

# WILLIAMSON COUNTY NEEDS ASSESSMENT

FY 2010



Prepared by:

Phil Armor, Deputy Executive Director/Director of Regional Planning  
Tim Roach, Director of Research

Greater Nashville Regional Council  
501 Union Street, Floor 6  
Nashville, Tennessee 37219-1705

## SECTION 1

### Demographic Information and Projections

Provide a table and chart showing the region's population for the last ten (10) years with a projection for the next five (5) years. Provide a breakdown by sub-table and sub-chart, or some similar method to detail all county and municipality populations. Discuss projected trends and how it will affect solid waste infrastructure needs over the next (5) years.

*Historic Population* - Williamson County has experienced tremendous population growth in the past decade, with more growth expected in the next five years. Between 2008 and 2009, Williamson County's total population, including all municipalities, has grown at an average 3.65%, reaching 176,838 in July, 2009. Williamson County was Tennessee's sixth most populous county in 2009 (see Table 1).

Table 1: TENNESSEE COUNTY POPULATION ESTIMATES, 2009		
Rank	County	Population
1	Shelby	920,232
2	Davidson	635,710
3	Knox	435,725
4	Hamilton	337,175
5	Rutherford	257,048
<b>6</b>	<b>Williamson</b>	<b>176,838</b>

Source: U.S. Census Bureau, Population Estimates Program

Each of Williamson County's municipalities have contributed to positive growth, and according to figures issued in June, 2010 by the U.S. Census Bureau, the 6 municipalities in Williamson County are in the top 25 of all Tennessee cities in terms of growth rates from 2000 to 2009. Four of the municipalities placed in the top two dozen rates of increase from 2000 to 2009, including Spring Hill, with a 2000 – 2009 growth rate of 255%. See Table 2 and Chart 1 below for depictions of historic population growth in Williamson County and its municipalities.

Table 2: WILLIAMSON COUNTY HISTORIC POPULATION 2000-2010										
	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Brentwood	37,159	36,304	35,145	33,498	32,105	30,362	28,774	27,592	26,898	26,340
Fairview	8,112	7,935	7,743	7,499	7,195	6,935	6,708	6,555	6,320	5800
Franklin	60,629	59,234	58,005	56,055	53,795	51,929	50,479	49,110	47,798	46,376
Nolensville	3,148	3,079	3,024	2,970	2,825	2,802	2,890	2,877	2,849	3099
Spring Hill	27,369	26,162	23,793	20,599	17,036	14,470	12,325	10,489	9,174	8,251
Thompsons Station	2,269	2,202	1,876	1,754	1,664	1,639	1,622	1,602	1,572	1283
Unincorporated	38,152	37,398	37,146	37,165	37,588	37,877	38,028	38,110	37,623	36,948
<b>WILLIAMSON COUNTY TOTAL</b>	<b>176,838</b>	<b>172,314</b>	<b>166,732</b>	<b>159,540</b>	<b>152,208</b>	<b>146,014</b>	<b>140,826</b>	<b>136,335</b>	<b>132,234</b>	<b>128,097</b>

Source: Population Division, U.S. Census Bureau, June 22, 2010

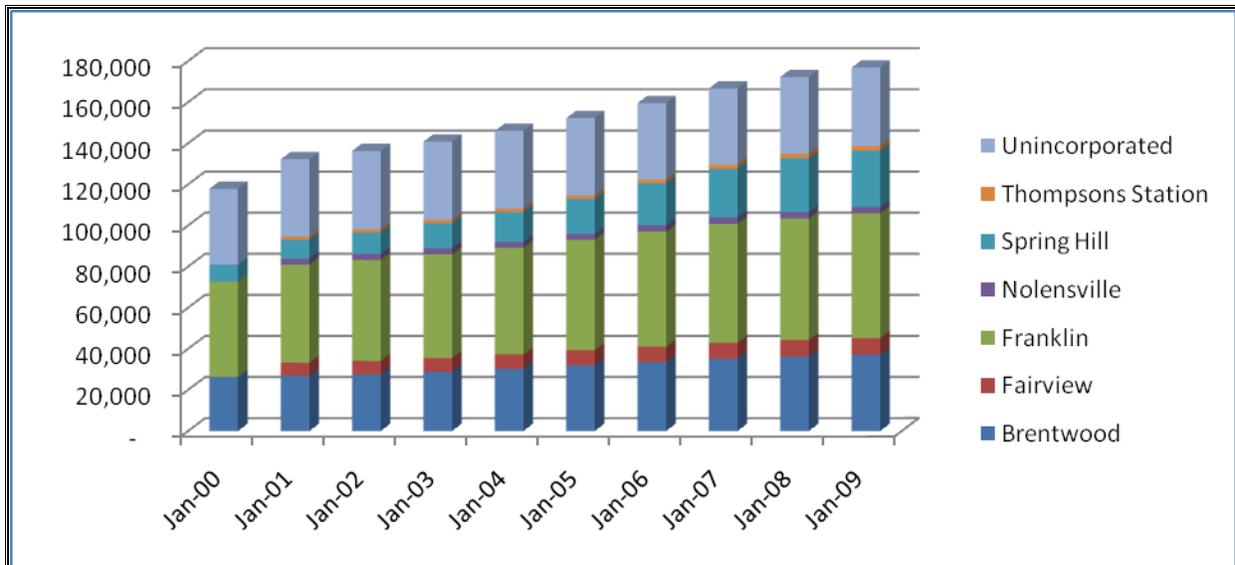


Chart 1-Williamson County Historic Population, 2000-2010

*Population Projections* - Population projections are estimates based on past trends, and do not always capture short-term influences on growth, such as the recent national economic downturn. Still, projections demonstrate trends, and the trend in Williamson County is for continued growth. To gain a sense of the range of that growth, the *Williamson County, Tennessee Comprehensive Land Use Plan (2007)* population projections can be compared with projections from the University of Tennessee’s Center for Business and Economic Research (CBER).

In its Land Use Plan, Williamson County prepared High-End population projections (county and all municipalities, based on 2005 Woods and Pool data), that projected a population of 206,881 persons in 2015. The University of Tennessee projections track slightly ahead of the locally-produced numbers for projected growth in 2015. For purposes of this report, the population projections from the **University of Tennessee** will be used. (see Table 3 and Chart 2 below).

