

# **WHITE COUNTY, TENNESSEE**

## **Solid Waste Planning Region**



### **Solid Waste Needs Assessment**

**Prepared by:**  
**The Upper Cumberland County Development District**  
**2015**

as required by The Solid Waste Management Act (T.C.A. §68-211-811).

**TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION**  
Division of Solid Waste Management  
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Nashville, TN 37243

## **INTRODUCTION**

*The Solid Waste Management Act of 1991 requires Tennessee local governments to prepare and maintain a comprehensive plan for managing their solid waste efficiently. To ensure that such planning is based on a solid foundation of relevant and objective knowledge of local conditions, the Act requires that the Development District staff coordinate, conduct and maintain an assessment of the solid waste needs for each municipal solid waste planning region. This assessment shall be revised every five years (T.C.A. 68-211-811).*

## **CATEGORIES OF INFORMATION REQUIRED:**

- *Demographic information and projections*
- *An analysis of economic activity within the region*
- *A characterization of the waste stream*
- *Projections of solid waste generation*
- *An evaluation of the collection systems within the region*
- *An evaluation of existing solid waste management facilities and capacities, and of any new or expanded facilities planned*
- *A statement of solid waste management goals that are consistent with the state plan*
- *An analysis of existing or potential waste flows within the region and between adjacent regions*
- *A comparison of the projected volume of generated and imported waste, with available and projected capacity to manage it, and identification of potential shortfalls in that capacity*
- *Any additional information the commissioner may require*

In order that the regional planning effort is implemented on a solid foundation of relevant and objective knowledge of local conditions, the Act requires the Development Districts to coordinate, conduct and maintain a Needs Assessment for each solid waste region. This Assessment shall be revised every five years.

**ITEM 1**

Provide a table and chart of the region’s population during the past 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 county and municipal populations. Considering the trends, discuss the effect on the solid waste infrastructure needs over the next five (5) years.

**1.1 - White County Population**

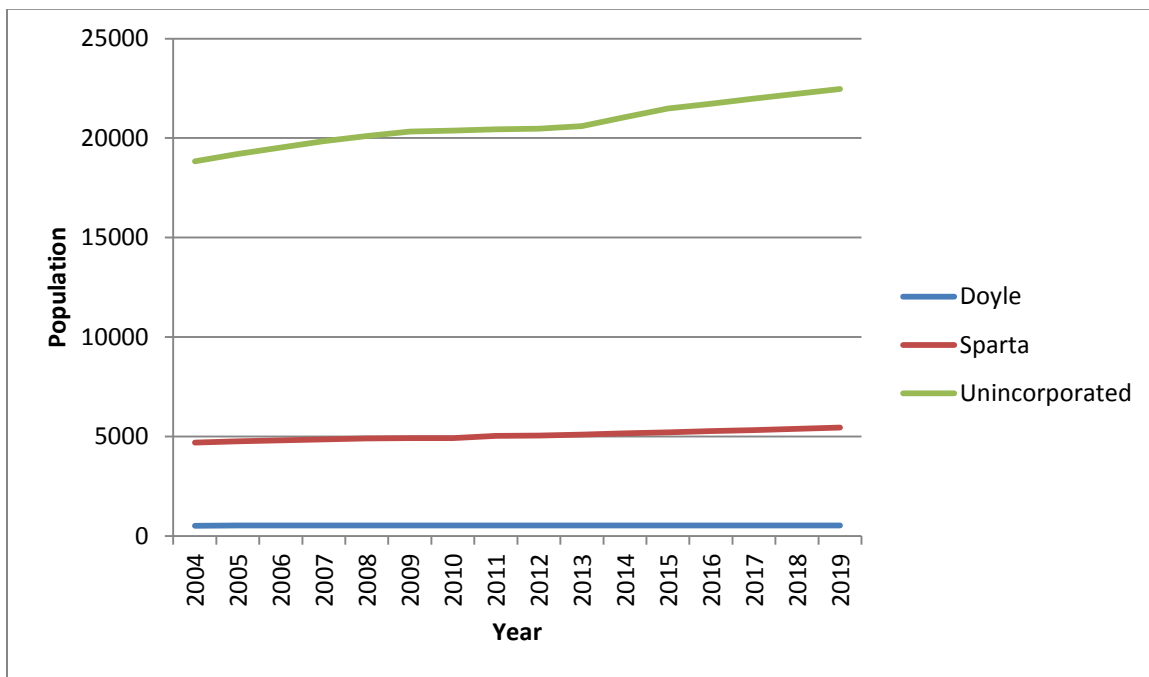
Item # 1				
WHITE COUNTY				
HISTORIC AND PROJECTED POPULATION TRENDS				
Year	County White	City Sparta	City Doyle	Unincorporated
2004	24,069	4,703	525	18,841
2005	24,489	4,762	529	19,198
2006	24,866	4,812	533	19,521
2007	25,250	4,864	537	19,849
2008	25,548	4,901	539	20,108
2009	25,789	4,928	539	20,322
2010	25,841	4,925	537	20,379
2011	26,019	5,041	538	20,440
2012	26,061	5,057	538	20,466
2013	26,244	5,100	541	20,603
2014	26,747	5,158	540	21,049
2015	27,250	5,216	540	21,494
2016	27,550	5,274	540	21,736
2017	27,850	5,332	540	21,978
2018	28,150	5,390	540	22,220
2019	28,450	5,448	540	22,462

Sources: Historic data are from the U.S. Census Bureau.  
Projections are based on data from the the University of Tennessee Center for Business and Economic Research

In the last ten years, population has grown by approximately 10% in Sparta and 12% in White County Unincorporated. Rate of growth in the next five years is predicted to be around 6% in Sparta and 7% in Unincorporated. In the last decade, Doyle has population has grown about 3%. In the next five years, there is zero growth predicted for Doyle. Considering the slow rate of growth in the past ten years, and considering that the growth in population is not projected to increase exponentially, the solid waste infrastructure is adequate to continue providing solid waste services without any changes in infrastructure. Old equipment may need

replacement, or additional positions in the solid waste department may need to be filled to increase the number of pickups per week as the population increases slightly. There is adequate space at the Convenience Centers to accept at least twice the amount of trash they are currently collecting. The White County Transfer Station can also accept up to twice the amount of waste it currently manages. The old cell at the Landfill has approximately 2.5 years remaining if waste continues to be landfilled at the current rate of disposal. A new cell is being constructed at the White County Landfill and is anticipated to last an additional 30 years at the current rate of growth in population. This will easily accommodate the low growth predicted for White County for the next five years. Encouraging recycling in residential, business and industrial sections could help offset the small increase in solid waste expected. Currently, recycling is accepted at all of the Convenience Centers. Should recycling increase at these Centers additional trips could be made to transport recycling to M&M Recycling for baling and sale. White County would like to build a recycling center to process recyclables. However, it was mentioned in the 2014 APR that there is not a lot of cooperation with residents in capturing recyclables. It may be a better idea for White County to discuss revenue sharing with M&M Recycling and continue to transport recyclables collected at the Convenience Centers until capture rates can be increased through education. Business and industry already recycle their own waste and report amounts to White County for the Waste Diversion report in the annual APR.

### 1.2 - White County Population Growth



White County's population growth has been less than 12% in the past decade. Large manufacturing job losses over several years have hindered growth. The growth that has occurred has been largely related to retirees moving into the Unincorporated region and purchasing land. In White County, 79% of the population live in the country, 19% live in the City of Sparta, and 2% live in Doyle.

**ITEM 2**

Provide a table and chart showing the region’s economic profile for the county and its 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 break down of each economic sector
- County or municipal budgeting information
- Other commonly accepted economic indicators

**2.1 - White County Economic Indicators**

Item #2

**WHITE COUNTY HISTORIC AND PROJECTED ECONOMIC INDICATORS**

Year	Labor Force Data				Non-farm Wage and Salary Employment								Property Tax Collections (\$'s)	Per Capita Income (\$'s)	Retail Sales (\$000's)	Total Bank Deposits (\$000's)	
	Total	Emp	Unemployed		Total	Goods Producing			Service Producing								
			Total	Rate(%)		Total	Mfg	Other	Total	Trade	Health	Gvt					Other
2004	10,810	10,150	650	6.0	7,210	2,870	2,620	250	4,340	1,230	570	1,140	1,400	NA	21,965	224,968	305,428
2005	10,930	9,860	1,070	9.8	7,030	2,450	2,200	250	4,580	1,240	780	1,250	1,310	3,243,570	22,232	225,692	313,377
2006	10,810	9,830	980	9.1	6,800	2,290	2,050	240	4,510	1,200	760	1,270	1,280	3,532,087	22,393	227,166	332,010
2007	10,470	9,810	660	6.3	6,850	2,320	2,070	250	4,530	1,220	750	1,330	1,230	3,626,813	23,002	243,475	352,813
2008	10,630	9,740	890	8.4	6,710	2,250	2,000	250	4,470	1,210	770	1,340	1,150	3,874,759	23,790	232,189	351,963
2009	10,620	9,110	1,520	14.3	6,240	1,830	1,640	190	4,410	1,260	770	1,340	1,040	3,952,782	23,512	204,301	349,649
2010	11,090	9,760	1,330	12.0	6,630	2,030	1,820	210	4,600	1,500	750	1,370	980	3,956,366	24,748	211,749	336,669
2011	11,230	9,940	1,290	11.4	6,790	2,050	1,860	190	4,740	1,560	780	1,420	980	4,043,153	25,660	224,740	335,858
2012	11,070	9,810	1,270	11.4	6,790	1,980	1,730	250	4,850	1,570	790	1,370	1,120	4,124,095	27,098	226,490	336,802
2013	10,770	9,580	1,210	11.2	6,760	1,860	1,650	210	4,900	1,560	770	1,370	1,200	4,187,809	27,740	229,235	344,653
2014	10,400	9,460	940	9.0	6,860	1,920	1,700	220	4,940	1,570	800	1,380	1,190	4,281,380	28,382	233,586	341,995
2015	10,520	9,590	930	8.8	6,970	1,980	1,750	230	4,990	1,580	820	1,390	1,200	4,374,951	29,024	237,937	345,146
2016	10,640	9,720	920	8.6	7,080	2,040	1,800	240	5,040	1,590	840	1,400	1,210	4,468,522	29,666	242,288	348,297
2017	10,760	9,860	900	8.4	7,190	2,100	1,850	250	5,090	1,600	860	1,410	1,220	4,562,093	30,308	246,639	351,448
2018	10,880	9,990	890	8.2	7,300	2,160	1,900	260	5,140	1,610	880	1,420	1,230	4,655,664	30,950	250,990	354,599
2019	11,000	10,120	880	8.0	7,410	2,220	1,950	270	5,190	1,620	900	1,430	1,240	4,749,235	31,592	255,341	357,750

