity geared to the uniqueness of their community. For example, a tire recycling event in Youngstown is different than one in Berlin Township which is rural. As passenger tires are by far the most popular item taken to city drives, agricultural equipment tires are often brought to rural events. The centralized container is appreciated by the townships as it provides a safe and

environmentally-sound method to store illegally dumped tires. The challenge will continue to be the prevention of illegal dumping. Through the efforts of the Litter Law Enforcement Deputies, this program is being resolved as surveillance has resulted in less tire dumping.

Electronics Recycling Drives – Commenced in Expanded Format in 2006

The District conducted 4 separate one-day electronics recycling drives in 2009 with a total of 152,752 pounds of computers, monitors, fax machines, copiers, printers, keyboards, related computer equipment, stereos, VCR and DVD units, and television sets (CRT) collected and recycled. The District decided to change the electronics recycling drive format in 2010 by providing mini-grants to communities in order for them to implement e-drives. This is based on the District's success with appliance and tire drives which continue to be community based.

Responsibility

The District assumed responsibility for the implementation of the 4 countywide recycling events in 2009, with one event in conjunction with the Youngstown Litter Control and Recycling Program's appliance collection event held at Metalico, Inc., a privately owned and operated scrap metal processing facility. Separate staging areas were set up for the acceptance of all appliances and electronic equipment. The District forwards all inquiries about working electronics to the YSU re:CREATE program which oversees all reuse initiatives including the "Materials Exchange", both of which are detailed in this section.

In implementing the e-collection events, the District contracted with a qualified electronics recycling company - Recycle Tech; coordinated efforts with the Sheriff's "Day Reporters" who provided the necessary labor; provided advertising using newspaper ads, public service announcements, distribution of fliers, and posted the event on the District's highly utilized website. The e-drives were promoted in all classroom and adult group presentations one-month prior to the event. In addition, press releases were submitted for media coverage.

Service Area

The 4 electronics recycling events were open to all District residents and occurred in various geographic locations to provide convenience. The District implements an e-drive in Berlin Township, a rural community, in October each year as this provides an outlet for rural residents as part of the RREAP program outreach. The District permits small businesses, local and state governmental offices, and all schools to participate in each of the drives. In addition, the Day Reporters under strict supervision of the Mahoning County Sheriff's Dept., collect unwanted electronics from the local governmental offices specifically for the drives.

Amount and Type of Materials Collected

The following electronics were accepted at all the events in 2009: computers, laptops, monitors, TV sets, copiers and faxes – table top only, VCR and DVD units, radios, stereos, printers, keyboards and related PC equipment, scanners, Ham Radio equipment,

and related electronics. 152,752 Pounds of electronics were collected by these drives in 2009. The District used the actual weight reports provided by the vendor to ensure accuracy and no double-counting. Local companies such as Val-e-Tronics and Recycle Tech along with Goodwill accepted electronics for the purpose of reuse or recycling.

Assumptions

According to the US EPA, 130,000 units of unwanted electronics are discarded daily in the USA, thus the need for continuation of electronics recycling drives is important. The District projects a 1% by weight increase annually beginning with 2010 data, throughout the planning period as the local participation has increased since 2005. Many environmentally-minded experts claim that the computer and high tech electronics industry is based on the premise of “planned obsolescence”, thus the continual need for e-drives and sufficient outlets for the reuse of outdated electronics.

Strengths/Weaknesses of Program:

The strengths include the convenience of communities hosting electronics recycling events at locations and with vendors that are most appropriate to each community. For example, in April 2012, the YLCR program held their e-drive at the Covelli Centre in downtown Youngstown with almost 2,000 vehicles unloaded, while rural communities such as Berlin Township hold their events at their township town hall building and often utilize more local companies. The challenge will remain making sure that participants only bring acceptable electronics and are willing to pay a small fee for television sets if the vendor demands such payment for processing them. The District staff will continue to work with each community to provide technical assistance so that the events are productive, suitable to each community, and convenient.

Recycling Initiative Competitive Funding Grant Program – Began in 2006 and ended in 2010

In 2006, the Director proposed revamping the former “competitive funding” program by offering a mini-grant to non-profit agencies and local governments that concentrated on actual recycling initiatives, thus the title of “Recycling Initiative Competitive Funding Grants” (RICF). The program was very popular and actual recycling strategies and activities were created and implemented. In 2010, the District’s Policy Committee made recommendation to the Board of Directors to eliminate the RICE program due to budgetary considerations. The program ceased in 2010.

Responsibility

Each non-profit and local governmental entity awarded a 2009 RICE grant was responsible for implementing the project as approved by the Policy Committee and Board of Directors. During the last quarter of 2008, various entities submitted RICE grant applications for projects ranging from schools increasing recycling opportunities through adding new containers at sporting events, to non-profits initiating special reuse activities that diverted solid waste from disposal. The District administered the RICE program by forwarding invoices and vouchers to the Auditor’s Office for payment to the recipients. 86 Local governments, schools, and non-profit agencies were awarded RICE grants in 2009 for a grand total of \$50,000.00.

Service Area

The entire District was covered with non-profit organizations and local governments from every section of the County submitting applications. This included the City of Youngstown.

Amount and Type of Material

Each grant recipient had to report the weight or volume of materials diverted from the waste stream in a required format prior to receiving payment for grant-related expenses. Since the reports indicated that entities took materials to buy-back centers, the District's drop-off sites, and other outlets that already reported weights or volumes to the District for purposes of completing the Annual District Report; the weights were eliminated from the ADR to prevent double-counting.

Assumptions

The Policy Committee and Board of Directors have ended this program effective 1/1/2010 due to priorities of other essential waste reduction programs that can produce more solid waste diversion. This program will not be reinstated during the timeline.

Strengths/Weaknesses of the Program

Although very popular among local government officials, the main weakness was the lack of outcomes regarding waste reduction. Specific weights could not be attributed to the individual grants as the District had anticipated. Although the District realizes that one of the positive outcomes could be motivating individuals to participate in the drop-off, curbside, and other recycling initiatives, the District could not identify evidence of this, thus the justification for terminating the program.

Build America Beautiful – Began in 1997

The Build America Beautiful (BAB) program continued during the reference year with the District's close association and professional working relationship with the local Home Builder's Association (HBA). The goals of the BAB program are: 1) to persuade contractors to observe an eco-friendly approach to construction, 2) to promote the minimization of the environmental impact concerning material waste, excavation, indigenous wildlife and the reduction of virgin materials by implementing and using recycled products, 3) to introduce consumers and special event attendees to the BAB concept through awareness and continued education about the advantages of using recycled-content materials and recycling materials that traditionally were discarded, 4) to instruct construction company officials of the economic incentives that result from lessening their solid waste stream.

Responsibility

The District provided a grant to the HBA for the integration of District goals into their construction and remodeling standards so that members realized the cost-savings and environmental impact of following the 3 R's: reduce, reuse, recycle, and buying recycled materials. By the placement of recycling containers on construction sites, cardboard and

other recyclable materials were diverted from the landfill. Several roofing companies utilized popular District drop-off sites such as Raccoon Rd. in Austintown to deposit cardboard from jobs. The District and HBA worked together to strengthen the bond that united the members in 2009 by providing excellent standards for construction and remodeling while caring for the environment and saving costs.

Service Area

The HBA covers Trumbull, Mahoning, and Columbiana Counties, thus including three solid waste districts. The annual HBA Home and Garden show occurs in Mahoning County with staff present in 2009 and 2010 the entire weekend to provide waste reduction information to the thousands of visitor and hundreds of companies present.

Amount and Type of Material

Since the construction companies directly hauled recyclable materials to buy-back centers, scrap metal processors, or the APS MRF; to prevent double-counting the District did not attribute tonnage to this program in 2009. Indeed the efforts of the District and HBA working closely together to pursue the same goals resulted in the generation of significant interest among contractors and remodelers about waste reduction. Double-counting concerns prevented the District from tabulating tonnages directly from construction companies.

Assumptions

Because of financial limitations, this Update does not include funding for the BAB program through funds for the HBA past 2012. However, the successful implementation of the strategy as per the current Plan Update will be monitored, and information about the BAB program will be included in most adult group and all business and service organization presentations conducted by District staff.

Strengths/Weaknesses of the Program

Although funding was much appreciated by the Home Builder's Association, the District realizes that the strengths of the program which are mainly awareness-centered can be accomplished under the education/awareness and waste reduction assessment strategies that will continue throughout the timeline. The only weakness is the funding issue as the District must be fiscally prudent and cut costs for programs not essential to reaching the waste reduction goals as stated in subsequent sections.

Community Recycling Coordinators and Overflow Reporting – Began in 1991 with Expansion in 2006

The District began providing annual community recycling assistance grants to each township, city, and most villages in 1991 in order for them to provide their residents and businesses/institutions with a productive local recycling program utilizing the District-provided free curbside and drop-off recycling programs. Communities hired a recycling coordinator (RC) who educated residents and business officials about the benefits of recycling and maintained the drop-off recycling site(s) in their community. Many communities have multiple drop-off sites, thus the RC would have to work more hours as their responsibilities increased.

In addition to operating the drop-off sites, providing educational and awareness materials to residents and businesses, and attending a minimum of two District RC meetings each year; starting in 2006 the RC's were required to submit an *quarterly overflow report* that detailed all recycling activity that resulted in tons of materials being taken directly to a buy-back or other source and not placed in the drop-off bins.

Responsibility

The District was responsible for providing the administrative support to make sure that each community received their annual recycling assistance grant funds and that each RC attended both the annual meeting and training session. The District accepted responsibility to make sure that all RC's were trained and possessed the ability to educate their residents and businesses about the recycling opportunities available and the benefits of participation. The RC's continue to be responsible for being the primary information outlet for local residents with the District's education department ready to assist and supplement when needed. The individual township trustees or village/city mayors are responsible for hiring and maintaining an RC that represents their community. In some instances, local government officials chose to split the duties among two employees for efficiency reasons. The RC must submit a quarterly overflow report that details all the recyclables that were collected in special programs and activities. As listed in Table VIII-5, in 2009, \$516,500.00 was distributed to the communities for this strategy.

Service Area

The 14 townships, cities of Campbell, Struthers, and Youngstown, and villages of Beloit and Sebring continue to receive the annual assistance to provide a community recycling coordinator program. In addition, the District in 2009 provided funds to Lake Milton State Park and McCune Park in Canfield for RCs to promote their recycling sites.

Amount and Type of Material

In 2009, 542 tons of overflow material was reported to the District via the quarterly overflow reports. This included material not placed in the District's recycling bins but instead generated within the local community and recycled through other sources, including newspaper reused by local farmers as animal bedding. Materials included: newspaper, metal food and beverage cans, glass bottles, cardboard, and #1 thru #7 plastic containers, lead acid batteries, and motor oil. The District confirmed that double counting did not occur. The amount of materials deposited into the District's 30-cubic yard recycling containers at each of the community drop-off locations, was reported under a separate program detailed previously in this section. The positive influence of the promotional work conducted by the RCs had a direct correlation with the increase in the District's drop-off weights in 2009.

Assumptions

The District will continue to supply each community with annual community recycling assistance throughout the planning period as this is the main conduit that brings the District's waste reduction message to local residents and businesses. There is no

projected annual increase in the tonnage of the overflow materials reported by the RC's as the District does not feel confident that recent trends justify it.

Strengths/Weaknesses of the Program

The main strengths of the program include the successful local government partnerships that have been forged between cities, villages, and townships with the District, and the availability of dedicated, knowledgeable, and caring community recycling coordinators to assist the District in planning special recycling events and communicating to residents and businesses the importance of recycling. The only challenge would be the ability of the RCs to better quantify the waste reduction that occurs in each community so the District will gain credit for all tonnages diverted from the disposal stream. The District, through the mandatory meetings with the RCs each year, will continue to provide technical assistance to them so they can better quantify diverted tonnages.

Household Hazardous Waste (HHW) Education, Awareness, and Collection Drives – Began 2000 and Expanded in 2006

The District continued to provide an opportunity for residents to safely dispose of residentially-generated HHW materials through a one-day event held in the Canfield Fair Grounds which is centrally located for all County residents. In addition, the education specialists, including the manager of the Youngstown Litter Control and Recycling Program (YLCR), included the discussion of HHW in classroom and adult group presentations. The District promoted safer alternatives through fliers, articles in the newspaper, and during TV/radio interviews. The YLCR staff also included information about the HHW drive and alternatives in presentations and articles. The entire District was covered through education and awareness of the importance of lessening the use of HHW products and using safe alternatives instead.

The District also assisted various law enforcement agencies in promoting one-day pharmaceutical take-back events in 2009. Specifically, the Austintown Police Department hosted three events and Boardman P.D. one event. No tonnage is associated with this program as the drugs were safely destroyed in abundance with applicable federal, state, and local guidelines. The empty pill bottles that were determined not to be of a hazardous or infectious nature, were recovered and taken to a community recycling drop-off site of which the pounds were included under that strategy.

Responsibility

In 2009, the District retained responsibility to contract with Environmental Enterprises Inc., through the coalition of Northeast Ohio Solid Waste Districts and a joint use agreement in order to negotiate the most cost-effective price to provide collection and processing services for the massive District-wide HHW drive held at the Canfield Fairgrounds in May. 869 Vehicles were unloaded with 140,575 pounds of residentially-generated HHW brought to the event. The District provided staff to assist EEI with the drive by directing traffic and distributing recycling literature; however, only EEI handled materials as they are fully trained in this highly technical field. The District promoted the event through newspaper and TV/radio ads, and public service announcements communicated on WYSU – FM and other radio stations. The staff formally announced

the drive during a Board of Commissioners' meeting to provide communication to all Mahoning County departments. The event was posted on the District's website and on the Mahoning County Government website. Fliers were generated and distributed throughout schools and community organizations.

Service Area

The entire District was covered through the education and awareness programs that served to promote the HHW drive, and the event was held in the convenient location of the Canfield Fairgrounds on Saturday, May 9, 2009.

Amount and Type of Material

140,575 Pounds of the following HHW materials were collected during the one-day event: oil-based paint, flammables, aerosols, pesticides, antifreeze, fuel, cleaners, reactives, mercury, propane, cylinders, car batteries, asbestos, R-21-12 Freon, oxygen cylinders, and oils. 120,114 Pounds of the items brought to the event needed to be disposed by the contracted company, and 20,461 pounds were recovered and recycled such as propane cylinders. In 2009, the District urged residents to take CFL units to the Home Depot Stores located throughout the county as they accept these units to recycle. As a result, the District does not accept CFL units at the HHW drive.