Table 3: WILLIAMSON COUNTY POPULATION PROJECTIONS						
	2010	2011	2012	2013	2014	2015
Brentwood	35,569	36,767	37,965	39,163	40,361	41,558
Fairview	8,399	8,831	9,263	9,695	10,127	10,559
Franklin	62,742	65,999	69,256	72,513	75,770	79,028
Nolensville	2,927	3,052	3,177	3,302	3,427	3,554
Spring Hill	12,708	13,425	14,142	14,859	15,576	16,295
Thompsons Station	1,608	1,673	1,738	1,803	1,868	1,934
Unincorporated	50,532	52,486	54,441	56,396	58,351	60,306
<b>WILLIAMSON COUNTY TOTAL</b>	<b>174,485</b>	<b>184,864</b>	<b>190,368</b>	<b>195,872</b>	<b>201,376</b>	<b>213,234</b>

Source: UT, CBER, 2010.

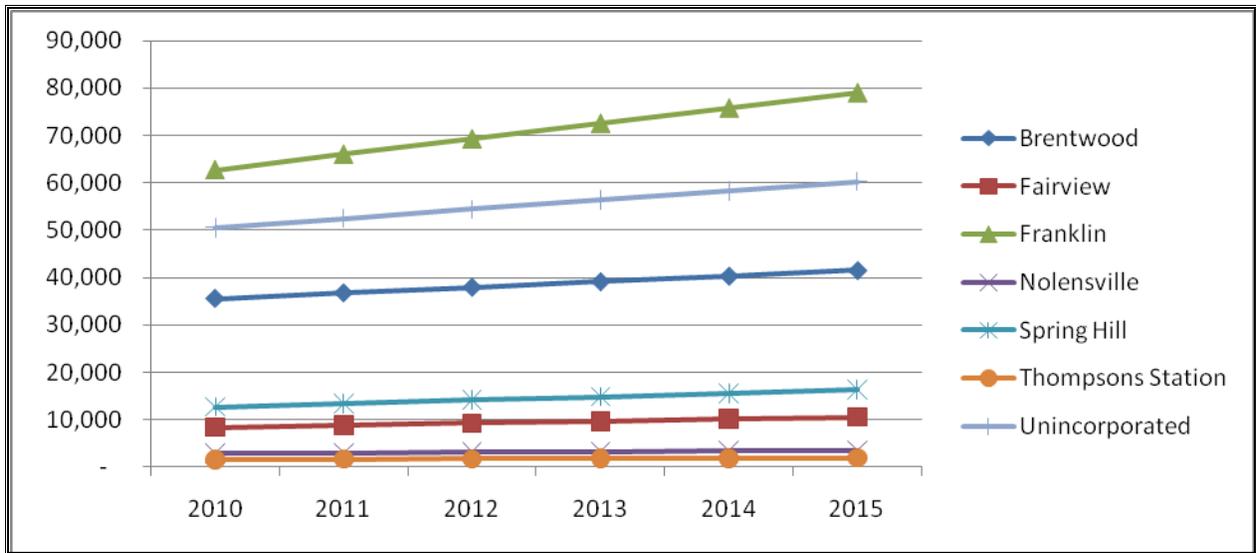


Chart 2-Williamson County Population Projections, 2010-2015, UT CBER

The best use of these numbers for solid waste planning may be in their ability to project the number of **households** in future years. By dividing the projected population by the average household size (2.66, as determined by Woods and Pool), we can project the number of new households that could be added and will contribute to the waste stream. The number of potential new households in Williamson County is shown below in Table 4, using the University of Tennessee population projections to examine the most aggressive projections of new residential solid-waste generators.

Table 4

2009 Estimated Williamson County Population (U.S. Census)	2015 Projected Population	Population Increase 2010-2015	Average Household Size	Potential New Williamson County Households, 2015
176,838	213,234	36,396	2.66	13,683

However, the recent economic downturn has affected Williamson County, as it has most areas of the County. Recent residential building permit records show that while making long-term projections would be difficult, the short-term effects of the economic recession has dramatically slowed the pace of new residential construction. The number of new residential building permits in all of Williamson County decreased from 2007 to 2009, from **1,083** in 2007, to **892** in 2008, then **457** in 2009. The slowing pace of building permit applications seems to indicate that the population projections may not materialize at the pace predicted. Even when the economy rebounds, as many believe it will, the resulting credit policies may well impact the rate of new home construction, and could lead to a less-mobile population, thus flattening the population growth trends.

The implications for solid waste planning are to the potential waste stream volume, convenience center numbers and locations, and transportation costs. While Williamson County will no doubt continue to grow, and most likely at a pace outstripping other Tennessee counties, the rate of growth appears to have slowed.

## SECTION 2

### Economic Profile

Provide a table and chart showing the region's economic profile for all county and municipalities for the last ten (10) years with a projection for the next five (5) years. This can be accomplished by using the following economic indicators:

- Taxable sales, property tax generation, and per capita income
- Evaluation by breakdown of each economic sector
- County or municipal budgeting information
- Other commonly accepted economic indicators

**Table 5: WILLIAMSON COUNTY SELECTED ECONOMIC DATA, HISTORIC AND PROJECTED 2000 - 2015**

YEAR	LABOR FORCE	UNEMPLOYMENT	UNEMPLOYMENT RATE	PER CAPITA INCOME	PROPERTY TAX	RETAIL SALES
2000	70,440	1800	2.5	41,623	<i>Not available</i>	1,970,894,738
2001	71,570	2060	2.9	41,714	92,054,541	2,117,498,850
2002	72,700	2550	3.5	41,732	105,600,191	2,260,167,126
2003	74,890	2740	3.7	42,900	110,271,378	2,559,046,901
2004	77,700	2860	3.7	46,176	123,727,639	2,934,172,174
2005	82,100	3140	3.8	49,163	132,179,097	3,214,899,134
2006	86,500	3040	3.5	53,111	140,666,255	3,652,805,586
2007	86,970	3340	3.8	55,199	151,330,755	3,731,867,021
2008	88,900	4160	4.7	55,717	171,607,239	3,603,828,168
2009	87,750	6710	7.6	40,933	176,542,564	3,104,439,927
2010	92,875	5374	6.0	53,252	186,694,735	3,965,852,443
<b>2011</b>	95,224	5762	6.3	54,421	197,278,578	4,156,923,440
<b>2012</b>	97,574	6150	6.7	55,589	207,862,422	4,347,994,436
<b>2013</b>	99,923	6538	7.0	56,757	218,446,265	4,539,065,432
<b>2014</b>	102,273	6926	7.4	57,925	229,030,109	4,730,136,429
<b>2015</b>	104,623	7314	7.8	59,094	239,613,952	4,921,207,425

*Sources: TN Dept of Labor & Workforce Dev, Div Emp Sec, R&S; TN Dept of Revenue; Williamson County Trustee; TACIR; Williamson County Economic Development; GNRC Linear Trend Projections*

Williamson County has a historically strong labor market, with per capita income that ranks high within Tennessee and nationally. Property tax collections have remained strong throughout the economic downturn, and retail sales, which generate sales taxes, have also remained strong, despite a small decrease in 2008/2009.