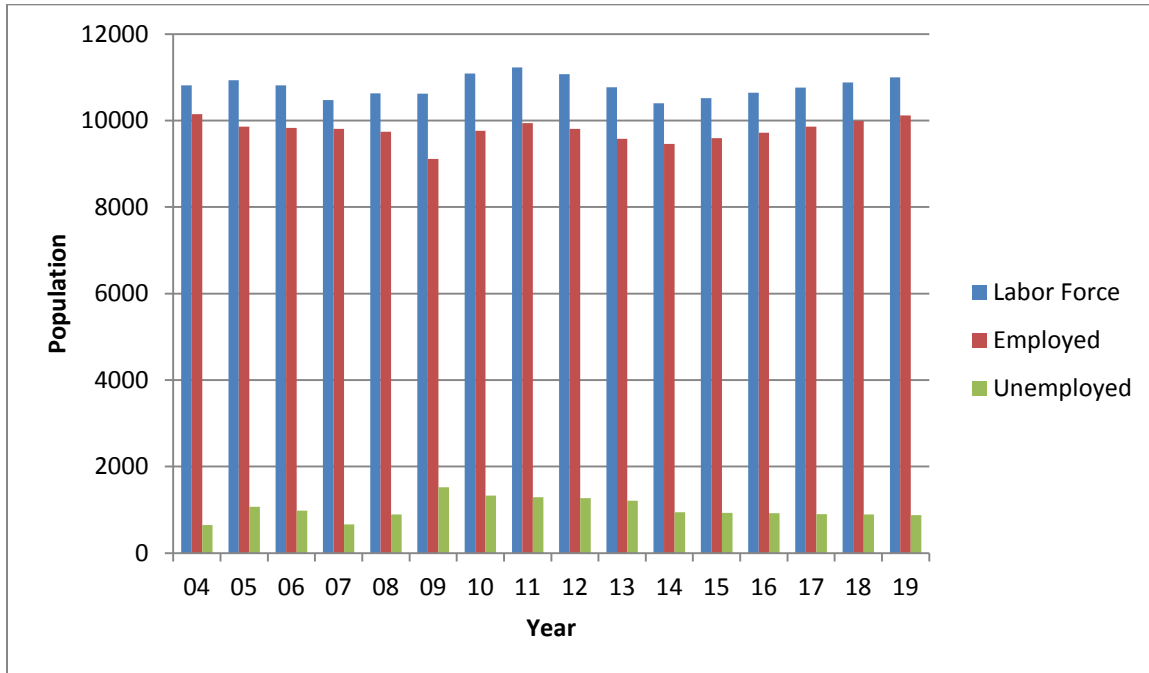
Note: Labor force data are based on county of residence. Non-farm wage and salary data are based on county of employment.

Sources: Historic employment data are from the Tennessee Department of Labor and Workforce Development, per capita income data are from the U. S. Bureau of Economic Analysis, retail data are from Tennessee Department of Revenue, bank deposits are from the FDIC, and property tax data are from the Tennessee Division of Comptroller of the Treasury. All projections are by the UCDD staff.

The economy in White County has changed for the worse in the last decade. The labor force decreased from 10,810 to 10,400. The unemployment rate increased from 6% in 2004, to around 9% in 2014. In the goods producing sector, manufacturing jobs decreased from 2,620 jobs in 2004 to 1,700 jobs in 2014. There has been

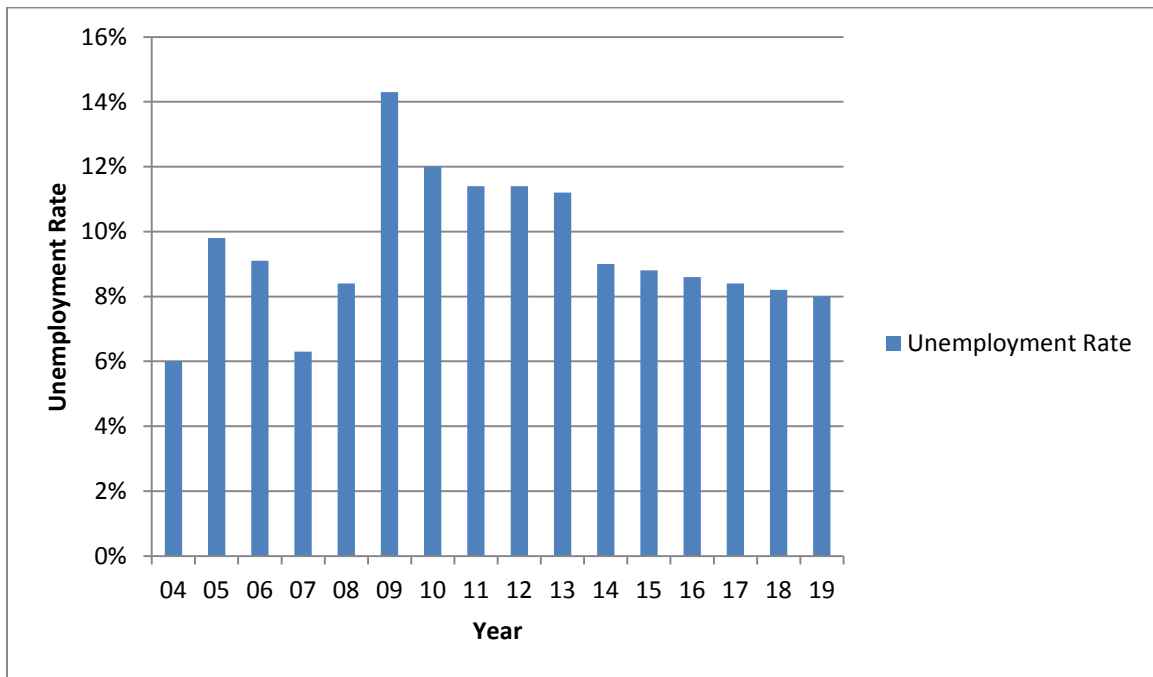
significant job loss in manufacturing. On a positive note, there has been an increase in jobs in the service producing sector, due to increase in hiring for service, health and government jobs. Retail sales have increased from \$224,968 per year in 2004 to \$233,586 per year in 2014. This is a very small increase over a decade and reflects the lack of growth in the economy. Over this last decade, property taxes have increased over one million dollars, despite the modest growth in population and the low per capita income.

## 2.2 – White County Employment



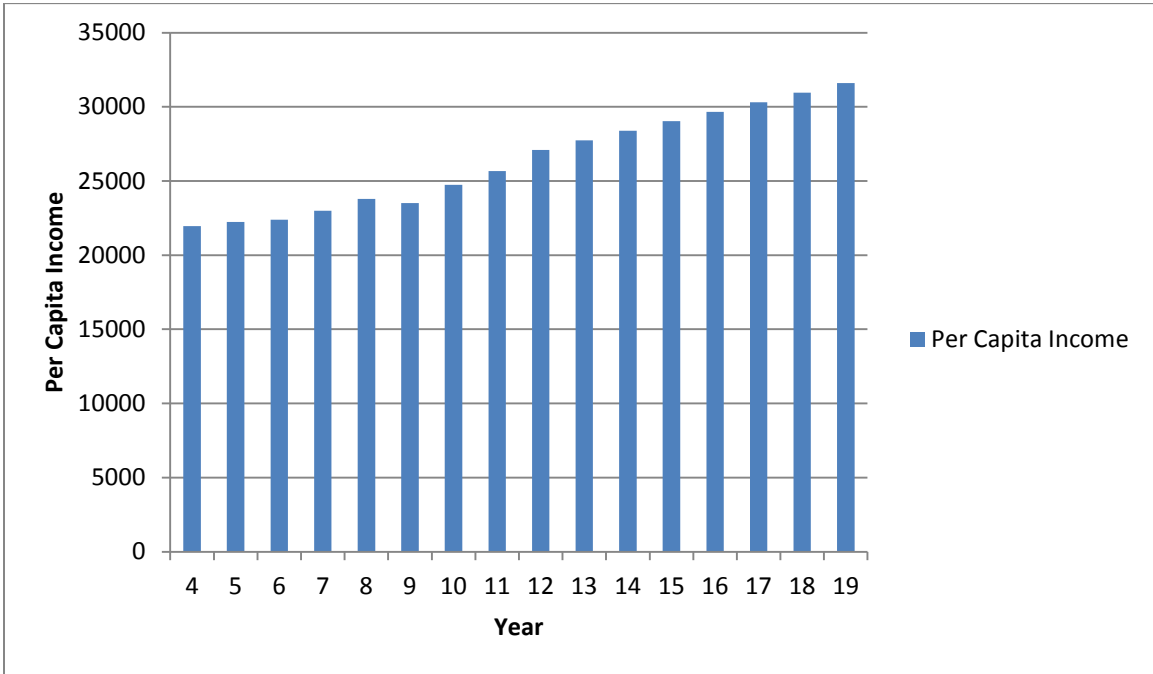
From 2004 to 2014, workers in White County have decreased in number -- presumably because of the lack of jobs in the job market. It anticipated that the labor force will increase by around 14% over the next five years.

## 2.3 – White County Unemployment Rate



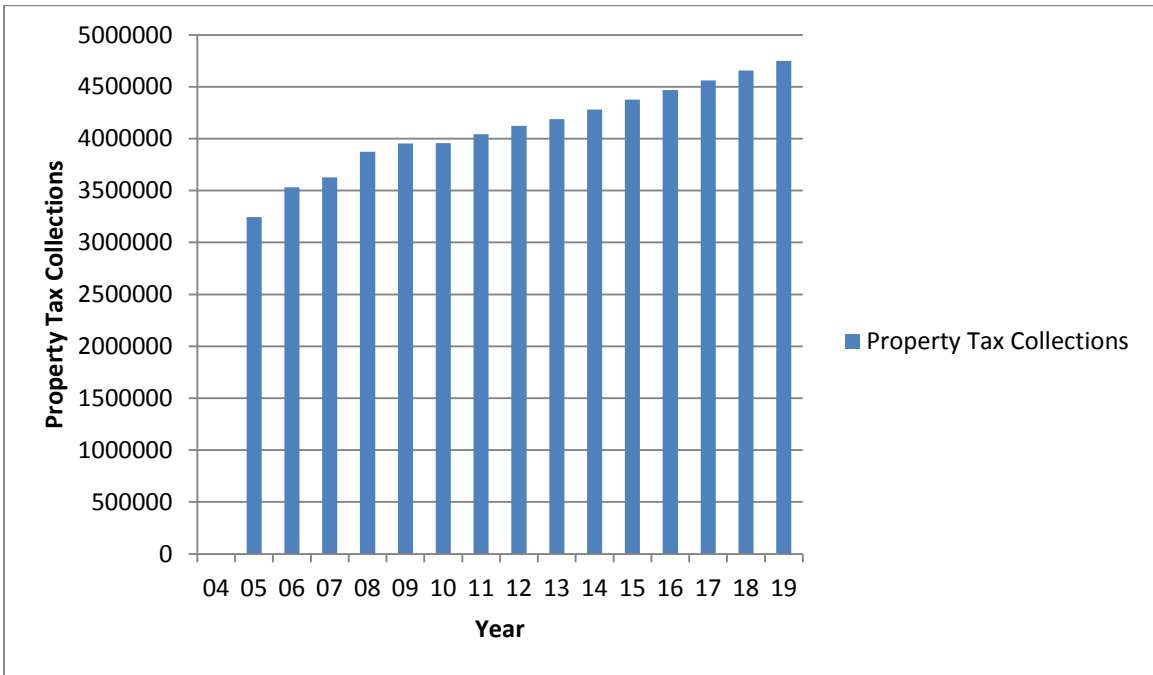
Unemployment continues to be an issue for White County residents, with the rate for 2014 at 9%. It is anticipated that unemployment will decrease by one percentage point in the next five years, as seen in the following chart. Individual poverty rate is at 19.9% and family poverty rate is at 11.7%, indicating a high level of poverty. Approximately 31.6% of the population lives below poverty levels. The following chart reflects the levels of unemployment suffered by White County over the span of a decade with a projected drop in unemployment for the next five years.