Assumptions

The one-day HHW event cost the District \$23,050.38 for just the services of EEI. This is a necessary cost that will increase each year of the planning period. The District will provide an annual, one-day HHW disposal event throughout the planning period, and if revenues permit as in 2011, will provide 2 events during certain years. It will intensify the educational and awareness aspects of the HHW program as prevention is the goal, not increasing collection. The District projects a 1% annual decline in the weight of material brought to the drives based on 2010 weight as the avoidance aspect of the program reaches more residents. As residents purchase environmentally safe and non-hazardous cleaners and related items, the need for increased collection lessens. The District has witnessed a small decline over the past several years to justify the projected annual decline.

In addition to the HHW event, the District will assist local law enforcement agencies in hosting several one-day pharmaceutical take-back events in order to prevent harmful substances from entering the sanitary sewer system which eventually pollutes drinking water. No separate weights are associated with this program as all the drugs are properly destroyed.

Strengths/Weaknesses of the Program

The strengths of the program include the public health and safety issues associated with removing thousands of pounds of hazardous items from the waste stream generally ending up at disposal facilities. Also, the educational and awareness aspects are vital so that consumers have the knowledge available to substitute hazardous products for those that are safe. The only challenge is the cost of having to implement at least one HHW event annually. The District realizes the planning and expense involved is important as

the alternative of having HHW materials enter landfills in massive amounts is unacceptable.

Household Battery Collection Program – Began in 2001

In 2009, the District provided multiple locations for residents and businesses to bring and deposit unwanted household batteries. The District provided attractive cylinder bins clearly marked with plastic, non-leaking bags provided for those who bring their batteries without containment. In 2009, the Mahoning County Sheriff's Department Day Reporters collected the batteries and brought them to the District headquarters where a part time employee separated the batteries and prepared them for the end-user. In 2009, batteries were sent to Battery Solutions for recycling. Bin locations included all Mahoning County library branches, schools, and Youngstown State University. There were 45 battery bin locations in Mahoning County in 2009.

Responsibility

The District is responsible for supplying all the entities that have the battery bins, with new bins if replacement is necessary. The District, utilizing the Sheriff's Dept. Day Reporters consisting of non-violent offenders, is responsible for transporting the household batteries to District headquarters. The District's part time battery worker in 2009 was responsible for separating the batteries and preparing them according to ODOT and end-user requirements. The District is responsible for making sure that batteries are shipped according to all local, state, and federal regulations, and for processing payment to the contracted vendor who serves as the qualified end-user. The District constantly promotes the program through classroom and youth or adult group presentations, fliers, website, and through articles in various publications. Schools are especially aggressive in participation with battery bins provided for pupils, teachers, and staff to utilize. Libraries joined the District in promoting the program as they house the bins also. YSU is a major promoter of the battery recycling program with bins available.

Service Area

The entire District was covered in 2009 as the Mahoning County library branches, many schools, and YSU had and continue to have battery bins with a total of 45 convenient locations throughout the county. In 2009 the following community recycling drop-off sites had battery bins: Beaver Township, Coitsville Township, Ellsworth Township, Goshen Township, Green Township, Milton Township, Poland Township, Smith Township, and the recycling site in New Middletown Village. Communities are not required, but encouraged to host a battery bin collection site.

Amount and Type of Material

In 2009, the District recovered 22,390 pounds of household batteries, a 67.8% increase over 2003 weights which served as the last reference year. The batteries include all dry cell, household batteries including AA, AAA, 9 V, 6 V, C's, D's.

Assumptions

The District will continue this successful program throughout the planning period and projects an annual 5% weight increase as the program gains popularity. Although the

District urges residents to be energy efficient and purchase rechargeable batteries whenever possible, the amount of unwanted batteries will continue to grow during the planning period as evident by the massive increase over the 2003 weight recovered and the 18% increase between 2009 and 2010.

Strengths/Weaknesses of the Program

The strengths include removal of massive quantities of household batteries from entering disposal facilities, and the educational aspects whereby children are taught early in school through the District's education initiatives, that recycling batteries has many positive benefits. Children and adults realize that through the many convenient locations throughout the District where battery collection bins are available, they can recycle these products and thereby make Mahoning County a safer and healthier place to live. The challenge is the labor involved with sorting the batteries prior to shipment. The District realizes that this task must be completed in order to maintain this popular program for residents to enjoy, and it is committed to providing the necessary personnel throughout the timeline.

Lead Acid Battery (LAB) Recycling Program – Began in 1993

In 2009, the District's lead acid battery collection program (LAB), resulted in 58 tons being recovered for the purpose of recycling. 56 Tons were reported on the mandatory monthly reporting forms submitted by the scrap metal processing companies located in Mahoning County, with Girard Recycling located in Trumbull County also reporting LAB units received (breakdown under "scrap metal processors reporting" later in this section). The remainder, 2 tons, was reported on the quarterly community recycling coordinator overflow reports as certain drop-off sites accepted LAB units in 2009.

Responsibility

As in 2009 through current, the District is responsible for providing the entire county an annual HHW drive where LAB's are brought to be recycled. Double-counting did not occur as the amount was already included in the scrap metal processors' reports. In addition, the District provides annual community recycling assistance through grants to all the townships, cities, and most villages in order for all community recycling coordinators to promote the recycling of LAB through either bringing them to the buy-back centers listed on the District's website: www.greenteam.cc, or to the two community recycling drop-off centers that accept them year-round: Milton and Berlin Township. The District's education specialists include the importance of recycling LAB in appropriate level presentations. The District solidified the importance of recycling LAB with the Build America Beautiful program in conjunction with the Home Builders Association in 2009 through attendance at their annual awareness event. The District is responsible to make sure that all scrap metal processors covered under the Youngstown ordinance that accept LAB: US Trading, Chuck's Recycling, and Broadway Recycling; include the weights on their monthly reports in an accurate fashion.

Service Area

The entire Mahoning County is covered with LAB recycling opportunities. Residents may take unwanted LAB units to the buy-back centers listed on the website which

include US Trading, Chuck's Recycling, and Broadway Recycling which report to the District on a monthly basis. They may take unwanted LAB units to the Milton or Berlin Township community recycling centers, with the latter conveniently open Monday thru Saturday, daylight hours. They may take the units to the District's annual HHW drive, one was held in May 2009 at the centrally located Canfield Fairgrounds. Thus, sufficient and convenient opportunities were and continue to be available to recycle LAB units.

Amount and Type of Material

A total of 58 tons of LAB were reported as recovered and recycled in 2009. The District ensured that double-counting did not occur as each of the generating sources were treated separately for calculation of the total. Also a Trumbull County-based scrap metal processor reported weights - Girard Recycling.

Assumptions

The District will continue to provide an annual HHW drive for all Mahoning County residents which will include LAB units in the list of items accepted, and the units will be transported to local scrap metal processors that accept them. The District projects no annual percentage increase by weight over the planning period as declining population will correlate with less LAB units generated. This is evident by the dramatic drop from 2009 to 2010, thus the 2010 level is flat-lined throughout the timeline as this supports a more conservative projection of tonnage.

Strengths/Weaknesses of the Program

The strengths include the importance of keeping LAB units out of the waste stream. As noted in Section V, LAB units are not accepted at disposal facilities in Mahoning County. Thus the program provides an opportunity for residents to handle these items in an environmentally responsible manner. In addition, residents and businesses may make money on the value of selling unwanted LAB units to scrap metal and other recycling processors, thus the financial incentive. The District can not identify any specific weakness or challenge with this strategy although future recycling market conditions could have a negative effect if prices drop extremely low or lack of end-user acceptance. The District will continue to monitor market conditions for all recyclable materials including LAB units.

Education and Awareness Program – Began 1986

This is the overall title for numerous events, contests, presentations, and related activities that was the primary vehicle for the District to convey its message about the importance of reducing waste in an environmentally sound and responsible manner in 2009. Components include advertising, presentations, promotions, pamphlets/fliers/posters, appearances on local media programs/outlets, contests, and special events. Each 2009 component is defined with elaboration below.

2009 Residential Recycling Education and Awareness Program Components

<i>Advertisements</i>

<u>Television Ads:</u>	87% special collection advertising (HHW, E-drive, Christmas Trees) 13% Curbside Promotion/Expanded Material
<u>Print Ads:</u>	24 Ads for Special Collections - <u>Vindicator</u> , <u>Town Crier</u> , <u>Metro Monthly</u> /Christmas Trees, 2 Ads for Curbside Madness, 1 Ad yearly curbside calendar
<u>Brochures:</u>	Curbside and Drop-off standard brochures updated regularly
<u>Calendars:</u>	Curbside Calendars mailed to residents for 2009 as requested.
<u>Fliers:</u>	For all special collections (HHW, e-drives, sports equipment recycling, Christmas trees/cards, appliance collections in collaboration with municipalities, tire drives in cooperation with City of Youngstown) All printed on recycled-content paper.

Curbside Madness

The District announced a new curbside recycling campaign/contest launched on November 15, 2009, America Recycles Day. The contest challenged the curbside recycling communities of Austintown Township, Canfield Township, Poland Township, Boardman Township; cities of Youngstown, Struthers, and Campbell, villages of Lowellville and New Middletown to increase the curbside recycling participation in their communities. The contest measured recycling pounds collected at curbside from the communities beginning Nov. 15, 2009 to Feb. 15, 2010 and compared them based on a per/capita basis. The top three communities won cash prizes for outstanding curbside recycling programs.

District staff presented the contest to local officials at trustee and council meetings in October 2009. The District encouraged organizations and schools within the communities to join in the challenge. First place winner was Poland Township with an average of 24.72 pounds per person collected curbside for recycling. Second place was Canfield Township with 21.18 pounds per person, and third place was New Middletown Village, recycling 16.18 pounds per person at the curb. First place winner received \$1,000.00, second place \$700.00 and third place \$300.00. Over 2 million pounds were collected for recycling from all Mahoning County curbside communities during the contest period.

Environmental Workshops

The District's two educators participated in 3 curriculum development workshops reaching 96 participants. These workshops taught teachers in grades K-12 how to incorporate the 3 R's into their classroom activities. Educators partnered with EECO (the Environmental Educators' Council of Ohio), the IIII (Industrial Information Institute Incorporated), and Youngstown State University's Materials Camp for Science Teachers to give the teachers specific activities to use in their classrooms. At the EECO workshop, educators trained elementary and middle school teachers how to implement classroom

activities and reuse crafts, and at other workshops they trained middle and high school teachers in the properties of plastics and other topics related to recycling.

RC Training

The District held one community recycling coordinator training workshop in 2009, and it focused on program promotion. Sessions included:

- *Making Sense of the Numbers – Director, Jim Petuch provided an explanation of how recycling rates are determined.*
- *Advertising & Promotion on a Shoestring Budget – YSU Intern Jennifer Jacobs presented a PowerPoint on this relevant topic.*
- *Recycling In Beloit: A Community Event - Local recycling coordinator Jim McNatt shared ideas used in Beloit to promote local recycling efforts.*
- *Marketing 101 – Assistant Director Mari Wren Petrony offered information on social marketing as it pertained to recycling programs.*

Placemat Contest

The contest attracted entries from 1,303 students from area public and private schools in grades one through eight who designed posters using a 3 R's or an anti-litter theme. One winner from each grade received a twenty-five dollar gift card donated by Dominion Gas Company. These winning posters were made into 28,000 placemats printed on recycled paper which were distributed to the following participating restaurants: American Legion Post 737, A & W Family Restaurant, Carchedi's Restaurant, City Limits Restaurant, Denny's Restaurants, Dino's Restaurant, Ellsworth VFW Post # 9571, Lake Front Golf Course and Restaurant, Landmark Restaurant, Operating Engineers' Hall, Salvatore's Italian Grill, Wrangler's Restaurant, Yankee Kitchen, Young's Restaurant, Coitsville FD, Jackson FD, Goshen Ruritans, Damascus Ruritans, New Middletown FD, Sebring VFW' and St. Christine's Church.

Presentations

The Districts two educators conducted 695 public presentations in 2009 with 20,770 participants. The following is a breakdown: preschool: 151 presentations to 2,458 attendees; grades K-6: 344 presentations to 14,082 attendees; grades 7-12: 115 presentations to 1,938 attendees; children (other levels): 50 presentations to 1,302 attendees; adult groups: 31 presentations to 896 attendees; and business/government organizations: 4 presentations to 94 attendees.

Field Trips

Five separate field trips occurred with students in various schools who learned about the processing of recyclable materials and the operations of modern landfills: 381 attendees.

Resource Library

During 2009, the education staff continued to maintain a resource library containing environmental story and reference books, envirosapes, videos, and teacher curriculums. This material was used for staff presentations and is still available to the public upon request. The resource library currently contains over 2,500 items and is updated on a regular basis.

Science Fairs

The District educators judged 7 separate science fairs with 81 students and concentrated efforts on environmentally themed projects and how they related to solid waste reduction and recycling.

Recycling Alternatives Database

The District continued to provide an alternatives database and the list was updated quarterly. The list is on the District's website entitled the "Recycling Catalog" which alphabetically lists materials that are recyclable and/or reusable, and the options for readers to consider.

Cash for Cans Contest

The District continued this popular contest where schools competed against each other to collect the most aluminum beverage cans between October 2008 and April 2009. Twenty-nine schools collected a total of 20,278 pounds of cans and received \$8,117.47 in direct payment for the value of the cans. The educators conducted programs at these schools to demonstrate the importance of recycling beverage cans.

Green Team Jeopardy

Eight public and private schools participated in *Green Team Jeopardy* in 2009, an environmental game based upon the television show, *Jeopardy*. 170 Students participated in the semi-final competition. The students were given study material based upon the 3 R's, littering, and other environmental information.

Earth Day Activities

Trash Bash – The "2009 Trash Bash" recycled fashion show is an annual Earth Day event that involves a partnership between the District and the Mahoning County Career & Technical Center (MCC&TC). In 2009, Interactive Multimedia (IMM) students formed design teams and created fashions from materials destined for either a recycling bin or the trash. IMM juniors modeled the fashions and seniors managed publicity. In addition, the District staff participated in the YSU Earth Day awareness events providing waste reduction information to attendees. The YLCR program staff implemented a variety of litter clean-up and recycling awareness activities themed on the importance of Earth Day.

Green Scene

To reduce paper at the source, the District converted to an electronic newsletter in 2009. The newsletter, titled *The Green Scene* was e-mailed to schools, other solid waste management districts, various non-profits, local government officials, and residents who requested the service. The newsletter was also posted on the District's Web site. Information for obtaining newsletters continues to be provided at presentations, workshops, displays, conferences, and meetings. Approximately 2,000 newsletters were e-mailed per quarter and this transition saved approximately \$12,000.00 in publishing costs plus over 100,000 of sheets of paper. Included in the Green Scene was a link to the YSU re:CREATE program for information about industrial waste reduction and the Materials Exchange which is discussed later in this Section.