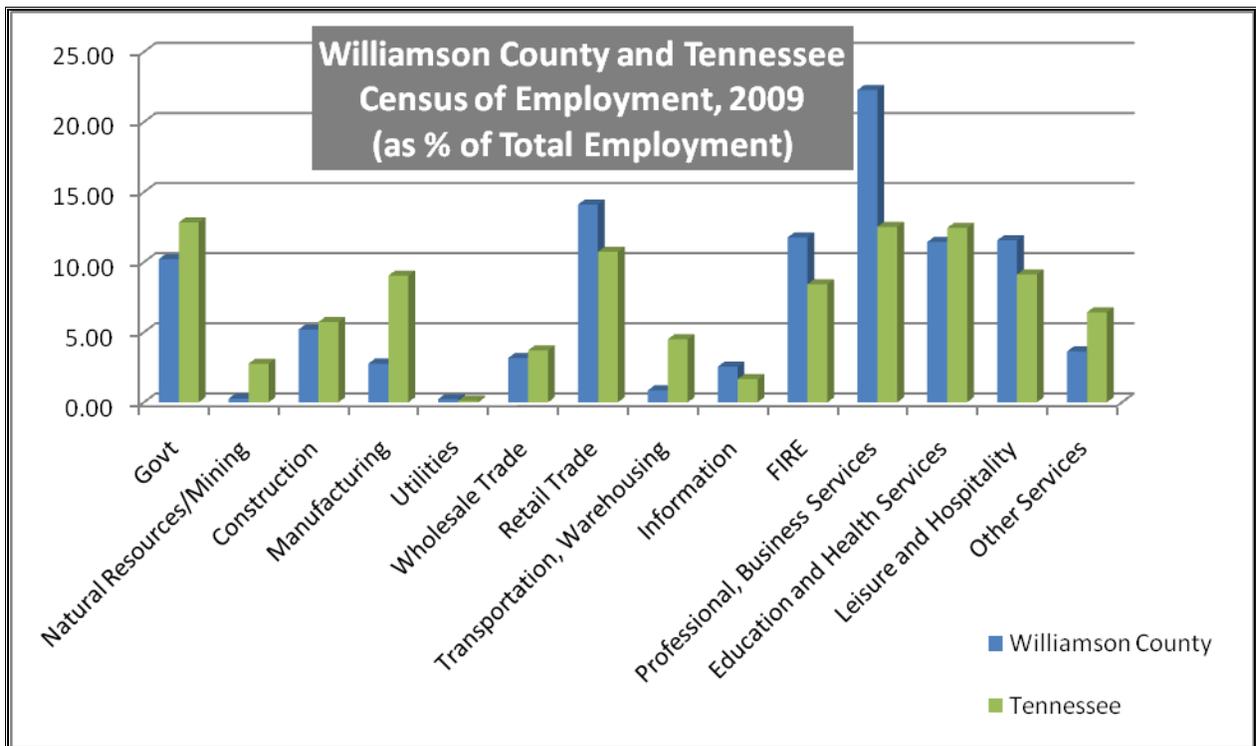


Chart 3 - Census of Employment 2009

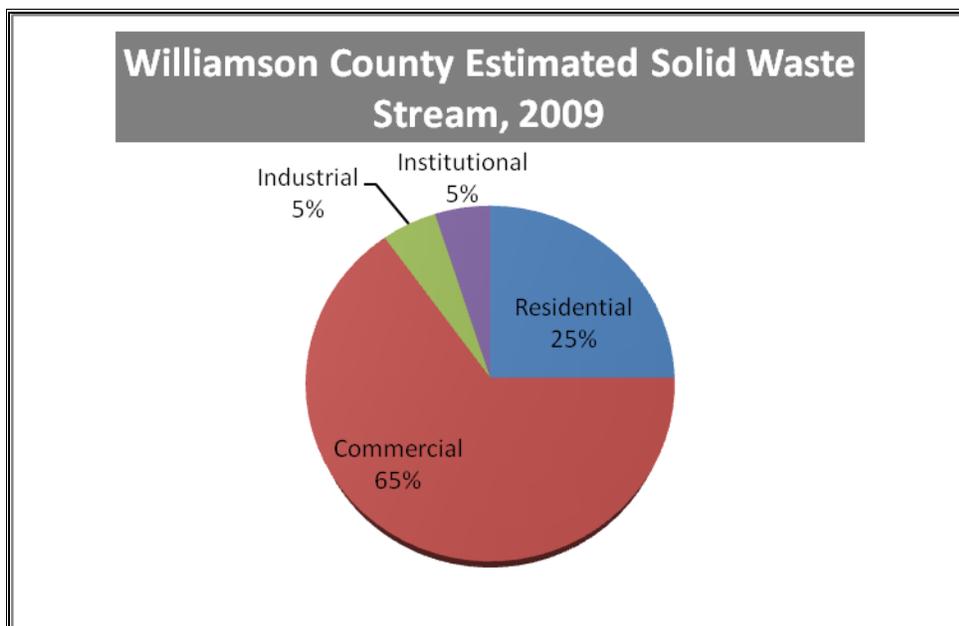
Source: Woods & Poole, 2011 TN State Profile

Williamson County’s sector employment does not follow State of Tennessee trends, as shown above from the *Woods & Poole, 2011 TN State Profile*. Williamson County far surpasses the State averages for employment in Professional and Business Services categories, and is more dependent on Retail Trade than the State as a whole. Williamson’s attractiveness as a residential growth area is reflected in the higher-than-average Construction employment. Williamson County employs fewer people in the Wholesale Trade, Transportation and Warehousing, and significantly, the Manufacturing Sector. The State of Tennessee Department of Labor and Workforce Development includes Williamson County in its Labor and Workforce Investment Area (LWIA) #8 (which also includes Cheatham, Dickson, Houston, Humphreys, Montgomery, Robertson, Stewart, and Sumner Counties), and in its *Job Forecast News, Hot Jobs to 2016* Report, predicts that the High-Growth industries for this LWIA will be **Professional, Scientific, and Technical Services; Administrative and Support Services; Ambulatory Health Care Services; Food Services and Drinking Places; and Educational Services.**