## 2.4 – White County Per Capita Income



As mentioned previously, in the last decade per capita income for White County workers has increased about \$6,200 from 2004-2014, but remains below both the national average and the Tennessee average in per capita income. Per capita income has increased from \$21,965 in 2004 to \$27,098 in 2012. This shows an increase in income although per capita income is less than the national average of \$42,693 and Tennessee per capita income of \$37,678 in 2012.

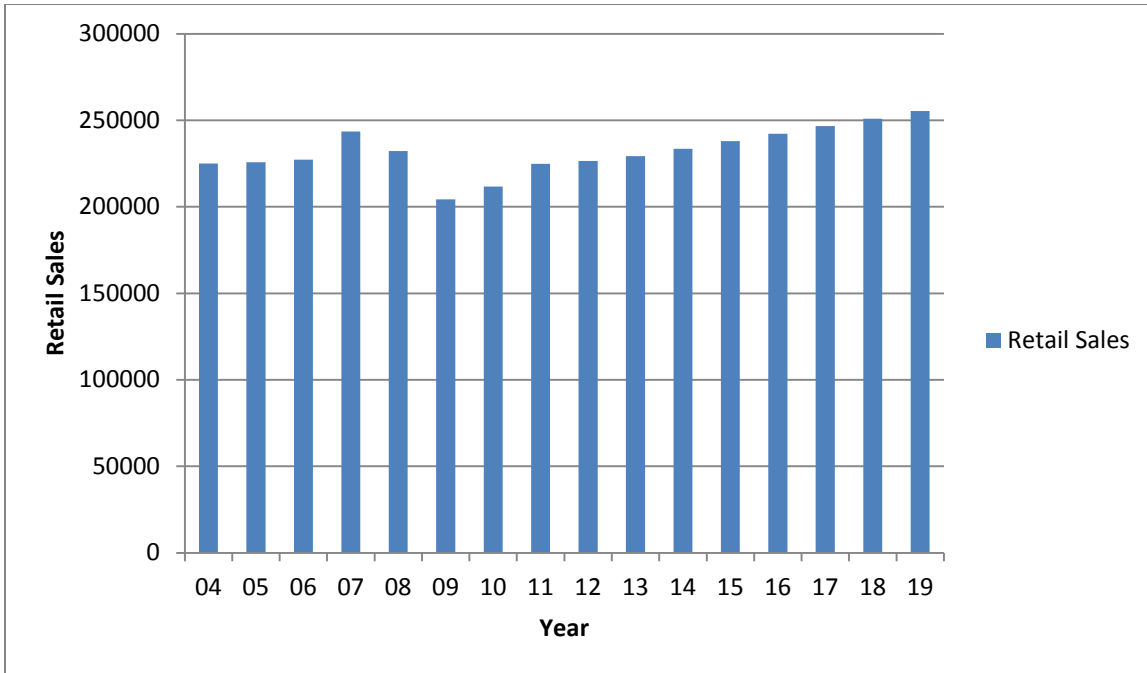
## 2.5 – White County Property Tax Collections





Property taxes are anticipated to increase by \$1,505,665 over 15 years, from 2004 to 2019. In the last decade, there has been an increase of \$1,037,810. This is a huge increase in taxes, considering that the population growth is slow and the economy is experiencing very slow growth. Land area in White County is 379 square miles with Property Tax Rate of 1.85 per \$/100 Assessment in the County, and 2.90 per \$/100 Assessment in the City of Sparta.

### 2.6 – White County Retail Sales



State sales tax rate is 7% for Tennessee and 2.25% in local sales tax. Retail sales over the last decade have decreased very little – from \$224,968 in 2004 to \$233,587 in 2014. This is only an increase of \$8,619.00 in a span of a decade, indicating that the economy in White County is quite stagnant.

## 2.7 – White County General Social Data

### Population Description

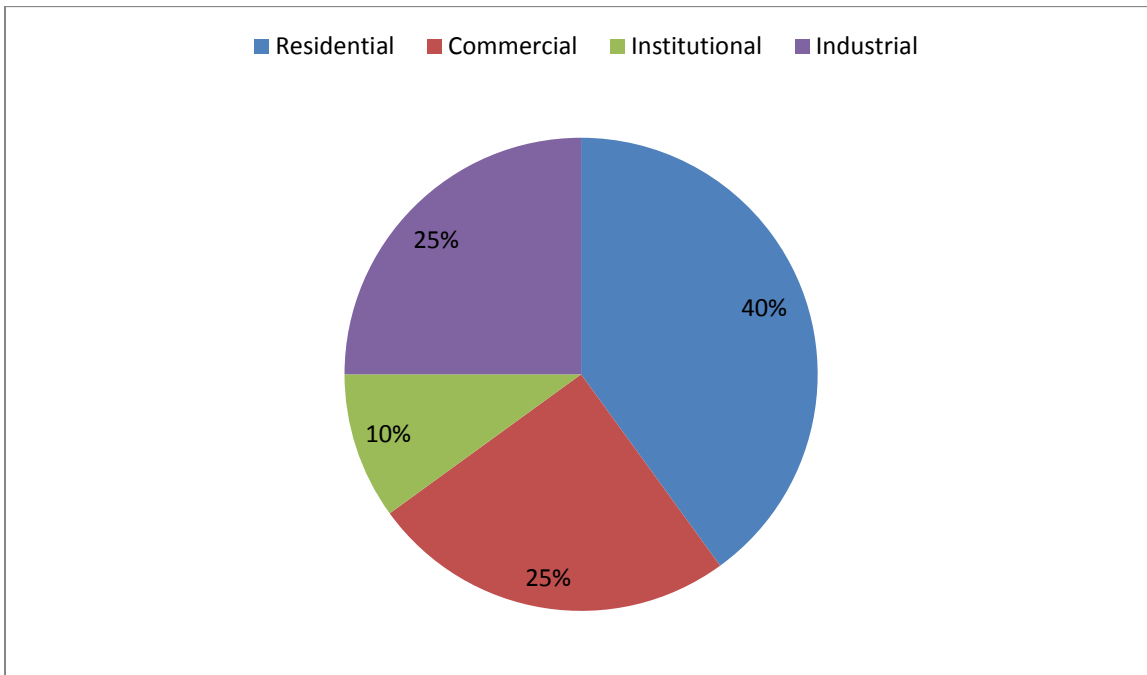
Total 2010 Census	25,841	100%
White	24,739	95.7
Black	459	1.8
Other	218	.9
Hispanic	425	1.6
Age 0-4	1,508	5.8
Age 5-14	3,287	12.7
Age 15-19	1,624	6.3
Age 20-64	16,512	57.5
65 & Over	4,534	17.5
Median Age	42.0	

In 2010, the U.S. Census reported data that reflected the bulk of the population is of working age – almost 60%. Almost 20% is over the age of 65. The remaining almost 20% is under the age of 19. In 2010, the population unemployment rate was 10%, meaning 1,651 workers of the approximately 16,512 workers were unemployed. Although unemployment rates dropped to 9% in 2014, this is still a significant amount of workers out of the workforce due to a lack of jobs available.

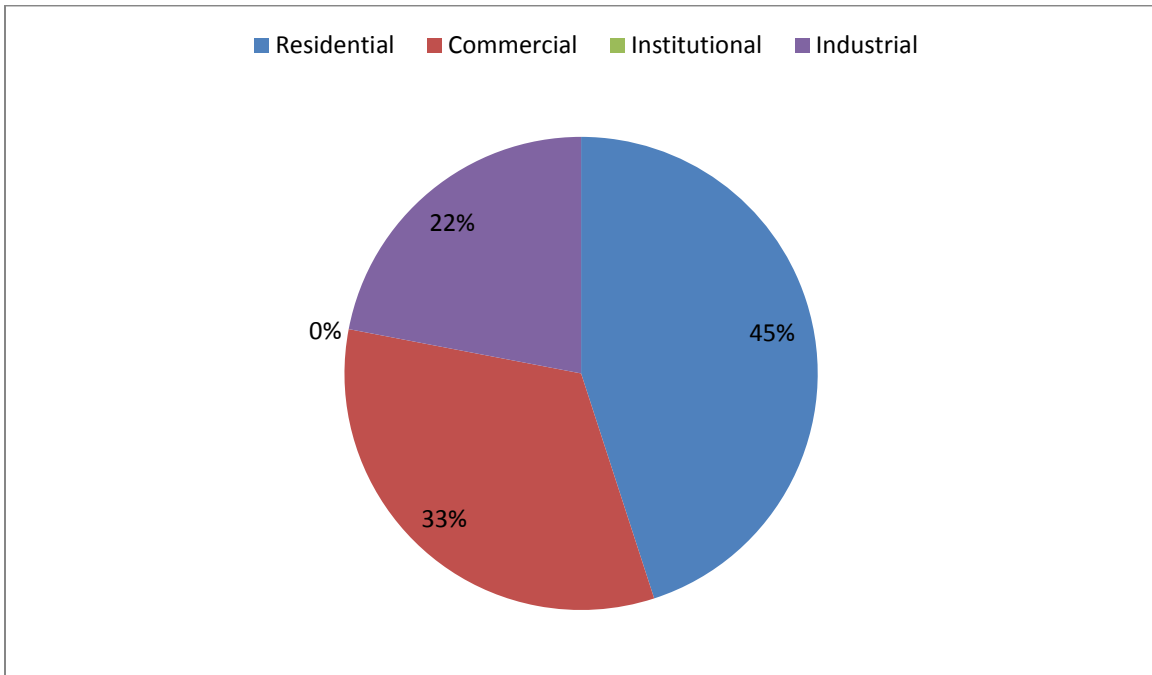
**ITEM 3**

*Elaborate on the region's solid waste stream. Compare the current waste stream with the trend anticipated over the next five (5) years, and discuss how this new total will be handled. 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 and industrial wastes are managed. Also, provide an analysis of any wastes entering or leaving the region, noting the source and amounts of such wastes.*