District Fliers/Brochures

It is estimated that the District distributed approximately 6,048 fliers / brochures during 2009. Fliers include: curbside and drop-off recycling programs, stop junk mail, what to do with leftover paint, *Curby* the curbside recycling mascot, and fliers for each special recycling drive such as e-drives, appliance drives, tire drives, and the HHW event.

Amount and Type of Materials

Only the *Cash for Cans* contest garnered weights (10-tons) as listed on Table V-5, and the school fiber program was considered a separate strategy already discussed in this section.

Assumption

The District will continue to provide funding for two full-time, qualified education specialists during the planning period who are responsible for implementing the entire strategy under the supervision of the director.

Strengths/Weaknesses of the Program

The strengths are numerous and include the appreciation demonstrated by students, teachers, parents, school administrators, and residents regarding the comprehensive and motivational classroom and non-classroom programs provided by District education specialists. The impressive levels of participation for all the contests and events has served to motivate thousands of children and adults to participate in waste reduction programs that are available within Mahoning County. The District's educators are well respected and very popular throughout the area as they are extremely committed to educating children and adults about the District's programs and the importance of recycling and composting. The District can not identify any weakness with the only challenge being that the demand for programs from schools and other institutions may someday exceed the limits of what two educators can possible accomplish within a workweek.

District Website including Recycling Catalog– 2001

www.greenteam.cc

The District expanded its website in 2007 by placing it under the Mahoning County domain, thus making it more appealing for increased access. The goal of the site is to inform residents and businesses of the numerous waste reduction opportunities available in Mahoning County. The website includes a thorough explanation of the District, an extensive *Recycling Catalog* that lists items with the appropriate outlets for reuse or recycling, educational opportunities, announcements of upcoming events, policy committee meeting dates, links to relevant agencies such as the ODNR Division of Recycling and Litter Prevention and Ohio EPA, an entire copy of the current Plan Update, announcement of grant opportunities for schools and local governmental agencies, a business recycling section, information about source reduction and purchasing recycled-content supplies, a litter prevention and law enforcement section, information about the District's curbside and drop-off recycling programs, and much more. In 2009, the website was the mechanism for non-profit organizations and schools to make

application for the Recycling Initiative/Competitive Funding grant program. In 2009, the District premiered the e-version of the *Green Scene* and a link to it is available on the website along with a direct link to the YSU re:CREATE program and the Materials Exchange.

Responsibility

The District retains responsibility for maintaining the website which includes updating all the information provided. Most importantly, the District's secretary contacts all the outlets listed in the recycling catalog on a quarterly basis to make sure their information is updated. Many private recycling companies change policy, thus the updating component is critical as providing accurate information to the public is mandatory. The Mahoning County government provides the domain and associated website maintenance costs, thus no cost to District. The District can not attribute recyclable weights to this strategy as they are non-quantifiable.

Service Area

The entire District as well as the internet community has access to the website. Although targeted for Mahoning County residents, the website provides useful information for interested readers throughout the region.

Assumption

As in 2009, the District will continue to provide important and relevant information through the website throughout the planning period. It is projected that a constant increase in viewers will occur; however, there is not a reliable quantifiable measurement to predict the percentage increase annually. As technology continues to advance, so shall the technical aspects of the website.

Strengths/Weaknesses of the Program

The website has many positive aspects including the convenience and ease with which residents may access it at any time they choose. Being comprehensive and covering a multitude of topics, the District has received positive feedback about the site and appreciation that it serves to update residents and businesses on upcoming events and important information. The only challenge is to maintain the site so that only current and relevant material is posted. Site maintenance will continue to be completed by District staff throughout the timeline.

Litter Prevention Programs – Began in 1986, Expanded 2006

In 2006, the District changed agencies for handling the litter prevention and recycling labor needs by contracting with the Mahoning County Sheriff's Department for non-violent offenders to perform tasks supervised by deputies. In 2009, the contract was \$73,000.00 for two crews. The deputies closely supervised the non-violent offenders often referred to as the Day Reporter Crew, and the District continues to provide a staff member serving as liaison.

In 2009, the District continued the Adopt-A-Road campaign through affiliation with Keep America Beautiful and US EPA WasteWise programs. Individuals, groups, and/or

businesses volunteered to maintain sections of roadway free of litter. County and other local roads are covered under the District's program, and state roads such as St. Rt. 46 in Canfield and Austintown Townships are covered under the Ohio Dept. of Transportation's Adopt-A-Highway program. The District provided attractive signage that publicized the volunteer efforts of the groups. In 2009, two new groups undertook adopting roads with a total of 20 miles covered by this program.

Responsibility

The District oversees the litter prevention and the Adopt-A-Road programs, and the Ohio Dept. of Transportation maintains the Adopt-A-Highway program. The District contracts with the Mahoning County Sheriff's Department for deputies to supervise a crew consisting of non-violent offenders called "Day Reporters" who perform the following tasks 6 days (M-Sat.) per week: labor for special collection drives (i.e. tire, electronics, appliances, others); special recycling pick-ups (i.e. large business clean-outs, companies or agencies donating 500 metal desks, others); litter clean-ups: 2009 – 247 sites and 3,452 bags of litter collected; festival and special event recycling: 2009 – 33 separate events; drop-off recycling sites with overflowing material emergencies; *cash for can* school contest collection; and household battery program collection from all 45 library and agency locations.

The District's staff organized the community clean-up events in conjunction with the Youngstown Litter Control and Recycling program (YLCR), and 55 one -day clean ups with 927 bags of litter were collected in 2009. District staff coordinated the volunteer clean-up events during 2009, and the manager of the YLCR program coordinated all the Youngstown drives. As part of the litter prevention program, District and YLCR staff in conjunction with the Better Business Bureau (BBB), offered residents a chance to have confidential documents shredded during the annual Streetscape event in downtown Youngstown. In 2009 and continuing, hundreds of residents participate in this annual beautification project and bring their confidential documents for shredding and recycling.

Service Area

The entire District is covered both in the Adopt-A-Road campaign and the community litter collection events. YLCR covers all 7 wards in Youngstown with all their special litter prevention programs. The day reporter crew collects litter and provides recycling collection service throughout all of the District.

Amount and Type of Material

In 2009, 247 separate sites were cleaned by the day reporters resulting in 3,452 bags of litter collected and properly disposed, and 55 one-day clean ups with 927 bags of litter. Note – contrary to past practice, the District no longer encourages the source-separation of litter to recover recyclable materials for two important reasons: 1) generally the recyclable material is too contaminated to be accepted at the MRF, and 2) the potential for physical injury to collection crew participants from needles and other hazardous items hidden inside bottles and cans when excess handling is needed. The physical dangers far outweigh the benefits as safety of the crew and volunteers is the top priority.

The day reporters placed overflow recyclables generated at the drop-off sites and other areas within the county into District recycling drop-off bins, thus the District can not credit weight for this activity. The weight generated from the special recycling drives is listed under each drive activity, thus not credited in this program. The District wanted to ensure that no double-counting occurred.

During the 2009 Streetscape “BBB Confidential Document Shredding” event, 7.92 tons of paper documents were shredded and recycled, and 700 pounds of cardboard was recovered. To prevent double-counting, the amount accepted for shredding was not added to the District’s recycling total as the weight is included in the tonnages reported from the MRF and buyback centers that accepted the shredded paper to recycle.

Assumptions

The District will continue the Sheriff’s Dept. contractual arrangement, the Adopt-A-Spot program, and the community litter collection events throughout the planning period. The District projects an annual increase in participation through the continued effort of the District staff and the cooperation of the YLCR program staff. The District will continue to support such efforts by supplying gloves, bags, vests, and other necessary safety equipment and supplies.

Strengths/Weaknesses of the Program

The strengths of utilizing the Mahoning County Sheriff’s Dept. for providing supervision of non-violent offenders to collect litter and perform recycling collection functions include the extreme popularity of having offenders perform community service rather than jail time thus lessening prisoner-housing costs. Often heard on local radio talk shows is the appreciation from taxpayers that offenders are performing valuable work, thus the program is politically popular. The volunteer litter collection activities organized by the staff are very well attended and participation continues to increase. Another positive outcome is the awareness aspect as volunteers tend to motivate their family and friends not to litter. The only challenge is the rising cost for the Sheriff’s Department to provide this service through District funding. The District will continue to utilize these services throughout the timeline and provide the funding necessary.

YSU re:CREATE Program– Began in 2005

The YSU re:CREATE Program is the District’s main environmental reuse activity and is a cooperative arrangement between Youngstown State University and the District that was formulated in 2005. The initiative consists of three components: re:CREATE, Drop and Go community reuse events, and the Materials Exchange. The Materials Exchange is mainly an industrial waste reduction initiative thus will be discussed under industrial waste reduction strategies later in this section.

YSU re:CREATE, as in 2009 and current, is the connector between those with usable but unwanted items and others who need them. Many of these items are non-recyclable, thus reuse is the green option. It is free to participate in the re:CREATE programs, get materials, attend events, and use the services. re:CREATE is open to residents, educators, nonprofit groups, businesses, and manufacturing plants with services that include the

Materials Exchange (discussed later), Drop & Go events, the re:CREATE room, surplus furniture donation program, and a monthly online newsletter that is linked to the District's e-newsletter discussed previously.

re:CREATE manages the donation of Youngstown State University's surplus furniture and supplies and provides this service to local businesses and government offices upon request. The service is primarily used during relocations or large cleanouts and is used instead of rental trash dumpsters saving landfill space and reducing costs. A list is maintained of items wanted and available and is published each month in re:CREATE's online newsletter. The system for reporting diversion is similar to the "Materials Exchange" which is explained separately. Inquiries unrelated to the newsletter are also fielded daily as to where to donate or receive items. At the re:CREATE room on campus at Youngstown State University, items are accepted that are unwanted by local charities but still reusable. These items are primarily reuse craft supplies such as Styrofoam egg cartons, CDs, and fabric scraps. Partial gallons of latex paint are also accepted and available for anyone interested in reuse. Schools in 2009 and currently have become the primary receivers of these reusable supplies thus saving teachers from extending already limited supply budgets.

The Drop & Go Events implemented in 2009 were community reuse initiatives based on the nationally recognized Dump and Run activity for college campuses. Charities in Mahoning County accept donations of used items; however, each has a different mission and therefore can only accept certain items. Most residents have a variety of unwanted but usable household items that they may not know can be donated or are frustrated by taking their items to a variety of locations. Drop & Go Events are the solution. When the event is promoted, the public is educated as to which items can be donated instead of trashed. The events are held in various host communities and a convenient public location is chosen. Residents are invited to bring their items on a specified day and are given assistance with unloading. Various charities are on hand to take the items and events are tailored to each community's needs. Five community events occurred in 2009.

Responsibility

The District retains the responsibility for providing annual grant assistance to fund the YSU re:CREATE program, and the university retains responsibility to ensure that the program operates as efficiently and effectively as possible and provides accommodating office and storage space plus phone, computers, and other essential equipment and supplies. The YSU re:CREATE program manager is actively involved in District education and awareness activities, and assists the education specialists in projects and events. As in 2009 through current, the re:CREATE program manager operates the community Drop and Go reuse events and the Materials Exchange.

Service Area

The entire Mahoning County is included. Numerous community groups and individuals from neighboring counties participate in the program with only those items generated in Mahoning County reported, thus no double counting.

Amount and Type of Materials

In 2009, the re:CREATE program was responsible for diverting 170 tons of reusable materials generated in the residential/commercial sector and included furniture, fabric, craft supplies, latex paint, Styrofoam pieces, unwanted sporting equipment, and related items. The Materials Exchange, although overseen in 2009 by the re:CREATE manager, is included under industrial initiatives later in this section.

Assumption

The District will continue to provide funding for this essential solid waste diversion initiative, and projects a 2% annual increase in weights diverted from the landfill throughout the planning period. This is based on the modest tonnage diverted in 2005 versus 2009 tonnage, the 5.3% increase from 2009 to 2010, and the popularity of the program with teachers, school groups, youth organizations, and communities that host reuse events.

Strengths/Weaknesses of the Program

The community Drop and Go events are extremely popular with great participation. The message of reuse has been communicated to thousands of area residents which has a positive impact on promoting the importance of recycling. The appreciation from school teachers and others who access the unwanted but reusable supplies is regularly communicated to the District. Non-profit organizations know that the first source for materials is YSU re:CREATE. Providing technical assistance to businesses during large clean-outs is an important part of the District's overall waste reduction strategy, and it is greatly appreciated by entities involved. The only challenge is for the program to better quantify materials diverted from the disposal stream through re:CREATE activities. The District will continue to assist the re:CREATE manager with this task throughout the timeline.

YSU Recycling Program – Began in 2001

As throughout 2009 and continuing, the YSU Recycling program consists of one full-time manager and several part-time student-staff members. There are over 40 buildings on the 130 acre campus of Youngstown State University that are maintained by the program's staff which collects recyclables almost daily. Recycling bins for paper/publications and cans/bottles are located in every building on campus. There are also cans/bottles bins outside of all academic, office, and residence buildings. Outdoor collection bins for cans/bottles are located in all parking lots and parking decks. There were in 2009 and continue to be eight, 6-cubic yard cardboard recycling containers on campus provided by the contracted waste hauler who in 2009 was Ohio Valley. The program's staff transports cardboard to these bins on a daily basis. The program operates year-round with only a decrease in part-time student employees over the 12 week summer semester. The program has special event recycling containers and provides recycling for any indoor/outdoor event on campus, including football tailgate parties and an annual Summer Festival of the Arts, which brings in thousands of people from the local community, including parts of Northeast Ohio and Western Pennsylvania.

The YSU Recycling program in the reference year and continuing in the future, maintains a community recycling drop-off center with roll-offs provided by the District. The site is monitored and cleaned daily by the program's staff and is used by the local community and businesses. The program also assists the District by collecting recycling from local businesses that are located near campus.

As in 2009 and continuing, the YSU Recycling program collects, transports, and composts all food waste generated at one of the University's dining halls. The program maintains a registered Class II Compost Facility, and monitors/maintains the collection/compost facility and curing area seven days a week, recording a daily inspection log each day. The program also handles the recycling of other materials on campus including surplus electronics and computers, scrap metal, ink and toner cartridges, pallets and scrap wood, household batteries (collected for District), and reuse materials from the residence halls during move-out every December and May (donated to local charities).