## SECTION 3

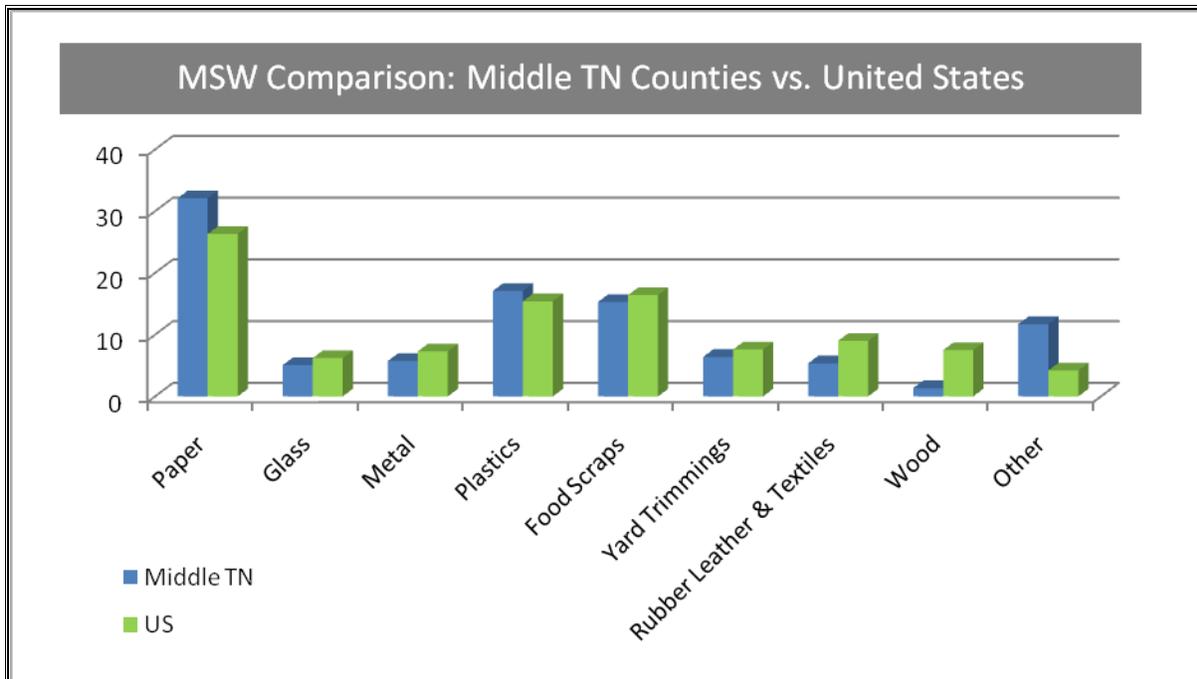
### Solid Waste Stream

*Elaborate on the entire region's solid waste stream. Compare today's waste stream with anticipated waste stream over the next five (5) years. How will the total waste stream be handled in the next five (5) years? Include in this discussion how problem wastes like waste tires, used oil, latex paint, electronics and other problem wastes are currently handled and are projected to be handled in the next five (5) years. What other waste types generated in this region require special attention? Discuss disposal options and management of these waste streams as well as how these waste streams will be handled in the future. Include in this discussion how commercial or industrial wastes are managed. Also provide an analysis noting source and amounts of any wastes entering or leaving out of the region.*



Williamson County's waste stream is primarily commercial waste (65%), and to a lesser degree, residential waste (25%). Industrial and institutional together comprise 10% of the total waste stream. The large commercial employment base in the County is reflected in the waste stream numbers, and given the projections for increased employment in the County combined with a slowing of residential construction, the waste stream breakdown will likely stay tilted toward non-residential waste.

The composition of the waste stream specific to Williamson County has not been measured, however, a report prepared in 2008 by Tennessee State University for the TN Department of Environment and Conservation conducted a municipal solid waste characterization study of waste being handled at two facilities in Tennessee: Cedar Ridge Landfill in Lewisburg (Marshall County), and Bi-County Landfill in Montgomery County. Samples were taken and weighed, and results categorized. The report, **2008 Tennessee Waste Characterization Study**, noted that the 2 Middle Tennessee landfills surveyed had statistically significant differences in waste stream composition than the United States at large. As shown below, the 2 studied landfills had larger percentages of paper and plastics, but smaller percentages of food scraps, rubber, leather, textiles, and wood. All county waste streams will vary dependant on the mix of residential and commercial contributors, as well as the level of recycling efforts, however, the results of the TDEC/TSU study can be points of comparison for future measurement specific to Williamson County.



Williamson County successfully handles problem wastes, such as auto fluids, oil, batteries, tires, and electronics through its recycling program. Paint is collected, allowed to dry, and disposed of in a Class I landfill. The success of the local recycling program is reflected in the increased amounts of waste diverted from the waste stream from 2008 to 2009 (9366 tons in 2008, 11693 tons in 2009) not including almost 32,000 tons of yard waste used as mulch in 2009.

To reduce the amount of commercial and industrial waste being delivered to the waste stream, and to help reduce the amount of paper going to the landfill, Williamson County has several projects beginning in 2010:

- Williamson County - Industrial/Commercial Waste Reduction Pilot Program. In calendar year 2010 the region plans to expand this program to begin accepting all plastics except Styrofoam
- Williamson County - Office Paper Recycling Program. In 2010 the region plans to continue the expansion of this program.
- City of Franklin/Williamson County BOPAE Program. For the last quarter of 2009 the City of Franklin and Williamson County through interlocal agreement began the operation of two year round batteries, oil, paint anti-freeze and electronics, and cell phone drop off collection sites. The collected material is then managed appropriately either by recycling or disposal.

No significant changes are expected in the way Williamson County handles its waste stream in the next five years.