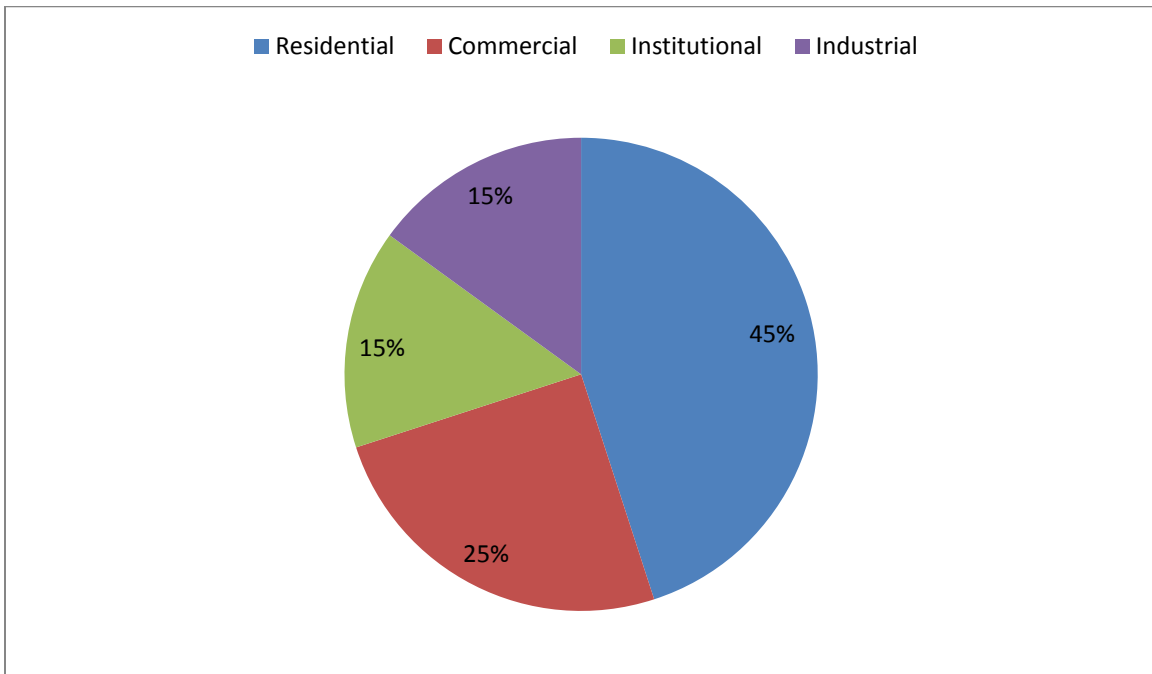
**3.1 – 2008 White County Waste Stream**



### 3.2 – 2013 White County Waste Stream



### 3.3 – 2018 White County Estimated Waste Stream



Since 2008, the residential waste stream has only increased by 5%. Rapid growth in population is not expected in the next five years, as White County has grown slowly over the last decade. White County would like to

increase recycling by residents in their county, to increase diversion rates in support of the Statewide Solid Waste Management Plan. As education on recycling is provided, recycling is expected to increase and help offset any small rise in quantity of waste due to the small increase in population expected. White County hopes to increase recycling by educating Convenience Center operators how to teach residents how and what to recycle. They also would like to provide more education in the schools and community to help residents learn how to sort trash to divert even more recyclables from household trash.

Business and industry are recycling in order to save money in disposal costs. A total of 17 businesses and manufacturing companies reported recycling 784.6 tons of mixed metals, 972 tons of OCC (corrugated cardboard), and additional recyclables in the amount of 315.2 tons in 2014. White County government recycled 814.7 tons of recyclables in 2014. These amounts should increase in the next five years as industry experiences growth, diverting additional waste from the waste stream.

### 3.4 – Special Waste Collection

Special Waste	Collection Process	End Use
Waste Tires	Nine Convenience Centers	Recycled, Liberty Tire
Electronics	Eight Convenience Centers	Recycled, Scott’s Recycling
Lead Acid Batteries	Eleven Convenience Centers	Recycled by Cooper Recycling
Re-Chargeable Batteries	Eleven Convenience Centers	Recycled by Cooper Recycling
Mercury Thermometers	Household Hazardous Waste	Processed w/ TN state contract by Clean Harbors
Latex Paint	Eight Convenience Centers	Dried at landfill
Used Oil	Auto Repair Business	Sold for oil to be used for heating

All of the White County Convenience Centers collect waste tires free of charge from residents. In 2014, 227.06 tons were collected and recycled by Liberty Tire. Liberty Tire picks up the waste tires for recycling from the landfill when notified by White County Solid Waste Department that container is full. Tires are collected and stored at all Convenience Centers and are then transported to the landfill for pickup. Tires are stored open to the weather collecting rainwater, rather than under roof. I would expect that mosquitos could be a problem at the Convenience Centers in warm weather if transport of the tires is delayed. Tires are transported to the White Co. Landfill for Liberty Tires to transport for recycling. Sometimes it takes a while for Liberty Tires to pick up tires from the landfill. The county must pay for the transfer and recycling at \$1.00 cost per tire. Each truckload costs the county around \$1,500 so the county limits the numbers of trips as much as possible to cut costs.

In past years, electronics were collected at nine out of eleven Convenience Centers, and recycled through Scott’s Recycling, 5049 S. National Drive, Knoxville, TN. Scott Recycling used to pick up the electronics for free. Now they are charging a fee for pickup. White County is not willing to pay the recycling fee because it has not been budgeted at this time, so the electronics are collecting in large piles at every Convenience Center. Growing piles of electronics are a problem at every Convenience Center. They are stored on pallets or on the ground in the open air as none of the Convenience Centers have a roof cover for tires, electronics, oil or paint collected. White County has not yet addressed this problem. Suggestions on how this problem could be

resolved includes: Partnering with another county still receiving free pickup from Scott Recycling. If White County transported their electronics to a county receiving free pickup, the only cost they would have is one of transportation. Putnam County still gets free pickup from Scott Recycling, and it is less than 30 minutes from White County to the Putnam County Transfer Station. Another option is for White County to partner with another county to receive and recycle additional electronics to increase the amount that would be picked up at White County. This might encourage Scott Recycling to continue picking up electronics free of charge since there would be additional electronics per trip.

Used oil is collected by Enterprise Oil and used for heating. In addition, Enterprise Oil picks up antifreeze, cooking oil and motor oil for recycling. Oil collection containers are provided at eleven Convenience Centers by Enterprise Oil at no cost to the county. Oil collection containers are in the open air rather under roof.

Glass is collected at six convenience centers, and crushed for use at the landfill. Their glass crusher was built on site and has worked very well for recycling the glass.

White County does not have a Hazardous Waste Day, but residents do take hazardous waste to adjoining counties for disposal. Industry and manufacturing pay for private disposal as needed. Tires and electronics continue to be a difficult waste to manage due to the cost for the county in paying for recycling companies to transport these wastes for recycling.

Commercial and industrial waste is picked up from industries and business by private haulers. Some of the private haulers use the White County landfill for disposal, although other haulers may go elsewhere. Cumberland Waste Disposal brought 144.70 tons to White County Landfill in 2014. Faye Portables brought in 62.49 tons. Hagland Trash Pickup brought 12.45 tons. RC Waste Management brought in 12.17 tons. A total of 231.8 tons came in from private haulers in 2014. It is uncertain how much waste is being picked up and carried elsewhere. Tipping fees paid by private haulers consist of almost half a million dollars per year paid to the White County landfill.

Batteries are collected along with metals by Cooper Metals for recycling. The metals are the only recyclable currently providing a revenue stream for White County.

Recycling for metals, paper, batteries, tires, used oil, antifreeze, glass, plastic, e-scrap and paint are collected for recycling at most of the eleven Convenience Centers. Paper, cardboard and plastic are transported to M&M Recycling for recycling. White County hauls the recyclables to M&M without compensation. Recycling through M&M diverts waste from the waste stream to help the county achieve the 25% minimum waste diversion required by TDEC. However, there are costs involved in hauling the recyclables and the recyclables are being sold to profit M&M. A better option for disposing of recyclables collected might be to work out to share part of the profits M&M receives from the sale of recyclables to cover costs of transporting and salaries. Or possibly M&M could pick up the recyclables at no cost to White County.

Another suggestion is that White County could partner with another county who is willing to bale and sell recyclables for part of the proceeds, so a revenue stream for White County can be established. White County

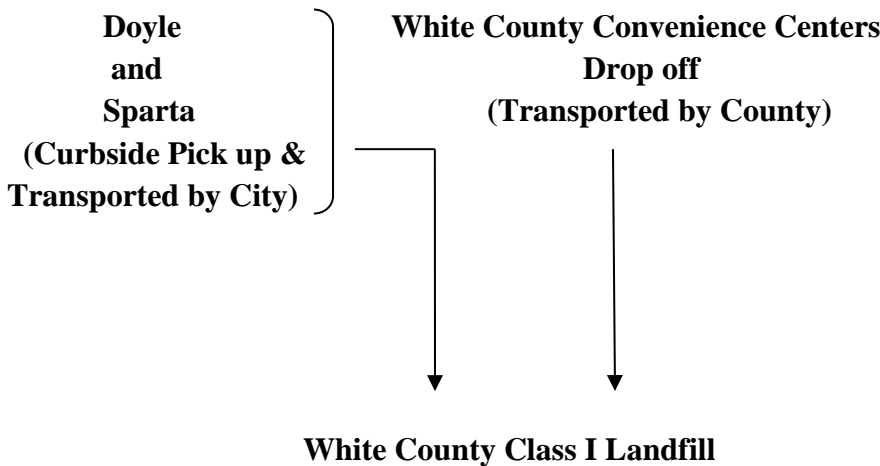
would like to have a recycling center so recycling can be processed and sold for a profit but they do not have money budgeted for such a project. Because they have a county landfill, solid waste costs are very high. Although they received approximately \$1,172,120.70 in 2014 in tipping fees, solid waste fees, sales of metals and grants, a considerable amount of money must come from the solid waste fund, funded by the White County General Fund.

**ITEM 4**

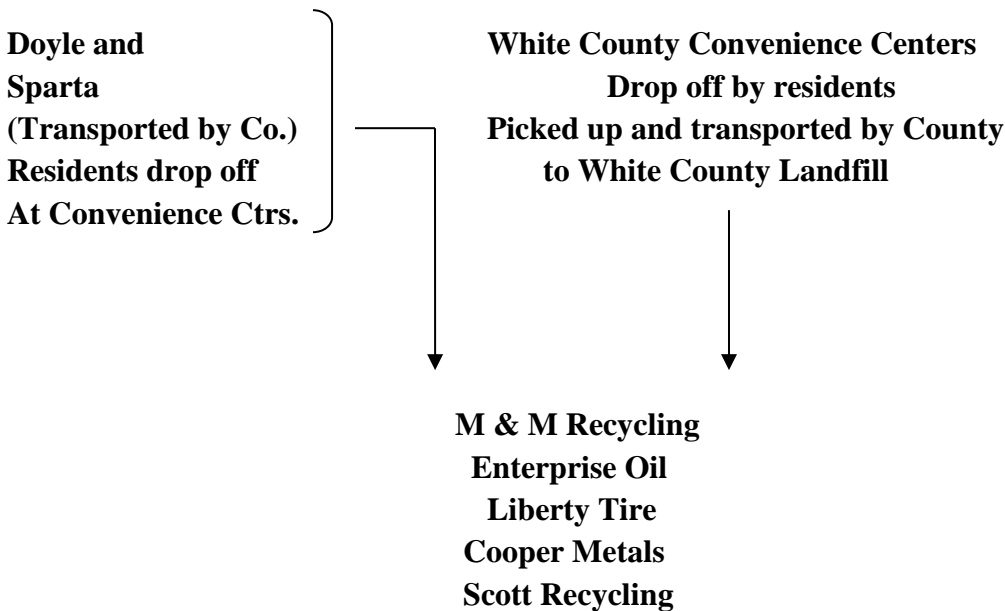
Provide a detailed description of the waste collection system in the county and each municipality, including a narrative of the life cycle of solid waste from the moment it becomes waste (loses value) until it ceases to be a waste by becoming a useful product, residual landfill material or an emission 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.