Responsibility of the program to accomplish goals

As in 2009, the District retains responsibility for completing contractual agreement documentation in order to process the annual financial assistance grant to YSU for the implementation of the program. The YSU Recycling program is required to submit monthly reports to the District and sends a representative to attend recycling coordinator meetings.

Service Area for program

The YSU Recycling Program maintains a service area on the campus of Youngstown State University, and the program also assists with projects in the City of Youngstown and County as requested. For example, if the District confronts a problem with collecting recyclable materials from businesses near YSU due to staff illness or vacation, the YSU Recycling Program will assist.

Amount and Type of Materials Recovered/Recycled

The YSU Recycling program manager submitted monthly reports to the District in 2009 that listed amounts of recyclables collected. As per Table III-6, YSU reported 8 tons of organic waste composted in their Class II site. 364 Tons - newspaper (32 tons), OCC (36 tons), Plastics # 1 thru 7 (9 tons), metal food/beverage cans (12 tons), glass bottles (26 tons), other paper (249 tons) – was included in the drop-off site located on campus. To prevent double counting, these totals were added into the overall drop-off strategy detailed previously and not a separate entity (Table V-5). YSU re:CREATE is a separate strategy and thus not included here. YSU collected shredded paper that went to Protect and Shred, computers that went to several of the electronic vendors locally, vehicle fluids from the campus fleet, household batteries included in the overall District strategy discussed in this section, wooden pallets, and reusable items donated to local charities.

The grand total was 666 tons, all of which was contained in other strategies thus not a separate entry on Table V-5 to prevent double-counting.

Future Assumptions – progress predicted for future

The YSU Recycling program manager aims to reduce the total amount of waste generated on campus by 50% and obtain an 80% recycling rate by 2020, and recover and compost 100% of the food waste generated at on-campus dining areas in the future. The District plans to continue providing the annual assistance throughout the planning period as detailed in Section VIII.

Strengths/Weaknesses of the Program

The YSU Recycling Program is extremely popular and has performed admirably in the national Recycle Mania competition, thus strengthening its environmental reputation far outside Mahoning County. The recycling initiatives employed on campus transcend into making YSU students better stewards of the environment when they graduate from the university. Many times the District has heard from students relocating outside the area that they are disappointed in the limited recycling offerings provided in their new community, and that they have the motivation to contact community officials to commence recycling programs similar to what they learned on campus. The District can not identify any challenges or weaknesses as the program produces amazing results.

Pay As You Throw (PAYT) Promotions – Began in 1998

In the late 1990's, the District submitted and received a Division of Recycling and Litter Prevention grant for the promotion of a variable rate system that is often entitled PAYT. Throughout the years, the District has promoted the concept that through waste reduction alternatives, residents and businesses may save trash-hauling costs as they help the environment. The program has had limited participation due to the fact that certain cities provide unlimited trash service to their residents thus eliminating the financial incentive for a PAYT alternative: Campbell, Struthers, and Youngstown. The following hauling companies offer a variable rate option to their residential customers: Allied/Republic, Waste Management, and Waste Tech. In 2009, approximately 2,000 District residents took advantage of a variable rate system and saved money by limiting their solid waste generation level.

Responsibility

Although the District retains the responsibility of providing awareness for those residents not living in the cities mentioned previously; the hauling companies are responsible for providing the variable rate incentive. In 2009 the District director provided relevant information to the mayors of the cities that provide unlimited service in order to convince them to include a variable rate alternative in their next bid specifications when they decide upon a residential waste hauler. The elected officials of those cities may choose to provide an alternative so that residents take full advantage of the District's recycling, composting, and further waste reduction programs and may realize a financial reward in the form of a lower trash servicing bill.

Service Area

The following cities provided unlimited trash service to their residents in 2009, thus eliminating the variable rate financial incentive: Campbell, Struthers, and Youngstown. The remaining townships, cities, and villages did not provide trash service and thus each resident contracted with a hauling company as listed in Table III-10. In 2009, there were three companies that offered the incentive in the form of selling rolls of bags or limiting via one standard trash can.

Amount of Materials

The District can not quantify the amount of waste diverted through the variable rate incentive as it counted in the drop-off, curbside, composting, and special recycling drive programs.

Assumptions

The District will continue to promote the benefits of the variable rate system within the townships, cities, and villages that do not contract for trash service, and it will continue to urge officials in Struthers, Campbell, and Youngstown to include a variable rate or PAYT system in their contracts which will be mutually beneficial to them and their residents. The District desires an annual 5 to 10% increase in the number of participants of the program; however, if the cities that currently contract for citywide collection implement a variable rate system, then the percentage will vastly increase.

Strengths/Weaknesses of the Program

Residents currently taking advantage of the variable rate programs available are realizing cost savings while benefitting the environment by producing less waste destined for disposal. This in turn saves landfill space. PAYT participants tend to recycle and compost at higher rates than those on unlimited service since cost savings are directly correlated to generating less trash. The main challenge is to convince local government officials in the cities that currently contract for citywide trash collection, to implement a variable rate structure in their future contracts. The District will continue to provide information to city officials regarding the positive benefits of integrating variable rate systems into their trash hauling bid specifications.

Litter Law Enforcement Program – Began in 2005

In August 2005, the District contracted with the Mahoning County Sheriff's Department for the use of 2 deputies who were trained to commence a litter law enforcement program that concentrated on illegal dumping, violations of the Ohio Revised Code (ORC) dealing with unsecured loads, violators of local and state regulations and statutes regarding solid waste collection and transporting, and assisting Board of Health (BOH) officials with investigations and related matters. In 2005, the District hosted a litter and illegal dumping seminar with experts presenting relevant information. Attendance at the two-day event included the District's litter law enforcement deputies, the District's director and selected staff members, and representatives from law enforcement and law departments in Youngstown and the County.

In 2009, these specific codes were enforced through this program: ORC 3767.32 (littering and illegal dumping), ORC 4513.31 (unsecured loads), and ORC 4511.82 (litter from motor vehicle).

Responsibility

The District retains the responsibility for the implementation of this valuable program by providing annual funding for two Mahoning County Sheriff Department deputies. The two deputies cite violators after following through the investigation and research phase, often with assistance with BOH officials and the Prosecutor's Office or City of Youngstown Law Dept., depending on the location of the incident.

Investigations/Cases/Citations in 2009

Cases sent to Youngstown Metropolitan Housing Authority for Resolution: 51

Cases to Youngstown BOH: 3

Cases to Youngstown Street Dept. for Resolution: 4

Cases to Youngstown Zoning Dept. for Follow-up: 10

Cases to County Zoning: 2

Cases to YLCR: 4

Cases to Ohio EPA: 1

Cases to Mahoning Co. BOH: 6

Youngstown Complaints Received: 558

County Complaints Received: 169

Citations Issued: 229

Criminal Charges: 11

Court Cases Closed: 329

Warrants Issued: 46

Arrests: 63

In 2009 and continuing, the deputies sent stern warning letters to the owners of vehicles from which littering had been reported by residents. Citizens calling the District remain anonymous, but must get the correct license plate characters/numbers, and make/color/type of vehicle. The District's educators promote this concept during school programs and in adult group presentations.

The District can not attribute waste reduction weights to this program in 2009 as it is enforcement.

Service Area

In 2009, the entire District was covered by the two litter law enforcement deputies who were assisted in each political subdivision by law enforcement personnel. The deputies continue to interact with the City of Youngstown Board of Health for matters within city limits, and with the Mahoning County Health Department.

Assumptions

The District is dedicated to the continuation of this excellent program that provides law enforcement oversight to those who litter and illegally dump. The goal is a gradual decline of 10% annually in the citations and investigations of complaints as residents realize that littering and illegal dumping are not tolerated in Mahoning County.

Strengths/Weaknesses of the Program

The program is extremely popular throughout the District with local government officials regularly praising the deputies and their successes with citing violators. The deputies are trained and have the skills essential to pursue investigations in the appropriate and legal manner to maximize and not jeopardize cases. The only challenge is the cost to pay for the deputies as the Sheriff's Dept. budget is strained further each year. The District will continue to provide funding for this essential service as citing litter and illegal dumping violators is extremely important in order to improve the aesthetic quality of the District and to ensure the public's health and safety.

Recycling Companies/Brokers/Materials Recovery Facilities

Associated Paper Stock MRF Operational in 2008

In 2006, the District was awarded an Ohio Division of Recycling and Litter Prevention Market Development Grant for the erection and operation of a privately owned Materials Recovery Facility, commonly referred to as a MRF. In 2008, the Cooperating Enterprise, Associated Paper Stock, Inc., (APS) provided the required cash match and the equipment was purchased and placed, and the building was constructed and opened for processing services. The MRF is located in Beaver Township and handles large-scale commercial accounts that include major retailers and grocery chains throughout northeastern Ohio. APS has a sophisticated line-sorting system and has provided new jobs for the area.

Responsibility

APS is a private company and is fully responsible for the operations and handling of recyclable materials. The District often utilizes the MRF as the field operator deposits large loads of paper and publications at the facility that were collected on the business recycling route. Neighboring districts utilize the processing capabilities of the MRF.

In 2008, the District was awarded a DRLP Market Development Grant for a second privately owned and operated MRF with Greenstar North America as the Cooperating Enterprise. This facility was erected in Poland Township and was fully operational in 2010. The MRF handled the District's curbside and drop-off recyclable materials. The facility was not open in the reference year and as detailed previously, the District's curbside and drop-off materials were transported to the Greenstar Pittsburgh facility as listed in Table III-5.

Amount and Type of Materials

In 2009, the APS MRF processed the following amount of recyclable materials generated in the residential and commercial sector in Mahoning County: Cardboard – 4,107 tons, Paper/Publications – 800 tons, and #1 thru #7 plastic containers – 435 tons. The MRF amounts are included in the "Recyclers/Brokers/MRF category in Table V-5.

Service Area

In 2009, the APS MRF provided processing services to the entire District, and in addition serviced the Geauga/Trumbull and Columbiana/Carroll/Harrison Districts. The MRF collects and processes commercial cardboard and plastic loads from retail and grocery establishments throughout northeastern Ohio. MRF operators know through regular contact that it is vitally important that only Mahoning County-generated recyclable materials are reported to prevent double-counting. The APS MRF is the vendor for the business recycling program currently, thus the District is in almost weekly communications with the operators and they realize separate logs are important.

In 2009, the Greenstar MRF provided processing services for the District-generated drop-off and curbside recycling programs. The entire District is covered in the drop-off program, and the curbside communities were listed previously in this section.

Assumptions

It is projected that both facilities will continue to gain processing contracts from neighboring districts, including the possibility of western Pennsylvania. Due to fluctuations in recyclable material markets, the financial stability of both facilities is a constant challenge; however, both are backed by fiscally-sound companies in order to continue operations in low-market times.

Recycling Buybacks/Brokers

In addition to the Associated Paper Stock MRF, Greenstar Pittsburgh MRF and scrap metal processing facilities referenced further on in this section, the District obtained reference year recycling data from numerous buyback facilities including Alliance Recycling Center, Protect & Shred, Recycle Tech, RET-3, Val-Etronics, Waste Management Recycling, Alliance Recycling Center, Cintas, Enviro Plastics, Girard Recycling Center, Iron City Wood, Second Harvest, Gleaners, Salvation Army, Goodwill, and Liberty Tire. The District extracted weights from the above enterprises that fit into other strategies in order to prevent double-counting. For example, the amount listed under Recyclers/Brokers/MRF in Table V-5 does not include the 410 tons credited to the "Business Recycling Program", a strategy discussed previously in this section.

OCC and Paper Weights Reported for 2009

Regarding the 2009 cardboard weights in Table IV-6 and as presented in the Annual District Report, specific sources of data are as follows totaling 12,884 tons. Double counting is eliminated by not including OCC commercial tonnages from the Greenstar PA. MRF during 2009 since all Allied commercial OCC went to Greenstar thus Greenstar is not listed below. The Wal-Mart and Macy's tonnage was obtained through Ohio EPA..

Program Description	Type	2009	2009 Tons
Macy's Distributing Center	Cardboard	315,000	158
Wal-Mart	Cardboard	2,343,560	1,172
Waste Management	Cardboard	1,110,598	555
Associated Paper Stock	Cardboard	8,214,054	4,107

Allied Commercial	Cardboard	12,053,600	6,026
Drop-off/Overflow			866

The main motivation for the recovery of 12,884 tons of OCC generated in the residential, commercial, and institutional sectors is the strong and aggressive education and awareness strategy detailed previously whereby District educators promoted the need to recover and recycle cardboard. In addition, the Business Recycling Program strategy assisted commercial and institutional entities in 2009 to commence or expand cardboard recycling programs. The District's staff concentrated on providing the technical expertise to businesses and institutions to implement cardboard recovery through personal visits and the waste assessments conducted in the reference year as detailed later in this section. Entities realize that OCC is a valuable commodity which provides no financial reward when placed in a landfill.

The "all other paper" category as listed in Table IV-6 and the 2009 ADR has a total of 7,995 tons and was obtained from these sources.

Program Description	Type	2009	2009 Tons
School Fiber	Paper	5,085,600	2,543
Wal-Mart	Paper	14,420	7
Goodwill Industries	Paper	33,485	17
Vital Records Storage	Paper	20,000	10
Protect & Shred	Paper	336,990	168
Youngstown Drives	Paper	444	0
Cintas (Secure Shred)	Paper	819,760	410
Alliance Recycling	Paper	368,923	185
Associated Paper Stock	Paper	1,600,000	800
Drop-Off	Paper		2,090
Curbside	Paper		1,593
Overflow	Paper		172
			7,995

Alliance Recycling Center, Protect & Shred, Cintas, Vital Records, and Associated Paper Stock are all private recycling processing facilities for paper and publications along with other recyclable materials, and the District received weights from these facilities. To ensure no double-counting, Greenstar MRF was not used as a source since the curbside and drop-off materials were processed there.

The District credits the successful education and awareness strategy as the main motivation for residents and commercial/institutional entities to aggressively recover and recycle paper and publications. As detailed previously in this section, 695 separate presentations were conducted in the reference year, each one including the need to recycle materials including paper. In addition, the Green Scene e-newsletter along with the website demonstrated the importance of recycling which includes newspaper. The commercial entity waste assessments conducted in 2009 had an impact on the paper amount recovered. The District's highly popular school fiber program with 84 schools provided exterior bins as discussed previously, accounted for 32% of the total. To prevent double-counting for the school fiber strategy, neither the Greenstar MRF nor

Allied/Republic was included in the 7,995 ton total since the latter had the contract to transport the full bins in 2009.