## SECTION 4

### Waste Collection System

*Describe in detail the waste collection system of the region and every county and municipality. Provide a narrative of the life cycle of solid waste from the moment it becomes waste (loses value) until it ceases to be a waste by becoming a useful product, residual landfill material, or an emission to air or water. Label all major steps in this cycle noting all locations where wastes are collected, stored, or processed along with the name of operators and transporters for these sites.*

There are five incorporated cities in Williamson County: Brentwood, Fairview, Franklin, Nolensville and Thompson Station. Of those, only Franklin provides any municipal waste services. Franklin operates its own fleet of collection trucks that take the waste material to the city-owned transfer station then the waste is transported to the Middlepoint Landfill in Rutherford County. In the other four cities, residents either contract directly with a number of private haulers or use near-by County Convenience Centers.

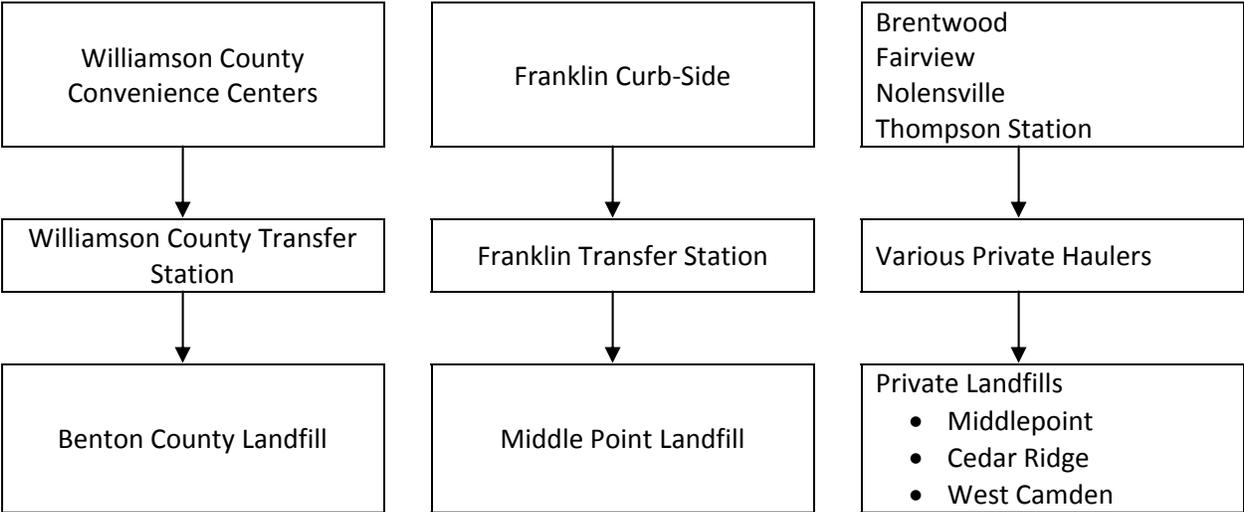
The County operates ten convenience centers with each serving as a recycling center that accepts metals, paper, glass, plastic, and auto fluid. The County collects waste tires and electronics at the County Solid Waste Facility. The County also partners with the City of Franklin to collect batteries, oil, paint, auto fluid and electronics (BOPAE) at the Franklin Solid Waste Facility. The City of Franklin started a curb-side recycling program in June 2010 using the Blue Bag system. Recyclables are placed in Blue Bags by residents and placed at the curb where city trucks pick up the bags and take them to the MRF for sorting, baling and sale to various private recycling companies.

The waste collected in the County Convenience Centers is picked up and transported by County trucks to the County Transfer Station where it is combined into large loads and transported to West Camden Landfill for final disposal. White goods are sold to B. Miller Recycling in Franklin. Several private haulers also contract directly with county residents to collect and transport the waste to a number of landfills in the area.

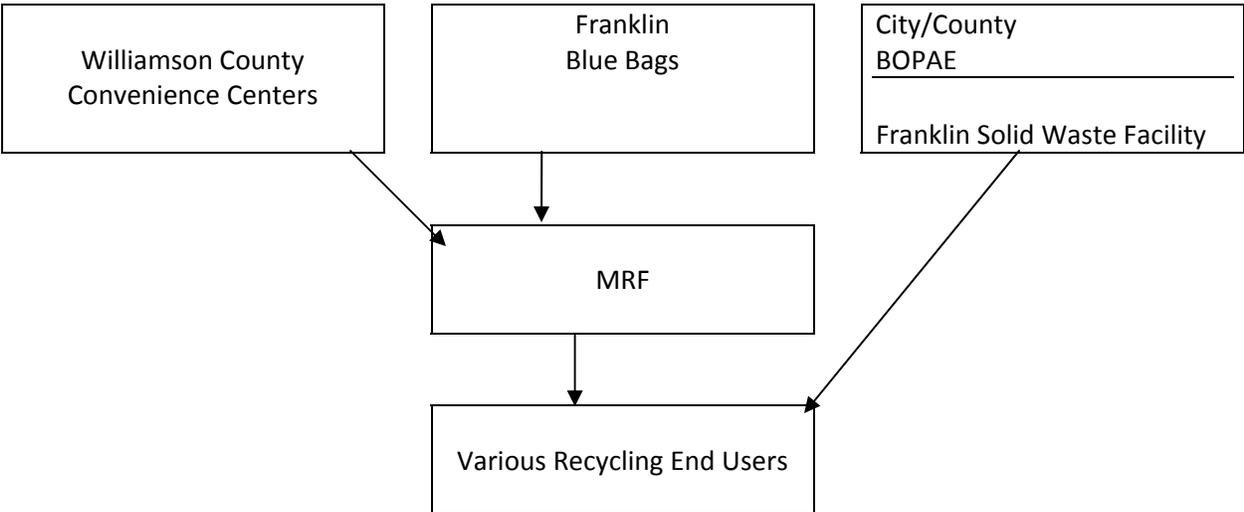
Jurisdiction	Type	Percent Publically Operated	Percent Publically Contracted	Percent Private Contracted
County	Convenience Centers	100%		
Brentwood	Curb side			100%
Fairview	Curb side			100%
Franklin	Curb side	100%		
Nolensville	Curb side			100%
Thompson Station	Curb side			100%

Source: Individual Cities, County APR

CLASS I WASTE



RECYCLABLES



## SECTION 5

### Waste Reduction

*The Solid Waste Management Act of 1991 states that all regions must reduce the amount of waste going into Class I landfills by 25%. Amendments to the Act allow for consideration of economic growth, and a “qualitative” method in which the reduction rate is compared on a yearly basis with the amount of Class I disposal. Provide a table showing reduction rate by each goal calculation methodology. Discuss how the region made the goal by each methodology or why they did not. If the Region did not meet the 25% waste reduction goal, what steps or infrastructure improvements should be taken to attain the goal and to sustain this goal into the future.*