**4.1 - White County Waste Stream**

**HOUSEHOLD TRASH**

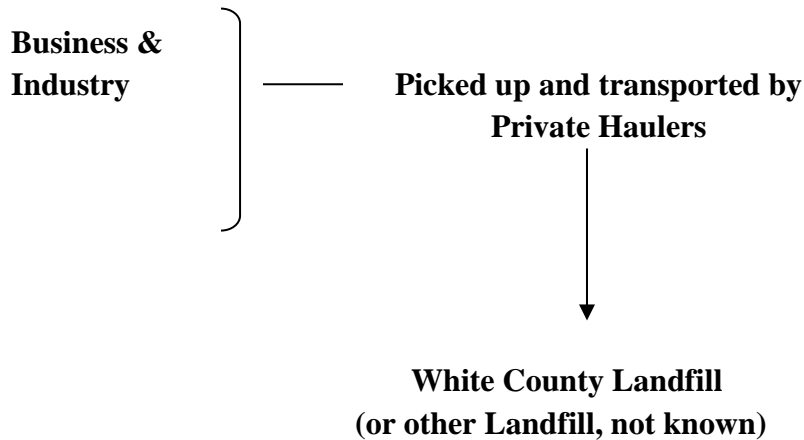


**RECYCLABLES**

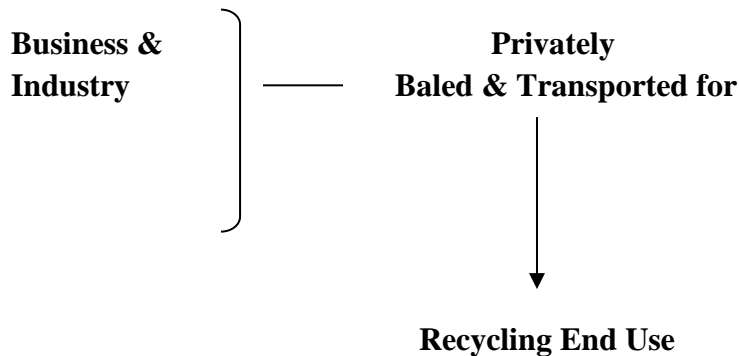




**SOLID WASTE**  
**BUSINESS & INDUSTRY**



**RECYCLABLES**  
**BUSINESS & INDUSTRY**



Curbside trash pickup for household trash is provided to residents in Sparta and Doyle. In Sparta, trash is picked up weekly by City garbage trucks and transported to the City of Sparta Transfer Station. Household trash is then loaded and transported to the White County Class I Landfill. There are three full-time solid waste workers working for the City of Sparta, and one part-time worker. Mr. D.C. Bussell is the Superintendent and he works part-time for the Sparta Solid Waste Department supervising employees and serving in the capacity of Solid Waste Director. He is supervised by the City of Sparta Mayor. Transporters for solid waste in City of Sparta are Ron Pittman, residential hauler, Lonnie Emerton, commercial/business hauler, and Keith Whitenburg, brush hauler. Roger Simpson works at the City of Sparta Transfer Station. The City of Sparta services approximately 2,200 garbage cans each week. They also service 165 dumpsters provided to businesses daily, weekly or monthly, depending on how much waste is generated. Sparta collects and delivers 5,168.6 tons of household trash to White County Class 1 Landfill for disposal annually.

The City of Doyle picks up household trash curbside and transports it directly to the White County Class I Landfill. They have one solid waste worker that works 35 hours per week. His name is Mike Officer. The City of Doyle does not provide containers to residents for trash. They bag their own garbage and place bags in front of their homes or business for curbside pickup. Dumpsters are not provided to businesses by the City of Doyle. Mike drives a one ton truck and tosses the garbage bags into the truck. Mike takes household trash and whatever recyclables he picked up to the White County Class 1 Landfill. 103.66 tons of household garbage are transported for disposal at the White County Class 1 Landfill annually. Mike is supervised by the City Mayor.

County workers pick up household trash from 11 Convenience Centers located around White County. Drivers pick up approximately two loads of trash from each Convenience Center per week. Drivers for White County are Michael Duncan, Dennis Barrier and Terry Stoglin. Each week, in addition to household trash, drivers make two trips to pick up plastics, two trips for cardboard, one trip for metal, and four trips to pick up wood at each of the Convenience Centers. Each Convenience Center collects about 13 tons of waste annually amounting to 14,525.74 tons of household trash taken to the White County Class I Landfill annually. All waste is transported to the White County Class 1 Landfill. Household waste is put into the Landfill. Recyclables, including paper, cardboard and plastics are collected and transported by county vehicles to M&M Recycling for recycling. Metals and batteries are sold by the county to Cooper Recycling to help finance solid waste costs. Cooper Recycling picks up the metal for recycling. Enterprise Oil Company picks up and recycles used oil, used cooking oil and antifreeze collected at Convenience Centers. E-Waste is transported Convenience Centers by county workers to the Landfill for pickup by Scott Recycling. Tires are collected at Convenience Centers and transported by the county to the Landfill. Liberty Tire picks up the used tires for recycling as needed. Latex paint is collected and dried at the landfill for disposal. Glass is crushed for use at the Landfill to help with erosion control. Hazardous waste accumulated by county residents is transported by residents to nearby counties for disposal through TDEC at annual Hazardous Waste Days.

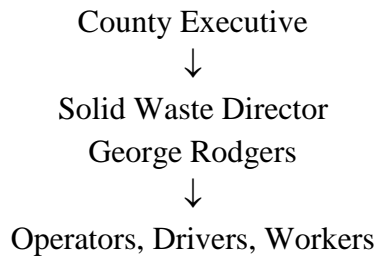
Operators of each White County Convenience Center are listed in the following section.

**ITEM 5**

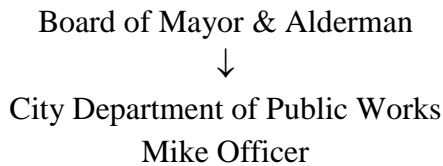
*Provide organizational charts of each county and municipality’s solid waste program and staff arrangement. Identify needed positions, facilities and equipment that a fully integrated solid waste system would have to provide at a full level of service. Provide a page-size, scaled county map indicating the location of all solid waste 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 shortcomings in service and note what might be needed to fill this need.*

**5.1 – White County Organizational Chart**

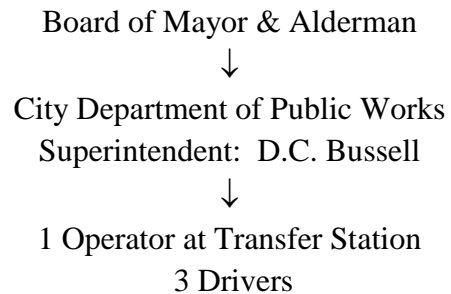
**WHITE COUNTY**



**DOYLE**



**SPARTA**



White County currently has nine full-time workers and 19 part-time workers in the Solid Waste Department. A total of \$522,086.00 is spent on salaries and benefits for solid waste workers annually. George Rodgers is the full-time Solid Waste Director. White County is currently looking for another Solid Waste Director, as Mr. Rodgers would like to retire. Administrative Assistant, Heather Grissom, helps both the County Executive and Solid Waste Director in matters regarding solid waste disposal in White County.

According to White County Administrative Assistant, Heather Grissom, it is estimated that White County could continue providing services through the 11 Convenience Centers even if the amount of household trash doubled. She said that additional trips to each Convenience Center could be scheduled should the amount of trash increase by a little. This would not require adding more personnel to the Solid Waste Department. However, in the next five years, equipment will be needed to be replaced for the Solid Waste to continue providing services at the current rate. Equipment needed consists of: a roll off truck, bulldozer (D-6-D8), compactor, Truck,

Articulated, Skid Steerer and a pickup truck. This amounts to approximately \$1,270,000.00 worth of equipment.

The biggest problem White County has is the expense in operating the White County Class 1 Landfill. Property taxes have already risen by over one million dollars in the last ten years. Salaries have not increased by much in the last decade and the unemployment rate is 9%. Per capita income in White County is significantly lower when compared to per capita income in Tennessee and the U.S. If White County accepted household garbage for the Class 1 Landfill from adjoining counties, it may help to establish a revenue stream to help finance the high solid waste costs. For example, Putnam County and several other adjoining counties are hauling household trash all the way to Rhea County. White County might consider checking with other counties to see how much counties would be willing to pay to dispose of their trash in White County, thereby saving in transportation costs. Even though counties may have to pay a higher disposal rate to White County, it could be offset by the savings in transportation costs.