The District projects a conservative 1% annual increase in the weights obtained from the APS MRF and recyclers/brokers throughout the timeline based on the 20% increase between 2009 and 2010. As stated throughout various sections of this Plan Update, 2010 was an anomaly in terms of the high level of recycling reported from facilities. The District knows that 2011 will not emulate the same level according to data available at drafting time. Thus the District does not feel confident in projecting a higher rate than 1%.

Wood Recycling Data

As included in the 2009 ADR, the District listed data from Iron City Wood located in Campbell, Ohio, a private company. As per Table III-5, a total of 527 tons of commercially-generated wooded pallets was listed. The pallets were either rebuilt and resold or shredded into mulch and marketed as such. Iron City Wood has always cooperated by providing the District's waste/stats specialist with accurate weights realizing the importance of including only Mahoning County tonnage to prevent double counting. This is the sole source to account for the total of 527 tons in Table IV-6.

Food Data

In 2009, the District obtained the weight of contained, unwanted food that was destined for disposal and diverted for distribution. The food containers were diverted to the following charitable organizations for distribution: Second Harvest, Youngstown; Gleaners, Youngstown; Goodwill, Youngstown; and Salvation Army, Youngstown. According to the Format, reuse is defined as the re-utilization of a material in an environmentally sound manner. Reusing and not disposing of thousands of containers of food through these fine non-profit organizations, served both an environmental and charitable need. The reported weight was 2,469 tons as listed in Table IV-6 which also included 8 tons of food composted through the YSU composting program.

Prior to 2009, the District provided Recycling Initiative/Competitive Funding grants to several of these non-profits for equipment and supplies to expand their recovery of food earmarked by grocery establishments for disposal. Local grocery establishments such as Giant Eagle, Wal Mart, Sam's Club, Sparkle, and others have diverted large amounts of contained food to one or more of these excellent organizations. The agencies have graciously provided the District with the amount of containers of food that were diverted from the solid waste stream through their charitable efforts. As is widely accepted and noted in various publications, the Youngstown metropolitan area has an extremely high poverty rate, and the diversion of the containers of food was a logical choice over disposal. Prior to these fine charitable organizations providing this service and serving as a distribution outlet for the needy, unwanted loads of contained food were placed in landfills. Had the recovery not occurred, the unwanted, contained food would have been disposed thus causing the District's overall waste reduction rate to have dropped as this was considered solid waste generated from commercial entities. Thus diverting this type of solid waste from disposal into a reusable situation was appropriate.

Motor Oil Collection – Expanded in 2006

During the reference year, used vehicle oil was accepted during the one-day HHW drive, and at these community recycling drop-off centers: Berlin Township, Goshen Township, and Green Township. In addition, the following private companies located in Mahoning County accepted used vehicle oil in 2009 during their normal operational hours: Advanced Auto Parts, Auto Zone Stores, Everclear, Goodyear Auto Center, Jiffy Lube, Pep Boys, and Professional Engine Systems.

Responsibility

The District was responsible for organizing the one-day HHW event that was open to all Mahoning County residents. The private companies listed above are responsible for maintaining their used-oil acceptance programs. The District and townships listed above that provided containment for the acceptance of used motor oil, were and continue to be responsible for maintaining the program.

Service Area

In 2009, the entire District was covered by the used oil drop-off programs. The 2009 HHW drive served all county residents, and the drop-off sites were open to all county residents regardless of the township or city they resided so that Boardman Township residents could take unwanted motor oil to the three drop-off sites mentioned. The private companies listed accept used oil from all county residents.

Amount and Type of Material

In 2009, 9 tons or approximately 2,571 gallons of used motor oil was recovered through the HHW drive and in the quarterly overflow reports referenced previously. The community recycling coordinators in the 3 townships that provided oil collection service submitted the quarterly report data. No data was available from the private auto centers that accepted the used motor oil as they did not separate Mahoning County-generated from neighboring districts. Standard conversion factor: one gallon of oil equates to 7 pounds as detailed under section VI (B) “Conversion factors used in the preparation of table VI-1” of the 2009 Annual District Report submitted to Ohio EPA.

Assumptions

The District will continue to provide an annual HHW drive opportunity as referenced previously in this section and include used motor oil for acceptance. The District will continue to encourage the 3 townships with their community drop-off sites to accept oil during the entire planning period. The District projects that the value of used oil will entice more private auto centers and retailers to provide an outlet for residents. As the nationwide petroleum challenge continues, the demand for used motor oil will vastly increase during the planning period. However, the District projects a 1% annual decline in the recovery of used motor oil as the population decreases resulting in fewer vehicles that are the primary generators of the unwanted oil.

Strengths/Weaknesses of the Program

The strengths include the positive feedback received by residents and the environmental benefits of removing motor oil from the solid waste disposal stream. The program further strengthens the District's commitment to public health and safety as vast quantities of unwanted motor oil entering the water system or landfills can cause serious problems. The ability to have local communities host motor oil collection sites works very well for residents and further supports the District's commitment to providing the community with comprehensive recycling opportunities. A challenge is making sure that at least 3 communities will continue to host collection opportunities, and that the vendor selected for the HHW event will continue to accept oil. The District will continue to work with both the communities and the HHW vendor to make sure acceptance continues. Another challenge is to continue to work with private auto centers that accept oil but do not separate generation points. The District will work with them in the future to discover an agreeable method so this task is accomplished.

Mahoning County Board of Health Landfill Inspections and Well Testing Program – Began in 1991

In 2009, the District budgeted \$463,000.00 for the Mahoning County Board of Health's landfill inspection and well monitoring and testing program. The intent of the program was to provide assurance to those residents who live in the townships that contain landfill facilities, whether active or closed, that no significant health or safety hazards were present in respect to the facilities. District funds were mainly used for personnel costs for BOH inspectors and lab personnel. The BOH operated the solid waste hauler licensing program that was discontinued in 2010 via the Attorney General's opinion. With the hauler licensing was a requirement for each applicant to complete a "Waste Handling Profile" so that the District and BOH had a better understanding of the type of services each hauler provided in 2009.

Responsibility

The District is responsible for generating the annual contract and negotiating the appropriate fee for facility inspection and well testing services provided by BOH personnel. In 2010, the District, with the recommendation of the Policy Committee and the approval of Board of Commissioners, slightly reduced the BOH funding due to the District's declining revenue situation and all test results being within acceptable parameters. The BOH staff is fully responsible for providing the inspection and well water testing, and to assist the litter law enforcement deputies with appropriate investigations involving illegal dumping and related matters.

Amount of Service Provided

In 2009, the BOH provided the following services.

Active Landfill Inspections Conducted: 289

Active landfills are: Carbon Limestone Landfill located in Poland Township; Mahoning Landfill located in Springfield Township; and the Central Waste Landfill located in Smith Township.

Closed Landfill Inspections Conducted: 50.

Closed landfills are: Croy Road Landfill in Canfield Township; Hilltop in Ellsworth Township; and the Lewis and County Land Development Landfills in Green Township.

Well Water Testing: 325 separate tests for residents in townships with active landfills.

Service Area

Although the BOH services all areas in Mahoning County excluding the City of Youngstown which is served by the Youngstown Board of Health; they mainly concentrated their inspection and well monitoring and testing activities in 2009 in the townships that contained both active and closed landfills: Poland (Carbon Limestone), Smith (Central Waste), and Springfield (Mahoning).

Assumptions

As evident by the fact that the township, city, and village officials demand continued inspections and well water monitoring as long as the active landfills remain operational, and recognizing the need for continued monitoring of the closed landfills; the District will continue to fund this important program throughout the timeline. However, the amount will decline unless a spike in the tonnage accepted at landfills occurs which would motivate an increase in inspection and well testing frequency, or well water testing results were outside acceptable parameters as determined by BOH lab professionals. The District does not foresee a spike in landfill tonnages as detailed in Section VIII.

Strengths/Weaknesses of the Program

The strengths include providing reassurance to township residents who live in landfill-located communities that the facilities are operating in compliance with all applicable laws and regulations. The landfill inspection program is regarded as fully comprehensive and thorough. The well testing program involves hundreds of residents each year that greatly appreciate the reassurance that their drinking water is safe. The challenge for the District is having the ability to provide significant funding for the program in consideration of stagnant disposal fee revenues and landfill volumes projected. The District will continue to work with Board of Health officials to find ways to further promote cost-efficiencies. In addition, the District will encourage BOH officials to aggressively seek additional funding sources such as grants, foundations, and other opportunities that will supplement District funds. The District greatly appreciates the expert level of inspections and well-testing activity that is completed by the BOH, and it looks forward to continuing to work with the BOH to make sure residents who reside in landfill-located communities are safe from potential health hazards associated with disposal activity and from closed landfill facilities.

County and Municipal Assistance – 1991

In 2009, the District provided the Mahoning County Engineer's Department with \$250,000.00 for the repair of county roads damages by the location and operation of a solid waste facility. Specifically, county roads adjacent to the 3 landfills located in the District were repaired with the funding. According to the 2009 year-end report submitted by officials of the Engineer's Department, the total cost of haul-road repair and resurfacing was \$294,342.00, and included 2.9 miles of roads. The roads must be located

in Poland, Smith, or Springfield townships in order to qualify as these are where the Carbon Limestone, Central Waste, and Mahoning Landfill facilities are located.

In addition to providing funding for county road repair, the District provided \$30,000.00 for funding the emergency debris management program with the county's Emergency Management Agency. In 2005, the District developed a comprehensive debris management plan that specifies roles and agencies that would be involved in case an emergency occurred where construction and demolition debris and solid waste would be deposited.

Assumptions

Although both agencies are important, the District realizes that since revenues will not dramatically increase throughout the planning period, both will be reduced from the 2009 level. This is explained in detail with funding levels presented in Section VIII.

Strengths/Weaknesses of the Program

The strength of this program is the appreciation received by township residents for roads repaired, thus lessening the potential for vehicle damage. The challenge is to provide funding as the District projects stagnant revenues throughout the timeline. The District will continue to encourage the Engineer's Office staff to aggressively seek alternative funding sources such as grants.

US EPA WasteWise Program – 2005

WasteWise is a free and voluntary partnership program launched by the US EPA. The program provides guidance and recognition to over 2,000 participating organizations that are working to find practical methods to reduce municipal solid waste and improve financial performance. Since the District joined WasteWise in 2005, the department has received three awards for waste reduction efforts. The first award recognized the District for its community involvement. The second award recognized the District for its organic waste material reduction program. In 2010, the District submitted award narratives for its accomplishments in 2009 and received an award once again. The first narrative was submitted in the category of paper reduction and the second narrative was submitted for the District's popular public venue recycling program. It is hoped that the US EPA will continue recognizing the District for its many waste reduction and recycling initiatives. No recycling weights are directly attributed to the WasteWise program to prevent double-counting. Materials recycled as a result of the promotional aspects of the WasteWise are included in the District's drop-off, curbside, business recycling, and other recycling opportunities listed in this update.

Scrap Metal Recycling – Residential/Commercial – Began in 2005

2005 City of Youngstown Ordinance

As the District's Policy Committee, Board of Directors, and scrap metal processors located in Youngstown are aware; under Section 747.99 of the City of Youngstown's amended Ordinance passed on November 2, 2005 and included in Appendix N and in the

District's current Plan (Appendix K); the penalties for operators of scrap metal processing facilities who do not report accurate recycling weights on a monthly basis to the District are significant and have been enforced. For violation of any part of the Ordinance, it is a first degree misdemeanor. A violation of the monthly reporting requirement is a third degree misdemeanor.

Included in Appendix N is further documentation detailing the historic nature of the passage of this amended Ordinance by Youngstown City Council: a) copy of the Wednesday, November 2, 2005 City Council Meeting Agenda that includes the Amended Code 747 for passage; b) a copy of the City's Finance Director, David Bozanich, letter to scrap metal processing facilities alerting them of the change in the Ordinance and the new monthly reporting requirement dated November 3, 2005; c) correspondence from the City's Finance Supervisor, Jeanne Rostan, providing the District notice that Mr. Bozanich's letter will be included in the scrap metal processing facility packets that also will include the District's reporting requirement dated November 4, 2005; and d) a copy of the letter to Kevin Shoemaker, Ohio EPA, from Jim Petuch, District director, informing him of the important details of the historic passage of the Ordinance.

Since 2005 and during the reference year, scrap metal processing facilities located in Youngstown have complied by submitting detailed and accurate monthly recycling reports. District staff reviews the reports to note indicators that would compromise the integrity of the reporting method such as the random repeating of weights or unexplained variances. The District's staff maintains regular contact including site visits to the facilities. In 2008 with Ohio EPA officials, they visited scrap metal processors to review their operations including weights reported and the origin of loads.

During the plan drafting phase, the director met with operators of scrap metal processing facilities including the largest generators: Diver Steel City – Mr. Terry Diver (July 27, 2011 site visit) and Metalico (industrially generated metals) – Ms. Dawn Miller (July 27, 2011 site visit). Once again, the director reviewed the Ordinance requirements as per below and wanted final assurance prior to drafting this section of the Update that he was confident that the tonnages presented in the written and submitted monthly reports both in 2009 and continuing are absolutely correct, free of double-counting, and authentic. The director is confident that the scrap metal processors have been and will continue to abide by the requirements of the Ordinance.

During site visits, confirmation from operators to:

- 1) Only report Mahoning County generated metals.
- 2) Not include: train boxcars, metals from demolition activities, and ferrous metals resulting from salvage operations from licensed motor vehicle salvage dealers.
- 3) Separate residential/commercially-generated from those from industry.

The District has gone to great lengths to prevent double-counting with all materials including the scrap metal weights, and there have been occasions when the director has excluded numbers since he was not 100% convinced. Staff specifically seeks information from the scrap metal processors as to where the materials are transported. For years the

US Trading Company: 24 tons
RC Overflow (previously detailed): 2 tons
White Goods/Appliances: 47 tons in Table IV-6 and 2009 ADR
Sources: Broadway Iron and Metal: 39 tons
Chuck's Westside: 8 tons
Ferrous Metals: 21,753 tons in Table IV-6 and 2009 ADR
Sources: Broadway Iron and Metal: 11 tons
Diver Steel City: 21,404 tons
Girard Recycling: 33 tons
Chuck's Westside: 9 tons
US Trading: 37 tons
Vivo Metals: 251 tons
Special drives: 8 tons
Non-Ferrous Metals: 851 tons in Table IV-6 and 2009 ADR
Broadway Iron and Metal: 115 tons
Chuck's Westside: 40 tons
US Trading: 237 tons
Vivo Metals: 140 tons
District's Curbside, Drop Off: 309 tons
Greenstar MRF in Pittsburgh, PA.
Cash for Cans Contest: 10 tons – Niles Iron and Metal Co.