Table 5.1: Waste Reduction Plan

#### Base Year Method

	1995	2009	% Change
Waste Disposed	78,577 tons	266,772 tons	239%
Population	102,061	176,835	73%
Tons/Capita	.77	1.5	+94%

#### Real Time Method

Year	Waste Disposed	Waste Diverted	Total Waste	Per Cent Diverted
2005	245,258	132,289	377,547	35.0%
2006	282,859	157,528	440,387	35.8%
2007	331,376	224,038	555,414	40.3%
2008	344,872	189,046	533,318	35.4%
2009	266,772	118,083	384,855	30.7%

As shown in the table above, the County has not reached the 25% reduction rate using the 1995 figures as the base year. However, in 1995 the volume of waste disposed was inaccurate due to incomplete and poor record keeping by all parties concerned. The 1995 figure was extremely underestimated. Better record keeping has resulted in very accurate numbers that show that the County has maintained a diversion rate over the last five years that exceeds the 25% reduction goal. The County will continue to implement an aggressive education program and work with other cities to establish additional recycling programs.

## SECTION 6

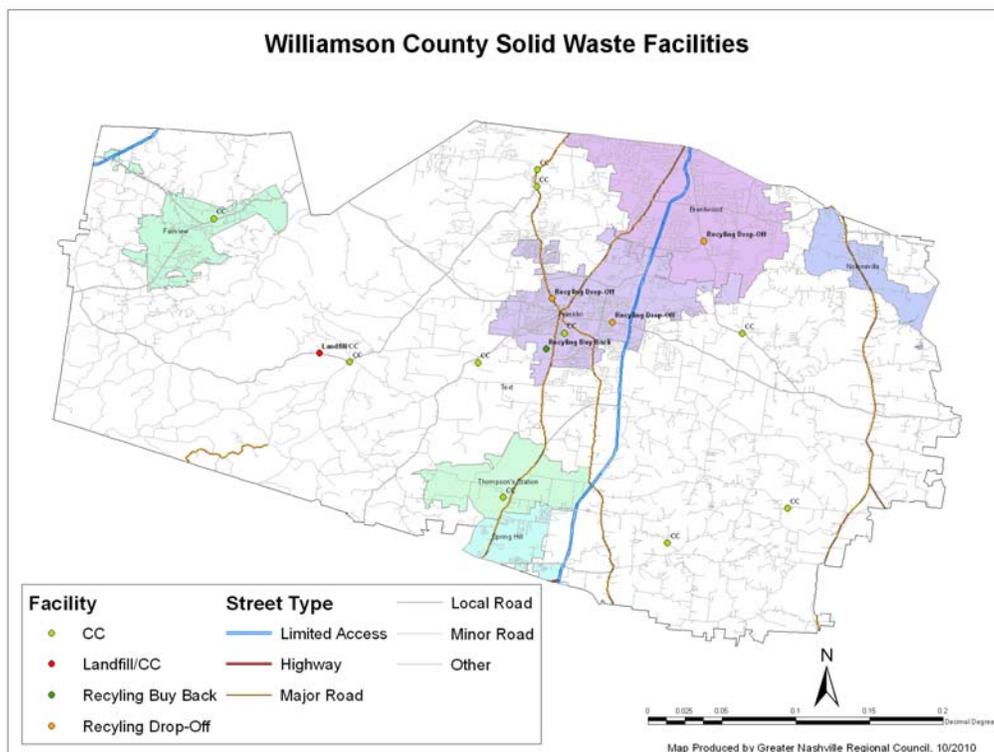
### Collection & Disposal Capacities/Collection Service Providers

- A. Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum through put. Provide this for both Class I and Class III/IV disposal and recycled materials. Identify and discuss any potential shortfalls in materials management capacity whether these are at the collection or processor level.

Chart 6A

Site Name(s)	Current Capacity Tons/Day	Maximum Capacity Tons/Day	Project Life of Facility
West Camden Landfill	2,500	3,500	22
Cedar Ridge Landfill	450	1,000	17
Waste Management (KY)	n/a	n/a	n/a
Middlepoint	4,000	5,500	13
BFI Transfer Station	n/a	n/a	n/a
WM Transfer Station	n/a	n/a	n/a
Franklin Transfer Station	250	300	n/a
Williamson County Transfer Station	95	150	n/a

As seen in the above chart, the county has reasonable access to several collection, processing and disposal facilities in the area. There are three landfills that can easily serve the County with a minimum of 13 years life expectancy. There are two private and two public transfer stations that can be expanded. These facilities provide options for managing waste to the cities and Williamson County.



B. Provide a chart of other graphical representation showing public and private collection service provider area coverage within the county and municipalities. Include provider's name, area of service, population served by provider, frequency of collection, yearly tons collected, and the type of service provided.

Chart 6B

Provider of Service	Service Area	Population Total Under This Service	Frequency of Service (Weekly, Bi-weekly, on call, etc.)	Tonnage Capacity	Type Service (Curbside, Convenience Center, Green Box)
Williamson County	Unincorporated	38,152	Open 7 days a week	220 per day	Convenience Center
Franklin	City limits	60,629	Weekly	300 per day	Curbside
Private Haulers	Remaining cities	78,057	Weekly	n/a	Curbside
Private Haulers	Unincorporated	n/a	Weekly	n/a	Curbside

## SECTION 7

### Financial Needs

Complete the chart below and discuss unmet financial needs to maintain current level of service. Provide a cost summary for current year expenditures and projected increased costs for unmet needs.