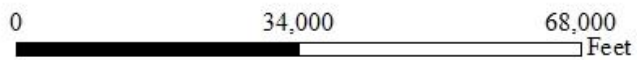
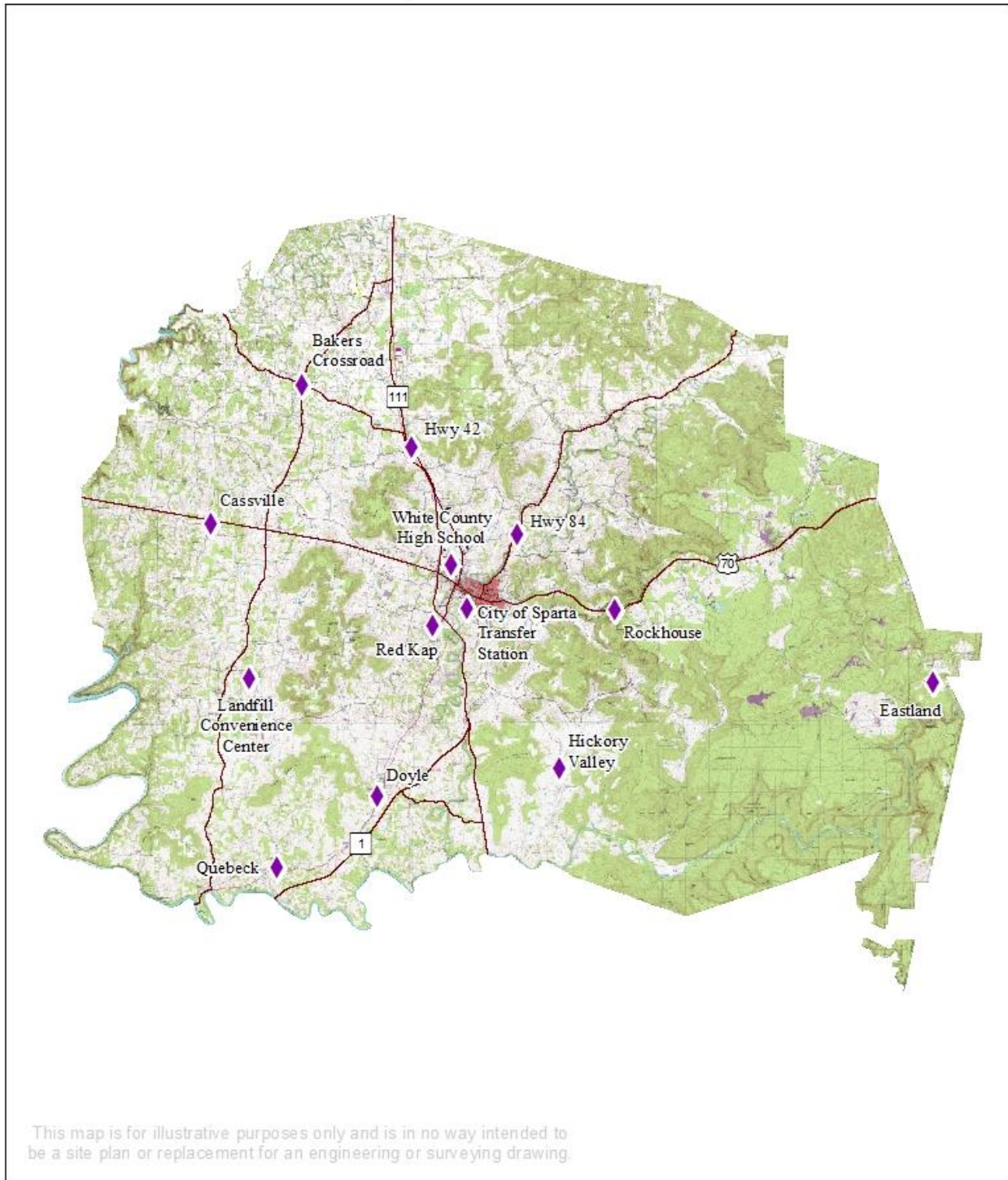
The City of Doyle has one part-time maintenance worker, who also picks up the trash in Doyle. He services approximately 200 households and businesses each week. His name is Mike Officer and he works 35 hours per week for the city. The City of Doyle uses a one ton truck to pick up and transport the household garbage. Doyle only has 540 residents, so there is not much money available to improve the solid waste department. The Budget for the solid waste in Doyle is \$13,000 annually. This covers the salary, benefits and transportation costs for transporting waste generated in Doyle to the White County Landfill.

According to Lori Sparks, City Clerk, City of Doyle, equipment most needed to improve solid waste management for the City of Doyle is a wood chipper. A wood chipper would eliminate the time and expense involved in hauling brush to the White County Landfill. In addition, wood chips could either be sold to increase revenue to the county, or used in beautification for city properties. The chipper would help divert waste currently being hauled to the Landfill.

The City of Sparta has three full-time positions and one part-time position. The part-time position is filled by D.C. Bussell, who supervises the three drivers who pick up trash within the city limits. Ron Pittman picks up the residential trash, Lonnie Emerton picks up commercial trash, and Keith Whitenburg collects brush within city limits. Mr. Bussell reports that the City of Sparta Solid Waste Department is functioning well on the \$352,157.00 budget they operate under. He said the biggest issue they have coming up in the future is to replace equipment that is old. They are considering a commercial 28 yard front loader garbage truck at the cost of \$280,000, or a 20 yard automated residential truck, at a cost of \$220,000. Other needed equipment is for a transfer trailer that can haul trash to the landfill for disposal. The trailer is estimated to cost \$85,000.

## 5.2 – White County Convenience Centers

# White County Convenience Centers



**A. Bakers Crossroads Convenience Center**  
**4059 Burgess Falls Road, Sparta, TN 38583**  
**Permit # 93-112-0445 Phone # 931/761-7654**  
**Operators: Dewey Pittman and Harold Frazier**



**This Convenience Center is open Monday, Wednesday and Friday from 6 a.m. to 6 p.m. Saturdays it is open from 7 a.m. to 5:00 p.m. Recyclables are collected: metals, plastic, paper, glass, batteries and tires.**

**B. Cassville Convenience Center**  
**181 Cassville Lane, Sparta, TN 38583**  
**Permit # 93-107-0337 Phone 931/761-7785**  
**Operators: Ray Brock & David Brock**



**This Convenience Center is open Monday, Wednesday and Friday from 6 a.m. to 6 p.m. Open Saturday 7 a.m. to 5 p.m. Recyclables collected: metals, plastic, paper, glass, batteries and tires.**

**C. Landfill Convenience Center**

**5876 Gum Spring Mountain Road, Sparta, TN 38583**

**Permit # 93-0471 Phone 931/761-7441**

**Operator: Barry Howard**



**Open Monday, Wednesday 3 to 6 pm. Friday 2 pm to 6 pm. Saturday 7 am to 5 pm. All recycling picked up from Convenience Centers are taken to the Landfill for recycling. Metal is collected and then is recycled by Cooper Recycling. Paper, cardboard and plastic is loaded and transported to M&M Recycling. Liberty Tires picks up used tires at \$1.00 per tire cost. White County is looking for other options for recycling electronics.**



**D. Doyle Convenience Center**

**5820 McMinnville Hwy., Doyle, TN 38559**

**Permit # 93-107-0338 Phone # 931/657-5578**

**Operators: Steve Dodson & Terry Scott**



**Open Monday, Wednesday and Friday from 6 am to 6 pm. Open Saturday 7 am to 5 pm. Recyclables collected include: metals, plastic, used oil, paper, antifreeze, glass, batteries, tires and paint.**

**E. Red Kap Convenience Center**  
**265 Iris Drive, Sparta, TN 38583**  
**Permit # 93-107-0336 Phone 931/738-9360**  
**Operators: David Merriman & Amerce Luna**



**Open Monday, Wednesday & Friday 6 am to 6 pm. Open Saturday 7 am to 5 pm. Recycling collected: metals, plastic, used oil, paper, antifreeze, glass, e-scrap, batteries and tires.**

**F. Rock House Convenience Center**  
**3737 Crossville Hwy., Sparta, TN 38583**  
**Permit #931-107-0235 Phone # 931/738-7181**  
**Operators: Jackie Davis & Jamie Prater**



**Open Monday, Wednesday & Friday 6 am to 6 pm. Saturday 7 am to 5 pm. Recycling collected: metals, plastic, used oil, paper, antifreeze, e-scrap, batteries, tires and paint.**

**Electronics collected at Convenience Centers are not kept under roof. Scott Recycling used to pick up electronics free of charge but now wants to charge White County a disposal fee based on weight. Because White County does not have this amount in the budget, electronics are collecting at Convenience Centers without a disposal plan in place.**

**G. Hwy. 84 Convenience Center**  
**2289 Monterey Hwy., Sparta, TN 38583**  
**Permit # 93-0453 Phone # 931/738-2289**  
**Operators: Larry Doot & David Carr**



**Open Monday, Wednesday & Friday 6 am to 6 pm. Open Saturday 7 am to 5 pm. Recyclables collected include: metals, plastic, used oil, paper, glass, e-scrap, batteries, tires and paint.**

**In the center of the photo the electronics are stacked in large piles because they are no longer collected by Scott Recycling free of charge.**

**H. City of Sparta Transfer Station**  
**167 S. Carter Street, Sparta, TN 38583**  
**Permit # TRF 93-0043 Phone # 931/836-3248**  
**Operator: Roger Simpson**



**Open Monday, Tuesday, Thursday & Friday 9 am to 5 pm. Open Saturday 8 am to 6 pm.**  
**Recyclables are collected by White County drivers and taken to the White County Landfill. Cardboard, paper and plastic is taken to M&M Recycling.**

**I. White County High School  
267 Allen Drive, Sparta, TN  
Operator: Unmanned Collection Center**



**Bins are provided behind the school for recycling paper.**

**J. Hwy. 42 Convenience Center**  
**1928 Roberts Matthews Highway, Sparta, TN 38583**  
**Permit # 93-107-0236 Phone # 931/738-7180**  
**Operators: Clifton Poss & Lynwood Howard**



**Open Monday, Wednesday & Friday 6 am to 6 pm. Open Saturday 7 am to 5 pm.**  
**Recyclables collected include: metals, plastic, used oil, paper, antifreeze, glass, e-scrap, batteries, tires and paint.**

**K. Eastland Convenience Center**  
**235 Eastland Cemetery Road**  
**Permit # 93-0498 Phone # 931/935-2355**  
**Operators: Marie Underwood & Sandy Crabtree**



**Open Monday & Wednesday 3 pm to 6 pm. Open Friday 2 to 6 pm. Open Saturday 7 am to 5 pm.**  
**Recyclables collected include: metals, plastic, used oil, paper, antifreeze, glass, e-scrap, batteries, tires and paint.**



**L. Hickory Valley Convenience Center**  
**5262 Hickory Valley Road, Sparta, TN 38583**  
**Permit # 93-0514 Phone # 931/739-5140**  
**Operator: Richard Andrews**



**Hours: Monday & Wednesday 3 to 6 pm. Friday 2 to 6 pm. Saturday open 7 am to 5 pm.**  
**Recyclables collected include: metals, paper, antifreeze, used oil, e-scrap, batteries, tires and paint.**

**M. Quebeck Convenience Centers  
110 Quebeck Road, Quebeck, TN  
Permit # 93-0499 Phone # 931/657-2311  
Operator: Lonnie Slatton**



**Open Monday and Wednesday 3 to 6 pm. Friday open 2 to 6 pm. Saturday open 7 am to 5 pm. Recyclables collected include: metals, paper, batteries and tires. Electronics, tires and paint are collected but not placed under roof. The tires, electronics and paint lids collect water in the summer and provide a place for mosquitos to breed.**

**N. M & M Recycling**  
**161 Pallet Lane, Sparta, TN 38583**  
**Privately owned.**



**Recycling is collected from the City of Doyle, City of Sparta and White County Convenience Centers. Cardboard, plastic and paper is taken to M&M Recycling for baling and sale. M&M Recycling is privately owned and sells recycling. Although White County diverts recycling from the landfill in by taking it to M&M, they have time and money involved in transporting the recycling. White County does not receive any revenue from the sale of recyclables.**

## **ITEM 6**

*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 ongoing 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?*

White County has set up recycling opportunities at every Convenience Center. Electronics, tires, clothing and shoes, plastics, cardboard, used oils, antifreeze, metals and paper are collected throughout the county. White County derives income from the sale of metal. Electronics have been recycled through Scott Recycling. Enterprise Oil recycles used oil and antifreeze. Tires are recycled through Liberty Tire. Clothing and shoes are picked up and recycled by a nonprofit organization. However, White County does not have a place to collect and store recyclables, so plastics, cardboard and paper are picked up by county trucks and delivered to M&M, a private recycling company, for baling and for sale. White County does not get any revenue from this. Revenue from the sale of recycling would be beneficial for White County to help fund the solid waste department.