The District communicated with officials at Diver Steel City regarding the category of “sheet iron” that they used to categorize all the ferrous metals recycled in 2009. The category does include massive amounts of appliances and items listed previously. It does not include the items excluded in the Format such as auto bodies, train boxcars, and metals from construction and demolition debris loads. Mr. Diver has repeatedly confirmed that they do not accept C&DD loads which was confirmed as the director reviewed hauler weight slips from demolition projects provided to him by Mahoning County officials and never once found Divers included as a destination for the materials. He confirmed that they do not accept loads generated from industrial sources, and that 90% of all haulers are local. Of greatest concern to the District is whether the metals are truly generated in Mahoning County and the potential for double-counting with a neighboring district. Because of this concern, the District has added extra visitation measures explained in detail in Section V (P. 143, 144) that will ensure only Mahoning County-generated scrap metals are counted by all the reporting facilities.

The District, through personal visits by the director and staff, through closely reviewing the monthly reports, through repeated conversations with Diver officials – firmly believes the 2009 weights on the monthly reports submitted by this excellent local scrap metal processor – are accurate. Owner and operators Mr. John Diver and Terry Diver are outstanding citizens with an excellent reputation in Mahoning County, thus the District's director has full confidence that the 2009 weight submitted is accurate.

The District realizes that some national characterization studies and percentage data demonstrate that in 2009 the District had higher-than-average metal weights; however, the Youngstown area is unique and is still considered “Steel Town USA”. As various communities have a special nature that defines them, in national newspaper and magazine articles written over the years – metal defines Youngstown. In addition, Youngstown has a significant poverty rate thus metal is a valued commodity that motivates recovery and not disposal. In November 2011 as the District was finalizing the update, the Brookings Institute rated Youngstown as number one in the entire nation for concentrated poverty (Vindicator headline, Nov. 3, 2011).

Although listed in each facility’s log as required by law, the District does not feel it is ethically appropriate nor legally permitted to print the list identifying commercial entities and haulers that transported metals to the processors during the reference year as this is considered proprietary information and may result in the District being liable for any potential competitive advantage one processor has over others. Listing this confidential information in a public document such as the Update may prove to be a legal liability.

The 2009 ADR total for metals, including ferrous and non-ferrous plus white goods, is 23,183 tons. Table IV-10, residential/commercial waste stream composition, has the total metals amount generated in 2009 at 27,837 or 10.8% of the total (table source US EPA 2009 MSW in the USA). The District believes that since metals are the most financially valuable commodity of all recycling materials, an 83.3% recovery rate for metals generated in the residential/commercial waste stream in 2009 is not unreasonable.

The District goes to great lengths to make sure all recorded recycling data is accurate, and it decided not to include tonnages reported from an out-of-district scrap metal processor that reports Mahoning County-generated weights annually. Reported was 12,123 tons for 2009 which did not include auto bodies, train box cars, or C&DD, and included haulers from Youngstown who took a variety of residentially and commercially generated scrap metal materials to this enterprise. The reason for non-acceptance is that the District has and continues to set a high standard for recyclable weights to be accepted and recorded and felt the possibility of double-counting. It is critical that all recycling and waste reduction numbers are accurate, confirmable, and free of double-counting concerns.

Assumptions

Based on the Vindicator study detailed in Section V and the continual decline of population which correlates with a projected decline in commercial activity; the metals generated from the residential/commercial sector will decline by 1% annually from the 2009 level throughout the planning period explained in more detail in Section V. There is no cost specifically associated with this program.

Strengths/Weaknesses of the Program

The main strength of this program is that the Ordinance passed in Youngstown in 2005 provides the District with the ability to obtain accurate data from scrap metal processors on a monthly basis. All scrap metal processors must abide by the requirements listed in the Ordinance or face legal repercussions. Obtaining accurate scrap metal tonnages has

long been a challenge for the District, and since passage of the Ordinance the District has been able to forge excellent professional working relationships with all the facility operators. The Ordinance requirements also assist local law enforcement departments with stolen metal items as facility reporting requirements provide valuable information that can lead to arrests and return of the valuable metals.

The main challenge is to make sure that all facilities are abiding by the Ordinance requirements. The District staff has and will continue to visit each facility on a regular basis to make sure they are in full compliance. Facility operators work well with the District staff during visits and discuss any concerns or problems with the reporting requirement. The District will continue visitations throughout the timeline as detailed in Section V in order to make sure that accurate data is provided in a timely and complete manner.

Industrial Waste Reduction Strategies in 2009

Industrial solid waste recovered through waste reduction methods includes all solid waste produced by industry.

Industrial Recyclers/Brokers: Monthly Reports – Began in 2005

As related in the residential/commercial metals recycling section and appropriate to industrially-generated scrap metals, the Youngstown Ordinance Chapter 747 states that scrap metal processors located in the City of Youngstown shall:

- 1) Maintain a separate book open to inspection by the Youngstown Police Dept. and officials designated by the Yo. Police Dept.,
- 2) Record the name, residence, and complete description of the materials brought to the facility,
- 3) Inspect a photo ID of all customers and maintain a copy of said ID,
- 4) Complete and submit a monthly report due by the 15th of the following month to the Director of the MCSWMD,
- 5) Report must include the weights of all ferrous and non-ferrous scrap metals processed through the facility,
- 6) Include only scrap metals that were generated in Mahoning County as per the report form instructions, and
- 7) Exclude auto bodies, demolition debris, and train boxcars in their reporting of weight to the District.

The District received monthly reports from all the scrap metal processing facilities located in Youngstown during 2009: US Trading, Diver Steel City, Chuck's Westside Recycling, Metalico (formerly Youngstown Iron and Metal), and Midwest Steel. In addition, the following scrap metal processors located outside Youngstown voluntarily submitted monthly reports: Broadway and Vivo III Metal Trading. The monthly reporting form is separated by metal categories and reminds the processors that they must only include Mahoning County-generated metals and that they are not to include metals from auto bodies, train boxcars, and construction and demolition debris loads. As related previously, the District regularly communicates with each facility in order to make sure

all the weights and reported information are accurate and verifiable. Each facility must maintain a log book as detailed in the Ordinance requirements listed above, and they must maintain a copy of a photo ID of all haulers who bring scrap metals to their facility. The facilities must identify the metal as being generated from the residential/commercial sector or from manufacturing/industrial sources. A copy of the Ordinance, accompanying relevant correspondence, and one of the 2009 reports received is in Appendix N.

Responsibility

The District retains full responsibility for making sure that each of the scrap metal processors in Youngstown maintains full abidance with the Ordinance, and the staff carefully reviews the monthly reports to insure accuracy as detailed in the previous section. The District director has frequently challenged weights listed in order to be certain that all weights are generated within Mahoning County, are not generated from construction and demolition debris loads, and do not include auto bodies or train boxcars.

Service Area

The District receives weight reports from scrap metal processors located in Youngstown with two additional facilities located outside the District. Vivo III Metal Trading is located in Austintown Township which borders Youngstown, and Broadway which is located in the rural community of Smith Township. The industrial scrap metals recorded in the monthly reports were generated in Mahoning County as per the requirement in the Ordinance.

Amount and Type of Material

The following scrap metal processors provided industrially-generated weights to the District director on a monthly basis in 2009 and will continue to do so throughout the Plan timeline as long as they remain operational: U.S. Trading, 1315 Poland Ave., Youngstown, Ohio: ferrous metals, non-ferrous metals, aluminum scrap; 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.

Tons Generated in the Industrial/Manufacturing Sector:

<i>Ferrous Metals –</i>	<i>107,200</i>
<i>Non-Ferrous Metals –</i>	<i>998</i>
<i>Aluminum Scrap –</i>	<i>2,511</i>
<i>Other -</i>	<i>7</i>
<i>Total:</i>	<i>110,716 as listed in the 2009 ADR and Table V-6</i>

The largest scrap metal processors for industrially-generated scrap metal are Metalico, 100 Division St., Youngstown, and Midwest Steel, 200 Division St., Youngstown. Both massive facilities are located immediately adjacent to the V&M Star Steel facility which is conducting a \$650 million dollar expansion as this plant will make much of the steel pipe and related equipment for the Marcellus Shale gas drilling project that encompasses

Ohio, Pennsylvania, and western New York. The District's director conducted a special site visit to both facilities in July 2011 to once again review the requirements of the monthly reporting and discuss the future of both processors considering the vast growth of V&M Star Steel. The District has enjoyed an excellent professional cooperative partnership with both facilities since 2005 with the implementation of the mandatory reporting requirement and is confident the cooperation will continue throughout the timeline.

Assumptions

The District will continue to oversee abidance of the Ordinance and encourage the scrap metal processors not located within the City limits to continue to participate in the monthly reporting process. The District anticipates the residential/commercially-generated weights will decline annually during the planning period as the population in the District, especially Youngstown, will decrease thus causing less generation of metals. However, due to the massive 650-million dollar expansion of V&M Star Steel Company located in Youngstown, the industrial scrap metal weights will decline at a slower rate than had the facility and expansion not occurred. This is explained in more detail in Section V.

Strengths/Weaknesses of the Program

Obtaining accurate industrially-generated scrap metal numbers is important for both District and State officials as it provides data that correlates to the successful expansions in the manufacturing sector. Another strength is the excellent professional working relationship the District has forged with facilities such as Metalico who has offered to host appliance recycling drives in past years. Due to the requirements in the Ordinance, the District is able to obtain accurate data in order to provide State officials with a realistic summary of the unwanted manufacturing materials that are not disposed but recycled. The reports also assists District staff is evaluating production from various SIC codes, mainly primary metal manufacturing which in turn helps the District plan for future recycling needs from these manufacturers.

The only challenge is to ensure that all scrap metal processors comply with the Ordinance requirements and submit monthly reports in an accurate and complete fashion. The District staff has and will continue to monitor each facility to make sure accurate data is presented.

Commercial and Industrial Waste Reduction/Assessments Program—Expanded in 2005, Initial Endeavor in 1992.

The District designated a staff member as the Commercial/Industrial Waste Reduction Coordinator in 2005 which continued through 2009 with assistance from the administrative staff. The primary focus was to provide technical assistance through a modified version of a previous waste assessment used prior to 2005 in order for business and industry officials to realize the financial and environmental benefits of implementing waste reduction strategies. The District's initial attempt was in conjunction with Youngstown State University through the CERTT (Center for Engineering Research and

Technology Transfer) program prior to 2005; however, the companies and industries that were provided assessments rarely implemented waste reduction strategies. The CERTT focus was on training engineering students to perform extremely detailed assessments that company officials rarely comprehended. The CERTT program was terminated in 2004 due to a lack of success in demonstrating a direct correlation between the waste assessments completed and resulting recycling activity.

The focus changed in 2005 with the District assigning a staff member to contact private companies and provide a scaled-down version of the previous waste assessment that directly addressed the needs of the company so that they may commence waste reduction strategies without having to analyze an extensive list of graphs, charts, or data. Simplicity was the theme which has produced excellent results. In 2009, District staff conducted 19 waste assessments through meeting with commercial and manufacturing officials and simply discussing methods of reuse and recycling that suited their individual needs. All of the companies commenced a waste reduction program, thus a 100% success rate. An industrial waste assessment success that the District uses as an excellent example for other industries to emulate was Northern States Metals in 2009 which is located in Youngstown. They manufacture metal solar energy systems. After the assessment, the company commenced a recycling program collecting and handling all materials recovered in-house, thus no need for the District to add another company to its already extensive route. The assessment program strives to provide all the necessary technical assistance to industry officials so that they can implement a waste reduction program through working with private enterprise such as the scrap metal processors and the two MRFs. The District, especially with industrial manufacturers, seeks to motivate synergy between the generators of the industrial waste and those private enterprises that desire the materials for the purpose of reuse or recycling in order to enhance their profitability thus creating more local jobs and increasing the District's overall waste reduction rate.

Green Scene

To assist in promoting the importance of industrial waste recycling, the District will continue to place articles in the popular e-newsletter, the Green Scene. The articles will focus on various elements of successful industrial waste reduction strategies and the assistance that is available from the District, including a free waste assessment and help in educating workers about the benefits and ease of reducing waste.

Responsibility

The District retained responsibility to maintain this program throughout 2009 by providing the salary and benefits for a full-time staff person and administrative staff who worked with businesses and industries in order to provide the technical information relevant so they would commence waste reduction practices. As referenced previously in this section, in 2009, 456 businesses were participating in the business recycling program, many of whom were motivated through the efforts of being provided a waste assessment and awareness information. Industries were also provided information and as evident by the scrap metal processing facility monthly reports, scrap metals were mostly recycled and not placed in landfill facilities. The financial incentive for industries to recycle and not discard scrap metal and other valuable materials serves as the motivating

factor for their avid recycling participation. As Mahoning County and surrounding communities will witness an increase in manufacturing output through the natural gas and oil drilling projects which require the manufacturing and refining of metal pipes and associated equipment; the availability of staff to assist is essential in order to ensure that industry officials realize the importance of practicing cost-effective waste reduction strategies. Contrary to commercial and institutional entities as referenced previously, industry and manufacturers have a solid and lengthy tradition of practicing productive waste reduction as evident by the historical difference between waste amounts disposed: 2009 R/C disposal amount – 198,177 tons vs. Industrial amount – 48,817 tons, an 80 to 20 ratio.

Service Area

The District will assist any commercial or industrial business or operation located within the townships, cities, and villages; and will provide free solid waste assessments and technical assistance in order for them to commence realistic and practical solid waste reduction programs. Both the financial rewards and environmental stewardship advantages are highlighted in the information provided to the commercial enterprises and industries. Businesses and industries that commit to waste reduction officially become Green Team Business/Industry Partners, and most proudly tout their affiliation with the District as an excellent public relations tool. Industries especially want to demonstrate their “Green Initiatives” to potential clients, and recycling is an excellent method to accomplish that objective.

Amount and Type of Materials

The amount of recyclable materials generated by District-based businesses and industries is recorded through the monthly reports received by the District from scrap metal processors and weight reports from the contracted company (Cintas in 2009) that collects materials from companies as assigned by the District. To prevent double-counting, the District does not gather weights from individual companies or industries as it is evident that the materials are being transported to a MRF, buyback centers, scrap metal processors, and other recycling facilities which do report weights to the District. This prevents the possibility of double-counting. Thus, this strategy did not produce weights in 2009 nor shall throughout the planning period as any weights resulting from the success of the assessment program will be included in the entities listed above.