Chart 7

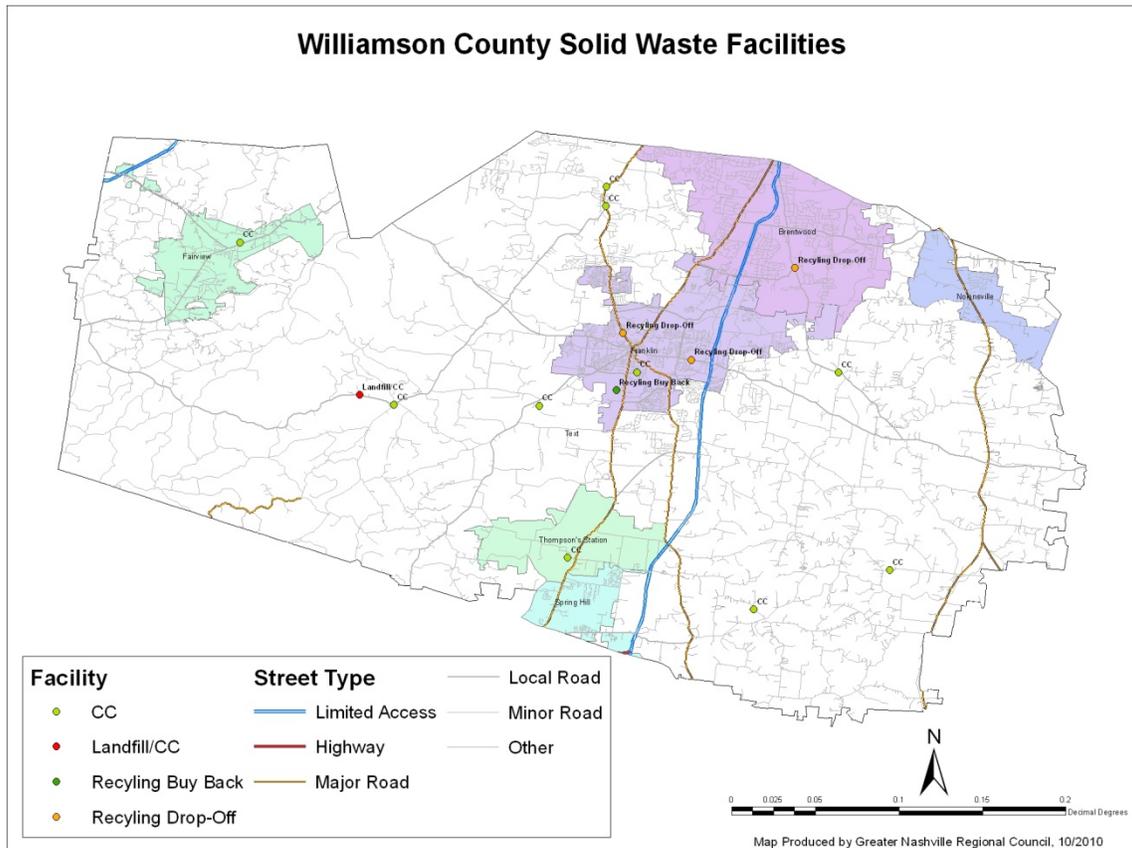
EXPENDITURES			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$2,013,023		\$2,013,023
Transportation/hauling	394,625		
Collection and Disposal Systems			
Equipment	340,000		340,000
Sites			
Convenience Center	153,000		153,000
Transfer Station	1,045,500		1,045,500
Recycling Center			
MRF			
Landfills	534,500		534,500
Site			
Operation			
Closure	503,925		503,925
Post Closure Care	163,000		163,000
Administration (supplies, communication costs, etc.)	24,300		24,300
Education			
Public	64,925		64,925
Continuing Ed.	2,580		2,580
Capital Projects	349,500		349,500
REVENUE			
Host agreement fee			
Tipping fees	836,886		836,886
Property taxes	2,781,239		2,781,239
Sales tax			
Surcharges			
Disposal Fees			
Collection charges			
Industrial or commercial charges			
Residential charges			
Convenience Center charges			
Transfer Station charges			
Sale of Methane Gas			
Other sources: (Grants, bonds, interest, sales, etc.)	1,038,356		1,038,356

The needs for the County Solid Waste Department include replacement bins, convenience center building, roll-off truck and transfer station floor. These needs will be met using capital funds included in the County Budget so they are shown only as Capital Projects in the chart above.