Every Convenience Center in White County has dumpsters and recycling bins that are clearly marked so trash can be easily sorted by residents, should they choose to do so. In the White County 2014 APR, it was stated by County Executive Denny Wayne, "... there is a lack of public cooperation to recycle." Recycling rates could be increased through education. Operators at the Convenience Centers could provide education to each resident that comes to the Center to dispose of their trash. Each time a resident pulls in to get rid of household garbage, the operators could teach them to pull out metals, cardboard and other recyclables. Sorting at home is easier rather than trying to sort recyclables after they have been contaminated by garbage. Operators could encourage residents to sort recyclables from their waste before bagging it for transport.

Recycling Education could be provided alongside Litter Education in the public school system. Education could encompass best practices of waste management so that residents would understand the importance of sorting trash and pulling out the recyclables. Litter education and recycling education could be provided at the same time in the school system, county fair, Liberty Square Celebration and through Pacesetters. Additional recycling picked up at Convenience Centers could continue the same process as the recycling now, until changes were made in how White County recycles. Currently, the only money spent on education in solid waste management is \$7,300 received from the TDOT Litter Grant and is spent primarily on litter abatement.

Business and industry are recycling to help decrease their solid waste disposal costs. This is very helpful, because the amount they recycle can be counted toward the 25% waste diversion rates required by the Statewide Solid Waste Management Plan. In 2014, 2,071.8 tons of waste was recycled by 17 businesses and industries. White County government recycled 814.7 tons of waste in addition to that. Having business and industry recycling as much as possible is a very positive start toward recycling in White County. Another way to increase recycling in this county is to ask business and industry if they would be willing to educate their employees on the benefits of recycling. Brochures teaching employees how to recycle at home could be beneficial and help provide education that will increase recycling in the residential sector.

The following industries recycle much of their waste: BASF Corporation, metals and OCC; Federal Mogul, metals, OCC, electronics and glass; TLC recycles OCC; S&S Precision recycles metals; CLS Rotational recycles polyethylene, Norcom of TN recycles metal; Jacobson Co. recycles metal, OCC, and pallets; Precision Molding recycles metal, OCC, plastic glass and electronics; Wilson Sporting Goods recycles metal and OCC; LTD recycles OCC; Wal-Mart recycles metal, paper, OCC, plastic, lead-acid batteries, used fluid, scrap tires, cooking oil, food and bone, fat & meats; Dollar General Stores recycle OCC; White County recycles metals, OCC, newspaper, latex paint and used oil.

Publicizing the efforts of businesses and industries that recycle could be helpful in encouraging residents to recycle as well. Jackson Kayak is expanding in White County and they have a zero waste goal. Other companies who recycle mixed paper, mixed metals, cardboard and other recyclables can serve as a good example to residents and also encourage their own employees to recycle. Collectively, the companies who are recycling employ many of the workers in White County. Getting the businesses to help educate their employees about recycling could increase recycling rates in White County.

Brochures teaching residents what can be recycled and how to recycle could be distributed in government offices, businesses, library and private businesses. It's easier for residents to recycle if they believe everyone else is recycling too. Teaching recycling in schools so that children go home and educate their parents about the environmental benefits is one of the most successful ways to teach a concept.

In the future, as recycling rates increase among residents, it could be feasible to build a recycling center that could process recyclables to establish a revenue stream for White County.

**ITEM 7**

*The Solid Waste Management Act of 1991 requires all regions to 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 the reduction rate by each of these goal calculation methodologies. Discuss how the region made the goal by each methodology, or why it 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.*

**7.1 – White County Waste Reduction Rates**

<b>Year</b>	<b>Per-Capita %</b>	<b>Real-Time %</b>
<b>2002</b>	25 %	23 %
<b>2003</b>	28 %	30 %
<b>2004</b>	42 %	37 %
<b>2005</b>	2 %	28 %
<b>2006</b>	35 %	33 %
<b>2007</b>	36 %	37 %
<b>2008</b>	38 %	13 %
<b>2009</b>	24 %	35 %
<b>2010</b>	36 %	54 %
<b>2011</b>	40 %	51 %
<b>2012</b>	37 %	77 %
<b>2013</b>	41%	50%

Although the waste diversion figures for 2014 are not yet available, it is assumed that White County did meet the 25% waste diversion goal as in the past. The county is onboard with recycling as much as possible, and even take recyclables free of charge to M&M to help reduce the amount of waste that goes into the landfill. Their next step will be to try to get residents to recycle more by understanding the benefits and savings to the county. Many residents do not realize the impact that throwing recyclables into a landfill have on the economy or on the environment. Education to impart this knowledge is important to increase recycling – especially since White County would like to have their own recycling center in the future so they can add a revenue stream to the solid waste department. In 2013, White County diverted 50% of the waste they collected from the landfill. They accomplished this in several ways. First, they took recyclables they could not process to M&M Recycling. This diverted paper, plastic and cardboard from disposal in the White County Class 1 Landfill.

Second, they encouraged businesses to recycle and to report amounts that were diverted from White Class 1 Landfill. The amounts reported were 2,071.8 tons. Third, the county recycled a total of 814.7 tons of metals, diverting it from the landfill.

A per capita % of 41 was the result of comparing the amount of waste disposed in 2013 to the baseline amount established by the Solid Waste Management Act of 1991. This is more than the 25% diversion required by TDEC. White County was compliant in diverting waste from the Landfill in 2013, and it is assumed they were also compliant in 2014.

**ITEM 8**

(a) Using the example shown below, 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.

### 8.1 – White County Collection and Disposal Capacity

Site Name (s)	Current Capacity	Maximum Capacity	Projected Life of Facility
Quebeck Convenience Center	13 tons	Twice as much	25 yrs >
Hickory Valley Convenience Center	13 tons	Twice as much	25 yrs >
Eastland Convenience Center	13 tons	Twice as much	25 yrs >
Cassville Convenience Center	13 tons	Twice as much	25 yrs >
Bakers Crossroads Convenience Center	13 tons	Twice as much	25 yrs >
Doyle Convenience Center	13 tons	Twice as much	25 yrs >
Highway 42 Convenience Center	13 tons	Twice as much	25 yrs >
Red Kap Convenience Center	13 tons	Twice as much	25 yrs >
Highway 84 Convenience Center	13 tons	Twice as much	25 yrs >
Rock House Convenience Center	13 tons	Twice as much	25 yrs >
Landfill Convenience Center	13 tons	Twice as much	33 yrs >
City of Sparta Transfer Station	5,168.60	Twice as much	25 yrs >
White County Landfill Class 1	14,045	At least twice as much	33 yrs >
White County Landfill Class III/IV	5,985	Unknown	Not Available
<b>Total:</b>	<b>25,341.6</b>	<b>At least twice as much</b>	<b>25-33 yrs &gt;</b>

White County has plenty of space in their Class I Landfill to dispose of household trash for at least the next 30 years thanks to the construction of a new cell and the Landfill that is almost complete. Should the population increase rapidly due to unexpected change – such as a large industry settling in White County – the additional waste can be handled by just making more trips from the Convenience Centers to the Landfill. The White



County Solid Waste Department is currently operating below full capacity. According to Heather Grissom, Administrative Assistant, the Convenience Centers could accept up to double the waste they currently accept, with only the addition of more trips to haul recyclables and household trash to the Landfill. This would add more wear and tear on the equipment, requiring that equipment be replaced sooner than expected. They have a list of equipment that needs replacement in the next five years. The equipment needed costs over one million dollars. Approximately 13 tons of solid waste is hauled from each Convenience Center. This waste is made up of household waste and recycling. Recycling is diverted from the Landfill to M&M Recycling, Scott Recycling, Cooper Metals, Enterprise Oil and Liberty Tires.

It is expected that the White County Class III/IV Landfill will have plenty of space for disposal for the next five years since White County has not reported in their APR that additional Landfill space is needed. The City of Doyle is hoping to purchase a wood chipper. This will decrease the amount of waste hauled from Doyle to the Class III/IV Landfill. Since the City of Doyle is not expected to grow for the next five years, it is expected that waste will continue to be managed by the part-time employee.

The City of Sparta is managing their waste with the transfer station funded by the City of Sparta. They need to purchase a garbage truck within a year or two so they can continue picking up waste at the current rate. They are currently pricing garbage trucks and hoping to get funding budgeted in the next year or two through the city budget. In addition, they are hoping to get a trailer to help transport trash from the transfer station to White County Class 1 Landfill.

There are a few problems White County is working to change. The first problem is that Scott Recycling is no longer picking up electronics free of charge from the county. The county has not budgeted costs for disposing of the recycling and so electronics are becoming stockpiled at the Convenience Centers. They have not come up with a plan or funding to resolve this problem.

The second problem is that the solid waste department needs a lot of revenue to keep the White Counting Landfill funded. Another revenue stream would be helpful. One suggestion is that they market their Landfill space to adjoining counties who haul household trash all the way to Rhea County. Another suggestion is to get a strong educational program going for residents to teach them how to recycle. As the numbers of recyclables collected increase, it will be beneficial for White County to begin baling some of the recyclables to sell to benefit the county, rather than just diverting them from disposal in the Landfill. Encouraging businesses and schools to have recycling drives to collect large amount of recyclables at once – for instance, phone books – will help educate residents and get a large amount of recycling all at once that could bring in revenue. As there is more to recycle, the county can make a change to receive revenue from recyclables. If the county purchased a baler for the recyclables, and had a building to house the baler and process and store recyclables they could begin baling plastic, cardboard and paper and selling these to establish a revenue stream. This will be something they can work toward in the future as residents learn about the importance of recycling, adopt a system for sorting their trash and get into a habit of recycling.

A third problem at the White County Convenience Centers is that recycling is stored mostly in the open. Electronics, tires, paint and oil are not stored under roof. Water pools in these items whenever it rains and

certainly causes problems with mosquitos in the warm weather. White County could apply for grants this year to help fund updating their used oil recycling centers. Both the Recycling Grant and Waste Reduction Grant could help fund some of the equipment White County needs to replace aging equipment.

(b) Provide a chart or other graphical representation showing service area coverage by public and private waste collectors 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.

## 8.2 -White County Public and Private Waste Hauler Service Area

<b>Provider of Service</b>	<b>Service Area</b>	<b>Population Total Under This Service</b>	<b>Frequency of Service (Weekly, Bi-weekly, on call, etc.)</b>	<b>Annual Tonnage Capacity</b>	<b>Type Service (Curbside, Convenience Center, Green Box)</b>
White County	County-Wide	26,747	Hours of Operation	14,525.74	Convenience Center
Doyle	City Limits	540	Weekly	103.66	Curbside
Sparta	City Limits	5,158	Weekly	5,168.6	Curbside
Private Haulers	County-Wide	Business & Industry	Weekly	231.8 tons	Subscription Service

Commercial and industrial waste is picked up from industries and business by private haulers. Some of the private haulers use the White County landfill for disposal, although other haulers may go elsewhere. Cumberland Waste Disposal brought 144.70 tons to White County Landfill in 2014. Faye Portables brought in 62.49 tons. Hagland Trash Pickup brought 12.45 tons. RC Waste Management brought in 12.17 tons. A total of 231.8 tons came in from private haulers in 2014. It is uncertain how much waste is being picked up and carried elsewhere. Tipping fees paid by private haulers consist of almost half a million dollars per year paid to the White County landfill.