Assumptions

The District will continue this program throughout the planning period and will provide funding for one staff member who serves as the commercial/industrial waste reduction coordinator, who with assistance from the administrative staff will educate and assist businesses and industries in reducing their solid waste in an environmentally-sound and cost-effective manner. The District projects that the staff will meet and conduct waste assessments with at least 20 industries and businesses each year through the planning period. These companies will be either be contacted directly by District staff or prompted by fellow businesses as “word of mouth” has proven to be the most effective method of publicizing this program. Approximately half of the entities will be commercial enterprises and the other half will be industries and manufacturers; although since the

latter have been natural recyclers for decades, the District believes less industrial waste assessments will be conducted compared to commercial/institutional.

Strengths/Weaknesses of the Program

This program has many strengths including the ability of District staff to create excellent professional working relationships with manufacturers such as Northern States Metals. As noted previously, the District had disappointing results with the former CERTT program and needed a way to reach businesses and industries that would provide not just detailed assessment documents, but waste reduction participation results. Revamping and simplifying the assessment process has succeeded both in terms of creating excellent lines of communications with company officials, and in achieving the primary goal of getting companies to understand why they should implement cost-effective and environmentally-sound waste reduction programs.

The challenge is to make sure the District provides qualified and skilled staff who can work with manufacturers to assist them in understanding their waste generation concerns and methods to effectively reduce it. The District will continue to work with industrial officials in order to assist them in reducing waste that will benefit both the company and the environment. The District will seek opportunities for additional staff training such as the training the current director had received in 1998 from Youngstown State University in performing Industrial Manufacturing Assessments.

Materials Exchange Program – 2006

The Mahoning Valley Materials Exchange (M.E.) is a web-based, reuse initiative focused on manufacturing plants and their surpluses and by-products. It allows one company's trash to become another company's start-up materials. This transfer saves landfill space, disposal and supply costs. Companies can list items with re:CREATE as available or they can list items they need. re:CREATE posts these lists to an online searchable data base. When businesses see listings that interest them, they contact re:CREATE with the record ID numbers, and then re:CREATE gives them the listing's contact information. Companies are requested to report whether or not an exchange occurred and the weight of items transferred.

For-profit companies may use the M.E. as long as no financial exchange occurs for the materials. During industrial waste assessments as referenced previously, staff will inform manufacturing officials of the availability of for-profit web or non-web based exchanges; however, the M.E. serves the industrial sector without the element of profit or financial exchanges involved. Indeed the M.E. will save industries significant revenue when massive volumes of material are accepted by an organization or company which in turn lessens their solid waste handling expenses.

The M.E. has gained popularity since its inception in 2006, and in 2009, although not countable toward the District's industrial recycling tonnage, 960 tons of fly ash and grate bottom ash were recorded (Format definition of Exempt Waste includes non-toxic fly ash). The District can not accurately project tonnages that will be diverted through the

M.E. as the classifications of industrial waste are very challenging and difficult to attribute to the District's waste reduction totals. Included are 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.

Responsibility

The M.E. will be monitored by both the re:CREATE manager and District staff throughout the Plan timeline, and its host will remain Youngstown State University. The current re:CREATE manager (2011) has an M.B.A. and is very capable of providing the sufficient updates and expansions that will occur with this strategy. Industrial officials will contact the manager or the District staff regarding excess materials, and they will be instructed to access the M.E. to list the unwanted items. The same process is used for non-profits to solicit materials available. An industry-to-industry exchange may occur as long as no funds are exchanged. The sole purpose is to promote source reduction and sound reuse policy for mainly industrially-generated items.

Service Area

Being web-based, the M.E. may be utilized by industries throughout the region including districts both north and south of Mahoning County. However, only countable materials that are generated in Mahoning County will be reported on the ADR and other applicable reports. "Countable" means as per the ORC definition of "solid waste" which many of the materials do not meet the criteria thus not recordable.

Amount and Type of Materials

As reference previously, 960 tons of fly ash and grate bottom ash were reported to the District in 2009. However, they are not countable as per the definition of "solid waste". It is the intent of the District that countable materials will eventually be recorded by the program. As reported in the 2009 Annual District Report, the M.E. had 147 industrial material entries. The M.E. challenge is to appropriately quantify the materials diverted from the waste stream so they are countable. The District will continue to work with the re:CREATE manager and Ohio EPA officials on this issue so that quantifiable diversion is reported in a satisfactory manner.

Assumptions

The District will continue to fund the program with the desire that through the efforts of the re:CREATE Manager and District staff, countable as well as non-countable, industrially generated materials will be diverted from disposal in future years. The 960 tons of non-countable material referenced previously still makes the program effective as this material was diverted from the waste stream.

Strengths/Weaknesses of the Program

The strengths include the ability for companies to conveniently access the web-based Materials Exchange at no cost for using this excellent service. Having the YSU re:CREATE Manager oversee the program with assistance from District staff is a perfect fit as the program has forged excellent partnerships with such outstanding organizations as Habitat for Humanity and other reuse outlets. In addition, the YSU re:CREATE

Manager has access to an outstanding chemistry and engineering department with professors who are extremely knowledgeable about highly technical manufacturing processes and can assist with providing technical information about various materials listed on the M.E.

The main challenge is for the District and re:CREATE Manager to have a better ability to track and quantify materials that are exchanged so that appropriate waste reduction credit will be attributed to this program. The District will seek further guidance through consulting with YSU staff and faculty so that proper categorizations and characterizations are made.

F. Total Waste Generation: Historical Trends of Disposal Plus Waste Reduction

Table IV-8 lists the amounts of waste reduced and recycled, composted, land applied, incinerated, and landfilled. The table includes the total waste generation amounts for the years 2003, 2004, 2005, 2006, 2007, 2008, and the reference year 2009. The amount of solid waste generated in the residential/commercial sector and industrial sector was determined from the monthly reports submitted to the District by the three in-district landfill facilities and the 2009 Facility Data Report generated by Ohio EPA; the recycling amounts recorded through the scrap metal processing facility monthly reports; buy-back and MRF reporting; composting facility reports, and all the weights recorded in the reporting methods utilized in the District as detailed in under “E – Reference Year Waste Reduction”. In addition, the District utilized the data obtained from the industrial waste surveys and waste hauler surveys in order to reconcile the waste totals. Since this was not believed to be accurate and complete, this was a secondary reference. The 2009 Annual District Report data was utilized for confirmation of recycling and composting weights listed in Table IV-8.

The District realizes that various factors may contribute to inconsistencies in determining the total generated waste. These include: inaccurate conversion and compaction factors, illegal or open dumping, incorrect and incomplete survey data, using national average generation rates which do not apply to local circumstances, mis-characterization of waste at facilities, and the challenge of tracking waste flows including out-of-state waste.

The District’s residential/commercial recycling total steadily increased from 2003 with the addition of various waste reduction strategies as listed in the ADR and in the current Plan. These included increasing the community drop-off recycling sites from just 25 in 2003 to 43 in 2009; the implementation of numerous special recycling events for appliances, tires, and electronics; the implementation of the business recycling program in 2005 to 456 participating businesses and institutions in 2009; the vast expansion of the school fiber program since 2003; the implementation of the community leaf collection and composting program that began in 2006; and the mandatory, monthly scrap metal processing facility reporting project which finally confirmed the significant amounts of metal that were recycled and not disposed as assumed in previous plan updates since there was no mandatory reporting requirement with a law to substantiate it.

The total amount of waste generated as per Table IV-8 in 2009 was 424,808 tons.

Analysis of Table IV-8 clearly demonstrates that the methodology used by the District to produce the quantities listed is realistic and logical. The District concentrated on comparing 2003 (current plan reference year) to 2009 which shows a slight decrease in total waste generated (6,475 tons or 1.5%). This is due to the significant increase in the quantities recycled thus as the recycling increased in 2009, a proportional drop in the amount landfilled was realized with just a slight difference between the total waste generated between the two reference years. The trend for the years between 2003 and 2009 is consistent with what would be expected: as the amount recycled increased a corresponding drop in the amount landfill occurred. The District believes this analysis further demonstrates the reliability of utilizing the recycling plus disposal method to arrive as the total waste generated.

G. Reconciliation of Waste Generation

The District utilized actual recycling and composting weights as reported from a variety of sources in 2009, plus the disposal weights as reported from the landfills located in Mahoning County. The District reconciled the waste disposed in landfills or taken to transfer facilities with Ohio EPA officials and confirmed that internal data matched the Facility Data Report.

In 2009, the District's director assigned a staff member, along with assistance from the Mahoning County Board of Health, to regularly check the log books and other relevant records to make sure that haulers were correctly declaring the origin of their loads and identifying the correct category of waste when disposing at the three landfill facilities in Mahoning County. For example, if a hauler attempted to classify a load as all C&DD, the inspectors may observe as the hauler tips his load on the working face of the landfill and note that the load contained solid waste and was not just C&DD, thus preventing that material from being incorrectly characterized. This frequently occurred in past years; however, since 2006, the Director has utilized the BOH, his staff, and the Litter Law Enforcement Deputies to make sure that in-district facilities properly abide by the OAC 3745-502-03 that clearly states: 1) haulers must accurately identify the type and origin of the solid waste, 2) must classify waste on a load-by-load basis, and 3) must declare a load as all solid waste if MSW is commingled with C&DD.

The District used the actual weights as reported by the following sources in 2009 to determine the waste reduction total: the contracted company for the collection of business recyclables – Cintas; the service provider for the curbside program – Allied/Republic; the service provider for the drop-off and school fiber program – Allied/Republic; the Associated Paper Stock MRF; all buy-back facilities in Mahoning County as listed in Table III-5; the scrap metal processing facilities covered under the Yo. Ordinance; the vendors who provided service for each special recycling drive (e-drives, tire drives, appliance drives); the YSU Recycling Program monthly weight reports; the HHW event vendor; the quarterly community recycling coordinator's overflow reports; the registered

and operational composting facilities; and the communities that were required to submit leaf composting weights as per the grant's program. In addition, the Habitat for Humanity ReStore, Goodwill, Salvation Army, and associated charitable organizations reported exact weights on materials diverted from the solid waste stream, and the YSU re:CREATE program provided excellent reporting of the weight of materials diverted through the community reuse program.

The District is confident that the exact weights provided from numerous sources has led to a correct calculation of the total waste generation amount. Thus, Table IV-9 is not needed in the update. As recommended in Format 3.0, the District compared Tables IV-5 to IV-8 and found no inconsistencies. It further recommended comparison to the current plan for Table IV-8 which clearly demonstrates the total lack of accountable reporting from 1997 through 2002 as the variances are unrealistic. For example, 1997 had 807,255 tons as the total waste generated contrasted to 2003 at 431,283 tons, a 46.6% drop. The recycling amount went from 529,683 tons in 1997 to 82,465 tons in 2003, obviously demonstrating the lack of mandatory reporting in the late 90's, thus causing unrealistic and unreasonable, inflated recycling rates and illogical projections. With the mandatory reporting from numerous entities as elaborated in this update, and the extent to which the District has gone to obtain exact waste reduction and disposal weights – the District has solid confidence that the data presented is accurate.

H. Waste Composition

Residential/Commercial Waste Sector

Table IV – 10 lists the residential/commercial waste stream composition which was estimated by utilizing the national averages as presented in the United States Environmental Protection Agency's *2009 Municipal Solid Waste* guide published in December 2010 and by adding the District's recycling tonnages. The District realizes that several methodologies may be used to determine composition which include: national average studies, data from the District's affiliation in US EPA WasteWise, surveys, actual reports from facilities, and trash sorts. The District did not conduct a trash sort as past experience with this procedure in the early 1990's proved unreliable and not an accurate or realistic indicator of actual percentages. The District's total residential/commercial disposed tonnage was multiplied by the percentages of each component of the waste stream obtained from the US EPA 2009 study in order to determine the approximate tonnage of each waste stream component. The actual recycling tonnages were then added to those quantities. A sample calculation is included in Table IV-10.

Industrial Waste Sector

Table IV – 11 lists the industrial waste stream composition which was derived by adding the known and accurate waste reduction amounts to the amounts disposed as estimated by referencing data obtained from the Missouri Department of Natural Resources' 2008 Industrial Waste Composition analysis released in March 2009 and conducted by the Midwest Assistance Program, Inc.. Reliable and credible sources for industrial waste composition are limited, thus the decision to reference the Missouri DNR data was made.

This Missouri DNR study is comprehensive and the most accurate and relevant portrayal of industrial waste composition that the District could find during the research phase. The total amount of industrial solid waste disposed was accurately determined by comparing the District's internal landfill reports to the FDR which were in agreement. Since the industrial survey response rate was too low to be a reliable indicator of material percentages that were landfilled, the alternate source and methodology was utilized.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE IV-1
REFERENCE YEAR POPULATION AND RESIDENTIAL/COMMERCIAL
GENERATION (2009)**

COUNTY NAME	POPULATION	GENERATION RATE (lbs/person/day)	TOTAL DISTRICT GENERATION ¹
MAHONING	240,696	5.87	257,710

ADJUSTMENTS:

Alliance City:	-42
Columbiana City:	-636
Salem city:	-4
Washingtonville Village:	-349
Youngstown:	10

MAHONING ADJUSTED: 239,675 5.89 257,710

Notes:

2009 District population 239,675

Sample Calculation:

$$\text{Generation rate} = \frac{(257,710 * 2000)}{239,675 * 365} = 5.89 \text{ lbs/person/day}$$

Assumptions: 2009 Population interpolated between 2000 & 2010 Census data

2009 Population corrected as presented in Ohio EPA Draft comments and explained in Section IV narrative.

1) Source of Information: Waste Generation = Disposal + Recycling

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

**TABLE IV-3
INDUSTRIAL WASTE GENERATION (2009)
SURVEY RESPONDENTS Vs NON-RESPONDENTS**

SIC	SURVEY RESPONDENTS				SURVEY NON-RESPONDENTS			TOTAL WASTE GENERATED TONS	PERCENT OF TOTAL
	NO. OF INDUSTRIES	NO. OF EMPLOYEES ¹	WASTE GENERATED TONS	GENERATION RATE: TONS/PERSON ²	NO. OF INDUSTRIES	NO. OF EMPLOYEES ¹	WASTE GENERATED TONS		
20	3	220	2,309	10.50	15	321	3,369	5,678	4.14%
22	1	1	0	0.00	2	5	0	0	0.00%
23	3	21	53	2.52	9	39	98	151	0.11%
24	7	135	478	3.54	16	97	343	821	0.60%
25	5	18	84	4.67	10	159	742	826	0.60%
26	0	0	0	0.00	3	9	0	0	0.00%
27	9	54	90	1.67	55	267	445	535	0.39%
28	3	36	209	5.81	15	430	2,496	2,705	1.97%
29	1	8	0	0.00	4	32	0	0	0.00%
30	6	122	442	3.62	13	271	982	1,424	1.04%
31	1	17	94	5.53	1	1	6	100	0.07%
32	7	101	542	5.37	19	196	1,052	1,594	1.16%
33	12	833	51,503	61.83	18	904	55,893	107,396	78.38%
34	15	342	2,321	6.79	49	1,361	9,236	11,557	8.43%
35	18	170	186	1.09	84	1,041	1,139	1,325	0.97%
36	9	345	455	1.32	13	652	860	1,315	0.96%
37	3	19	73	3.84	12	75	288	361	0.26%
38	3	72	170	2.36	13	141	333	503	0.37%
39	9	60	133	2.22	46	272	603	736	0.54%
TOTAL	115	2,574	59,142	22.98	397	6,273	77,886	137,028	100.0%

Note: This method of estimating Industrial waste generation was examined but is not the selected methodology.