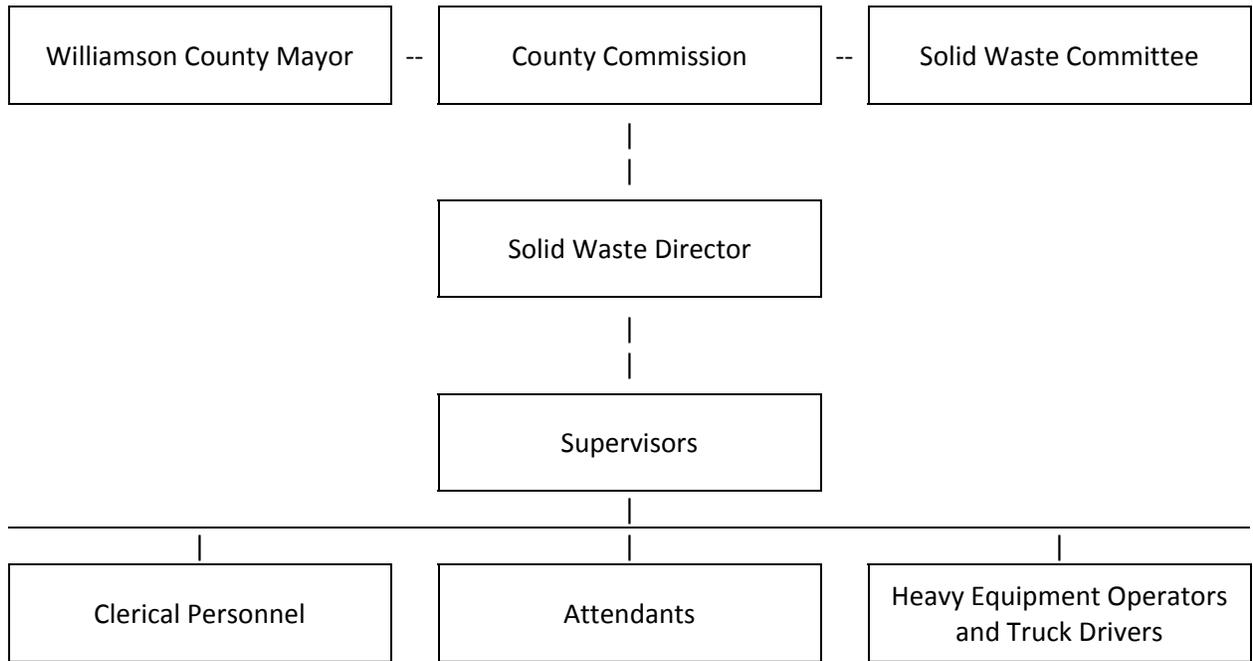
## SECTION 8

### Organization & Facility Locations

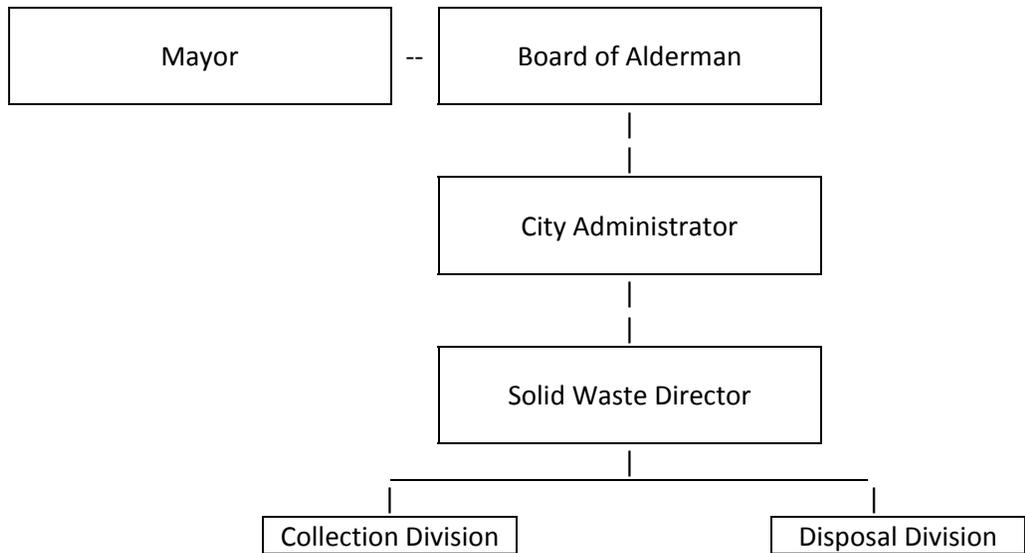
*Provide organizational charts of each county and municipality's solid waste program and staff arrangement. Identify needed positions, facilities, and equipment that a fully integrated solid waste system would have to provide at a full level of service. Provide a scale county level map indicating location of all facilities, including convenience centers, transfer stations, recycling centers, waste tire drop-off sites, used oil collection sites, paint recycling centers, all landfills, etc. Identify any short comings in service and note what might be needed to fill this need.*



**WILLIAMSON COUNTY**



**CITY OF FRANKLIN**



Williamson County and the City of Franklin are the only local governments to provide solid waste service in the County. The County provides ten convenience centers with recycling, a transfer station, a Class 3/4 landfill and recycling facilities at the landfill site for tires, paint, e-waste and other materials. Recycled materials are taken to the Materials Recycling Facility (MRF) operated by Advanced Disposal for processing and sale to brokers and end-users.

The City of Franklin provides weekly curb-side residential waste collection and has begun a “Blue Bag” program allowing citizens to practice home recycling. Residents of Franklin put recyclables in a special Blue Bag and place it at the curb. The City collects the bags and transports them to the MRF for processing and sale. The waste collected is taken to the Franklin Transfer Station, combined into larger trucks and transported to Middlepoint Landfill in Rutherford County.

The City of Franklin and Williamson County provide a fully integrated solid waste management system that adequately serves the needs of their citizens.

## SECTION 9

### Revenue Sources/Needs

*Identify all current revenue sources by county and municipality that are used for materials and solid waste management. Project future revenue needs from these categories and discuss how this need will be met in the future. Use example in Chart 7 as an example to present data.*

The primary source of revenue is the County Property Tax followed by tipping fees, sale of recycled materials, State grants and other sources. The Solid Waste Fund contains a healthy balance of around \$2.5 million which will insure that sufficient funds will be available for at least five years. The County will continue to monitor the Solid Waste Program to identify any projected shortfall several years in advance of its occurrence.

## SECTION 10

### Community Attitudes

*Describe current attitudes of the region and its citizens towards recycling, waste diversion, and waste disposal in general. Where recycling is provided, discuss participation within the region. Indicate current and on-going education measures to curb apathy or negative attitude towards waste reduction. Are additional measures needed to change citizen's behaviors? If so, what specific behaviors need to be targeted and by what means?*

Williamson County has had a recycling and education program for about twenty years, even prior to the Solid Waste Management Act of 1991. Elected county officials have been very supportive of providing a comprehensive, integrated solid waste management program for the citizens of the County. The education program has received many awards and continues to be very effective today. This long term and continuing commitment to the recycling and sound solid waste management has created a county-wide awareness and support of proper waste management activities.

The County provides ten convenience centers (that include recycling facilities), three additional recycling centers, partners with the City of Franklin's BOPAE Program, partners with Keep Williamson Beautiful to sponsor two Shred Days, the Living Green Expo, America Recycles Day and holds an Environmental Leader Class. The educational program reaches from elementary school children to adult citizens, elected officials and the business community. The County continues to look at new methods and programs that could be helpful in advancing waste reduction understanding and participation of its citizens.

The City of Franklin has begun a residential curb-side recycling program called Blue Bag Recycling. The citizens can purchase blue bags at their local retailer and put their recyclables (plastics, metal, paper and cardboard) in the bags. The bags are collected along with the household trash on their regular collection day.

## SECTION 11

### Five-Year Plan

*Discuss this region's plan for managing their solid waste management system for the next five (5) years. Identify any deficiencies and suggest recommendations to eliminate deficiencies and provide sustainability of the system for the next (5) years. Show how the region's plan supports the Statewide Solid Waste Management Plan.*

No major changes are expected in the Region's Five Year Plan. However, existing programs are continually evaluated and, if warranted, are expanded or modified to increase participation in these programs. The County will continue its aggressive public education program on appropriate waste reduction, management and disposal. Education not only encourages positive waste management habits by the public but also builds a constituency that is willing to fund a sound waste management program.

The County will continue to expand the BOPAE Program managed in partnership with the City of Franklin. Other specific projects that will be implemented in the next five years include the upgrade of the Thompson Station Convenience Center, expand the County Class 3-4 Landfill, and upgrade the Wilson Pike Recyclables drop-off site to an attended facility.

The Industrial/Commercial Waste Reduction Program begun in 2010 will be expanded as will the Office Paper Recycling Program. The County, along with Keep Williamson Beautiful, will continue to source reduction in the home, schools and the workplace. The program to collect co-mingled recyclables in schools will also be expanded.