**ITEM 9**

Complete the following chart 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.

### 9.1 – White County Solid Waste Department Expenditures and Revenue

<b>EXPENDITURES</b>			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$ 522,086.00		
Transportation/hauling	\$ 162,130.00		
Collection and Disposal Systems (contracted services)	\$ 37,888.00		
Equipment	154,250.00	1,270,000.00	\$1,424,250.00
Sites (Permits)	27,332.00		
Convenience Centers	\$ 190,156.64		
Transfer Station	0 (City pays)		
Recycling Center	0		
MRF	0		
Landfills			
Site (Engineering)	\$ 36,336.00		
Operation	\$ 970,942.54		
Closure	\$1,000,000.00		
Post Closure Care	\$1,221,408.09		
Administration (supplies, communication costs, etc.)	\$ 65,306.00		
Education	\$ 7,300.00		
Public	0		
Continuing Ed.	0		
Capital Projects (new landfill)	\$1,750,000.00		

REVENUE			
Host agreement fee	0		
Tipping fees	\$ 452,411.60		
Property taxes	0		
Sales tax	0		
Sale of Recyclables (metals)	\$ 66,527.20		
Disposal Fees	\$ 626,992.22		
Collection charges	0		
Industrial or Commercial charges	(see tipping fees)		
Residential charges	(see disposal fees)		
Convenience Centers	0		
Transfer Station charges	0		
Sale of Methane Gas	0		
Other sources: (Grants, bonds, interest, sales, etc.)	Grant - 18,889.70 TDOT grant \$7,300		

These expenditures are likely to remain the same over the next five years due to high costs of operating the White County Landfill. There are post-closure costs for cells that have already closed. There is expense for constructing a new cell to prolong the Landfill life expectancy another approximately 30 years, if the amount of waste that is landfilled stays the same. Soon, the cell currently in use will need closure, which will cost extra as well. Approximately \$4 million dollars will be needed in the next five years for landfill costs alone. It is estimated that the White County Solid Waste Department could accept about twice as much trash as they are currently accepting right now without having to add more personnel or equipment. New equipment will be needed to replace old equipment to continue providing the level of service White County is providing to residents right now. Over the next five years, it is anticipated that White County will need over one million dollars worth of new equipment. The Solid Waste Department needs additional revenue. The only two ways the Solid Waste could generate additional revenue is by increasing the amount of tipping fees they receive by accepting additional household trash from surrounding counties. The other way is to develop a revenue stream through the sale of recyclables. Property taxes have already been increased by over one million dollars in the last decade, and this is a burden on residents facing a 9% unemployment rate and sluggish job market.

**ITEM 10**

*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 Chart 9 as an example to present data.*

### 10.1 – White County Solid Waste Revenue Sources

Community	Current Revenue Source
White County	Solid Waste Funds General Fund Tipping Fees Grants / Federal & State Sale of Metals
Doyle	Solid Waste Fees collected
Sparta	Solid Waste Fees collected

There are several sources of revenue that White County uses for the solid waste disposal. One source of revenue is the sale of recyclables. Currently, the only recyclable that brings revenue to White County is the sale of metals in the amount of \$66,527.20. Other recyclables such as cardboard, newspaper and plastic, are hauled to M&M Recycling, a private recycling company, who bales and sells them. Hauling the recyclables collected to M&M is a way to divert some of the waste from the Class I landfill, as required by the Solid Waste Management Act of 1991. However, there is expense involved in transporting the recyclables to M&M which is absorbed by White County Solid Waste Department. There is also a loss in revenue that the county could be receiving from the sale of recyclables. White County does not have a location where recyclables can be collected, baled and sold to benefit the county. Perhaps White County could request that M&M share part of the revenue they receive from the sale of recyclables to help cover transport and other costs involved in collecting recyclables. It is unknown whether M&M would share revenue with White County. Another option is for White County to transport recyclables to an adjoining county who would be willing to pay White County for those recyclables, or at least share in the profits received by the sale of such.

Another source of revenue for the Solid Waste Department are tipping fees, amounting to \$1,079,403.80 in 2014. Tipping fees could be increased as a source of revenue should White County work with surrounding counties and private haulers to offer landfill disposal services. Right now there is approximately 2.5 years left of use at the current rate of disposal in the cell White County has been using. A new cell is currently being constructed at the White County Landfill. The new cell will provide an additional 30 years of landfill space at the current rate of use. If the amount of waste accepted at the landfill was increased, although the cell would not last for an additional 30 years, more income could be derived, providing revenue for the construction of more cells at the landfill as needed. Prices for disposing solid waste at landfills will continue to increase, as

surrounding landfills close and are not replaced. This could benefit White County financially. According to Mr. Robinson, County Executive, White County can accept twice as much MSW without additional expense in equipment or personnel.

Another source of revenue for the Solid Waste Department is user fees. Fees are charged on the utility bills to help cover disposal costs. Fees are \$2.50 a month for individuals 65 years of age or older, \$5.00 per month per residents, and \$14.00 per month per businesses. There are currently 9,729 households in White County. Adding \$1.00 to each bill would increase revenue by approximately \$10,000 per year.

Grants are a great way to finance projects or equipment that can increase revenue for White County. In 2014, White County received \$26,189.70 in grants from TDEC and TDOT. If White County applied for a recycling or waste reduction grant, they could possibly get enough funds to build a metal building at the Landfill to process recyclables and to purchase a baler. The building could be used to bale plastics, paper and cardboard and store recyclables for sale. Revenue from the sale of recyclables and the savings from transporting recyclables to M&M would provide revenue that could be increased as education is provided to residents. However, a cost/benefit analysis has not been done regarding establishing a recycling center. At this time because of the expense involved in operating the Landfill, it may be more beneficial to partner with others who can take care of processing the recyclables and just take a smaller share in the profits. Since White County feels there is a lack of interest and participation in recycling by residents, there may not be a large revenue stream that can be derived until more residents are willing to sort their trash.

Establishing more revenue will be crucial in the next five years, as approximately \$1,270,000 worth of equipment is needed within this time frame to continue providing services at the current level. In addition, there are expenses involved with building the new cell, closure costs for the cell currently being used that will be closed in the next couple of years, and post-closure care. Costs involved in operating, expanding and closing a cell at the Landfill amount to approximately four million dollars. This is in addition to the usually annual expenditures that are made to keep the Solid Waste Department functioning, such as salaries and benefits.

## **ITEM 11**

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

There is little change in how White County plans to manage their solid waste in the next five years. A new cell at the White County landfill is under construction and will be able to handle waste currently being generated by the county. There is not a large enough increase in industry or population to place excessive demand on the current landfill, especially since the construction of the new cell. The old cell should last approximately 2.5 more years at the current level of use giving enough time for the new cell to be completed. There is only a 6 to 7% population growth expected during the next five years, and the new cell is anticipated to last around 30 years. Therefore, at this time there is anticipated to be enough space for waste for the next 32.5 years at the current facility.

To offset extra waste generated by increased population or waste generated by future businesses established in the next five years, recycling could easily be increased. Existing industries diligently recycle cardboard, metals, tires and used oil. Jackson Kayak recycles and reuses scrap foam generated from the manufacturing process. Education about recycling could be provided through contact with businesses currently not recycling – or just not reporting -- their recycling to White County Solid Waste Department. Businesses can be encouraged to increase recycling more of their waste to help the county with achieving at least a 25% recycling rate. In addition, businesses could be encouraged to offer incentives to employees who recycle to encourage recycling at home.

Another way to offset extra waste generated by increased population is by providing education in the public school system to teach recycling. Training children how and why to recycle is the first step in encouraging recycling. Children go home and teach their parents. Schools can encourage recycling by providing recycling for students. This could be done, for instance, through phone book drives, or aluminum can collections, etc. to teach and encourage recycling. White County Solid Waste Department placed recycling bins at White County High School to encourage recycling. As more education is provided in the community, residents are more likely to recycle to benefit the environment and local economy.

The greatest problem currently facing White County is one of costs. The need to construct a new cell for the Class 1 Landfill, plus the cost of closing the old cell has impacted the Solid Waste budget. Almost \$4 million additional dollars will be required for financing costs associated with the Landfill. Plus, over \$1 million worth of equipment will be needed over the next five years to assure that the currently level of service is maintained.

The State requires that a county provide a minimum level of service if there is less than 90 percent collection coverage provided by private and public sectors. This involves the establishment of convenience centers that are adequate to serve all residents. White County currently provides eleven convenience centers for county residents. Recycling is provided at all centers for a variety of recyclables, plus collects difficult wastes such as tires, paints and electronics. In addition, clothing and shoes are collected at every Center, helping to decrease



the amount of clothing that gets thrown into the landfill. Household waste is collected at all convenience centers for transport to the White County landfill.

The following equipment is needed within the next five years so solid waste services can be provided to the residents of White County at the current level or beyond. Funding for needed equipment will be provided through the General Fund appropriations or state or federal grants.

- 1) Bulldozer (D6-D8) - \$300,000
- 2) Compactor - \$600,000
- 3) Truck, Articulated - \$120,000-150,000
- 4) Skid Steerer - \$40,000
- 5) Pickup Truck - \$40,000-\$60,000
- 6) Roll off truck - \$140,000

Total amount of equipment needed within the next five years for the solid waste to continue doing business as usual: \$1,270,000.00. Added to the \$154,250.00 that is needed to replace equipment in 2014, it totals \$1,424,250.00 needed to keep the solid waste functioning as the current level.

The following equipment is needed within the next five years for the City of Sparta to continue providing services at the current rate:

- 1) Commercial 28 yard front loader garbage truck, Cost: \$280,000, or
- 2) A 20 yard automated residential truck, Cost: \$220,000.
- 3) Transfer trailer that can haul trash to the landfill for disposal. Cost: \$85,000.

The following equipment is on the City of Doyle wish list. They would like a chipper that would chip brush rather than hauling brush from the City of Doyle to White County Class III/IV Landfill. The chips could be used in landscaping to beautify the city or used by residents.

- 1) Wood Chipper

## Sources

U.S. Census Bureau

University of Tennessee CBER

Tennessee Department of Labor and Workforce Development

U.S. Bureau of Economic Analysis

Tennessee Department of Revenue

Federal Deposit Insurance Corporation

Tennessee Comptroller of the Treasury

White County Operating Budget FY14

2014 White County Solid Waste Annual Progress Report

Upper Cumberland Development District GIS Department

White County websites, including: [whitecountyttn.gov](http://whitecountyttn.gov), [spartatn.com](http://spartatn.com), and [sparta-chamber.net](http://sparta-chamber.net)

Interview with Heather Grissom, White County Executive Assistant, April 2015

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