1. Number of employees generated from the 2009 *Harris Ohio Industrial Directory*
2. Generation rate determined by providing tons per employee from responding to non-responding industry within SIC.

Sample Calculation

SIC 20 = survey respondents:
 2,309 tons / 220 person = 10.50 tons/ person
survey non-respondents:
 10.50 tons/person * 321 person = 3,369 tons
 Total SIC 20 waste generation = 2,309 tons + 3,369 tons = 5,678 tons

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

**TABLE IV-3a
INDUSTRIAL WASTE GENERATION (2009)
SURVEY RESPONDENTS Vs NON-RESPONDENTS**

SIC	SURVEY RESPONDENTS				SURVEY NON-RESPONDENTS			TOTAL WASTE GENERATED TONS	PERCENT OF TOTAL
	NO. OF INDUSTRIES	NO. OF EMPLOYEES ¹	WASTE GENERATED TONS	GENERATION RATE: TONS/PERSON	NO. OF INDUSTRIES	NO. OF EMPLOYEES ¹	WASTE GENERATED TONS		
20	3	220	3,062	13.92	15	321	4,468	7,531	5.01%
22	1	1	10	9.99	2	5	50	60	0.04%
23	3	21	53	2.52	9	39	98	151	0.10%
24	7	135	478	3.54	16	97	343	821	0.55%
25	5	18	84	4.67	10	159	742	826	0.55%
26	0	0	0	17.50	3	9	158	158	0.10%
27	9	54	362	6.70	55	267	1,789	2,151	1.43%
28	3	36	447	12.43	15	430	5,345	5,792	3.85%
29	1	8	59	7.33	4	32	235	293	0.19%
30	6	122	442	3.62	13	271	982	1,424	0.95%
31	1	17	94	5.53	1	1	6	100	0.07%
32	7	101	542	5.37	19	196	1,052	1,594	1.06%
33	12	833	51,503	61.83	18	904	55,893	107,396	71.43%
34	15	342	2,321	6.79	49	1,361	9,236	11,557	7.69%
35	18	170	972	5.72	84	1,041	5,955	6,927	4.61%
36	9	345	455	1.32	13	652	860	1,315	0.87%
37	3	19	73	3.84	12	75	288	361	0.24%
38	3	72	125	1.74	13	141	245	371	0.25%
39	9	60	277	4.62	46	272	1,257	1,534	1.02%
TOTAL	115	2,574	61,360	23.84	397	6,273	89,001	150,361	100.0%

Note: This method of estimating Industrial waste generation was examined but is not the selected methodology.

1. Number of employees generated from the 2009 *Harris Ohio Industrial Directory*

Generation rates were taken from Table JJ-2 of the plan format for SIC categories with less than 20% response rate.

Direct survey's were used on SIC categories with at least 20% response to determine average generation per person.

Sample Calculation

SIC 20 = survey respondents:

3 responding industries and approximately 16.7% response rate (defer to OEPA JJ2)

survey non-respondents:

13.92 tons per person * 220 person = 3,062 tons

Total SIC 20 waste generation = 3,062 tons + 4,468 tons = 7,531 tons

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
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**TABLE IV-3b
INDUSTRIAL WASTE GENERATION (2009)
SURVEY RESPONDENTS Vs NON-RESPONDENTS**

SIC	TABLE JJ2			
	NO. OF INDUSTRIES	NO. OF EMPLOYEES ¹	WASTE GENERATED TONS	GENERATION RATE: TONS/PERSON ²
20	18	541	7,531	13.92
22	3	6	60	9.99
23	12	60	168	2.80
24	23	232	11,976	51.62
25	15	177	317	1.79
26	3	9	158	17.50
27	64	321	2,151	6.70
28	18	466	5,792	12.43
29	5	40	293	7.33
30	19	393	2,865	7.29
31	2	18	61	3.41
32	26	297	3,133	10.55
33	30	1,737	64,147	36.93
34	64	1,703	19,005	11.16
35	102	1,211	6,927	5.72
36	22	997	2,971	2.98
37	15	94	302	3.21
38	16	213	371	1.74
39	55	332	1,534	4.62
TOTAL	512	8,847	129,762	14.67

Note: This method of estimating Industrial waste generation was examined but is not the selected methodology.

1. Number of employees generated from the 2009 Harris Ohio Industrial Directory
2. Table JJ-2 Ohio Industrial Waste Generation by Standard Industrial Category

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE IV-3c
INDUSTRIAL WASTE GENERATION (2009)
SURVEY RESPONDENTS Vs NON-RESPONDENTS**

SIC	DISPOSAL + RECYCLING + REDUCTION			
	NO. OF INDUSTRIES	NO. OF EMPLOYEES ¹	WASTE GENERATED TONS	PERCENT OF TOTAL
20	18	541	8,026	5.01%
22	3	6	64	0.04%
23	12	60	161	0.10%
24	23	232	875	0.55%
25	15	177	880	0.55%
26	3	9	168	0.10%
27	64	321	2,292	1.43%
28	18	466	6,173	3.85%
29	5	40	312	0.19%
30	19	393	1,517	0.95%
31	2	18	106	0.07%
32	26	297	1,699	1.06%
33	30	1,737	114,453	71.43%
34	64	1,703	12,317	7.69%
35	102	1,211	7,382	4.61%
36	22	997	1,401	0.87%
15	15	94	385	0.24%
38	16	213	536	0.25%
39	55	332	784	1.02%
TOTAL	512	8,847	159,533	100%

1. Number of employees generated from the 2009 Harris Ohio Industrial Directory
 2. Percentages of total waste generated based on Table IV-3a methodology which utilized a combination of JJ-2 (less than 20% SIC respondent rate) and surveys (more than 20% SIC respondent)
 3. Total "Waste Generated in Tons" is a combination actual disposal + recycling for 2009
- Please note, calculations rounded to whole tons thus 2-ton discrepancy between actual tons (159,533) vs. total of WASTE GENERATED TONS column.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

TABLE IV-4

2009 EXEMPT WASTE GENERATED IN THE DISTRICT AND DISPOSED IN PUBLICLY-AVAILABLE LANDFILLS

TYPE OF WASTE STREAM	GENERATION RATE (lbs/person/day)	TOTAL EXEMPT WASTE GENERATION (TPY) 2003
Exempt	0.04	1,767
CD/D	0.13	5,798
Totals	0.17	7,565

Notes:

2009 District population 240,696

Sample Calculation:

$$\text{Generation rate} = \frac{(1,767 * 2000)}{239,675 * 365} = .04 \text{ lbs/person/day}$$

Assumptions: Total Exempt
Waste Generation (TPY) values
were obtained from the 2009
Facility Data Reports.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE IV-5
REFERENCE YEAR TOTAL WASTE GENERATION
FOR THE DISTRICT (2009)**

TYPE OF WASTE	GENERATION RATE (lbs/person/day)	TONS/YEAR
Residential/Commercial	5.89	257,710
Industrial	3.65	159,533
Exempt	0.04	1,767
CD/D	0.13	5,798
Total Waste Generation	9.71	424,808

Notes:

2009 District population 240,696

Sample Calculation:

$$\text{Generation rate} = \frac{257,710 * 2,000}{239,675 * 365} = 5.89 \text{ lbs/person/day}$$

Source of Information: Waste Generation = Disposal + Recycling

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
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**TABLE IV-6
REFERENCE YEAR RESIDENTIAL/COMMERCIAL
WASTE REDUCTION IN THE DISTRICT (2009)**

TYPE OF WASTE SOURCE REDUCED	TPY	TYPE OF WASTE RECYCLED	TPY	INCINERATION, COMPOSTING, RESOURCE RECOVERY		
				TOTAL WASTE RECEIVED	RESIDUAL LANDFILLED	NEW WASTE PROCESSED
		1. Appliances / "White Goods"	47	Incineration	Ash	
		2. Lead-Acid Batteries ¹	58			
		3. Dry Cell Batteries	11			
		4. Food	2,469			
		5. Glass	2,101			
		6. Household Hazardous Waste	10			
		7. Ferrous Metals	21,753			
		8. Non-Ferrous Metals	851			
		9. Corrugated Cardboard	12,884			
		10. All Other Paper	7,995			
		11. Plastics	1,081	Composting		
		13. Textiles	2,089			
		14. Used Motor Oil	9			
		15. Wood	527			
		18. Electronics	163			
		21. Misc1	289			
		22. Styrofoam	1			
		25. Front-End Scrap	532	4,382	0	4,382
				Resource Recovery (tires)		
SUBTOTAL	0		52,870			6,663
GRAND TOTAL						59,533

Notes:

- 1) Misc comprised of reused tiles, baseball equipment, carpet underlayment, household items, printer cartridges and dump & run move-out items.
- 2) Adjustment made from original Draft for composting (-78 tons for backyard composting, + 42 tons gained from Struthers Composting site)
4,418 - 78 = 4,340 + 42 = 4,382.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE IV-7
REFERENCE YEAR INDUSTRIAL
WASTE REDUCTION IN THE DISTRICT (2009)**

TYPE OF WASTE SOURCE REDUCED	TPY	TYPE OF WASTE RECYCLED	TPY	INCINERATION, COMPOSTING, RESOURCE RECOVERY		
				TOTAL WASTE RECEIVED	RESIDUAL LANDFILLED	NEW WASTE PROCESSED
Industrial Source Reduction		1. Ferrous Metals	107,200	Incineration 0	Ash 0	
		2. Non-Ferrous Metals	998			
		3. Aluminum Scrap	2,511			
		4. Other	7			
		Industries		Composting		
				Resource Recovery		
SUBTOTAL	0		110,716			0
GRAND TOTAL						110,716

Notes:

Recyclers/Brokers recycling has been adjusted to ensure exclusion of auto bodies and demolition activities.

Metal recycling tonnage data obtained from mandatory monthly scrap metal reports as per City of Yo. Ordinance.

Total waste reduction (Res/Com, & Ind): 170,249

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE IV-8
TOTAL WASTE GENERATION BASED UPON
DISPOSAL PLUS WASTE REDUCTION**

YEAR	MANAGEMENT METHOD USED IN TPY						TOTAL WASTE GENERATED
	SOURCE REDUCTION & RECYCLING ³	YARD WASTE COMPOSTING	YARD WASTE LAND APPLICATION	INCINERATION	MSW COMPOSTING	LANDFILL DISPOSAL ⁺	
2003	82,465 ¹	5,980 ¹	0	0 ¹	0	342,838 ²	431,283
2004	75,033 ¹	5,076 ¹	0	0 ¹	0	364,605 ²	444,714
2005	76,894 ¹	7,789 ¹	0	0 ¹	0	345,841 ²	430,524
2006	183,439 ¹	9,881 ¹	0	0 ¹	0	342,583 ²	535,903
2007	185,412 ¹	9,713 ¹	0	0 ¹	0	312,332 ²	507,457
2008	226,708 ¹	2,915 ¹	0	0 ¹	0	298,205 ²	527,828
2009	165,867 ¹	4,382 ¹	0	0 ¹	0	254,559 ²	424,808

Note:

- 1 From Annual District Reports, 2003-2009
- 2 From Ohio Facility Data Reports
- 3 General & Industrial Tons
- 4 Includes exempt wastes.

**MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT
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**TABLE IV-10
ESTIMATED RESIDENTIAL/COMMERCIAL WASTE STREAM
COMPOSITION FOR THE REFERENCE YEAR (2009)**

Waste Stream Type	Percentage of Weight Generated	Tons of Res/Com Waste
Paper & Paperboard	29.8%	76,798
Glass	4.5%	11,597
Metals	10.8%	27,833
Plastics	12.2%	31,441
Rubber, Leather & Textiles	8.1%	20,875
Wood	5.2%	13,409
Yard Trimmings	12.1%	31,173
Food Scraps	14.3%	36,853
Other	3.0%	7,731
Total	100%	257,710

Estimates based on US EPA 2009 Municipal Solid Waste in The United States published Dec. 2010 and integrated with actual recycling tonnages.

Example: calculation for Wood - source states 6.5% *
198,177 tons disposed = 12,882 plus 2009 ADR weight
for wood, 527 tons for total of 13,409 tons, 5.2% of total.

MAHONING COUNTY SOLID WASTE MANAGEMENT DISTRICT SOLID WASTE MANAGEMENT PLAN

**TABLE IV-11
ESTIMATED INDUSTRIAL WASTE COMPOSITION
FOR THE REFERENCE YEAR (2009)**

Waste Stream Type	Percentage of Weight Generated	Tons of Ind. Waste
Cardboard	5.90%	9,412
Paper/Publication	0.67%	1,069
Food	3.60%	5,743
Metals Non-Ferrous	2.50%	3,988
Metals Ferrous	67.20%	107,226
Wood	4.30%	6,860
Plastics	2.40%	3,829
Textiles	0.31%	495
Rubber	0.94%	1,500
Other	7.82%	12,455
Ash	0.03%	48
Concrete	0.26%	415
Glass	0.07%	112
Non-Hazardous Chemicals	0.52%	830
Sludge	0.88%	1,404
Stone/Clay/Sand	2.60%	4,147
Bark	0.00%	-
Batteries	0.00%	-
Drums	0.00%	-
Dust Collector Fines	0.00%	-
Ink	0.00%	-
Litho Photo Film	0.00%	-
Lubricants	0.00%	-
Metal Dust	0.00%	-
Mixed Waste	0.00%	-
SUBTOTAL	100.00%	159,533

Estimates based on referencing the 2008 Missouri Dept. of Natural Resources Industrial Waste Composition Study for disposal values, added to the accurate and known recycled amounts obtained through the monthly scrap metal processors' reporting requirement.