

# *Cannon County, Tennessee Solid Waste Planning Region*



## *Solid Waste Needs Assessment*

**Prepared by:  
The Upper Cumberland County Development District  
June 2013**

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  
401 Church Street, 8th Floor  
Nashville, TN 37243-1533

## **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

### **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.*

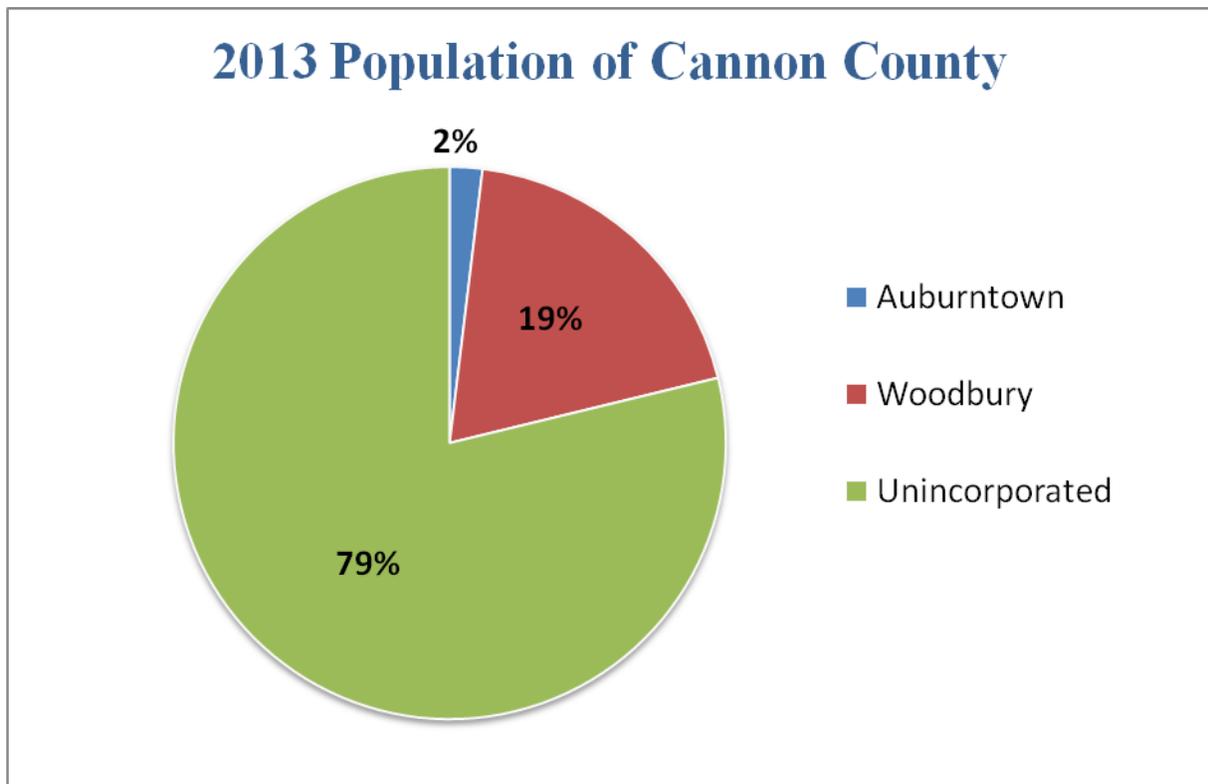
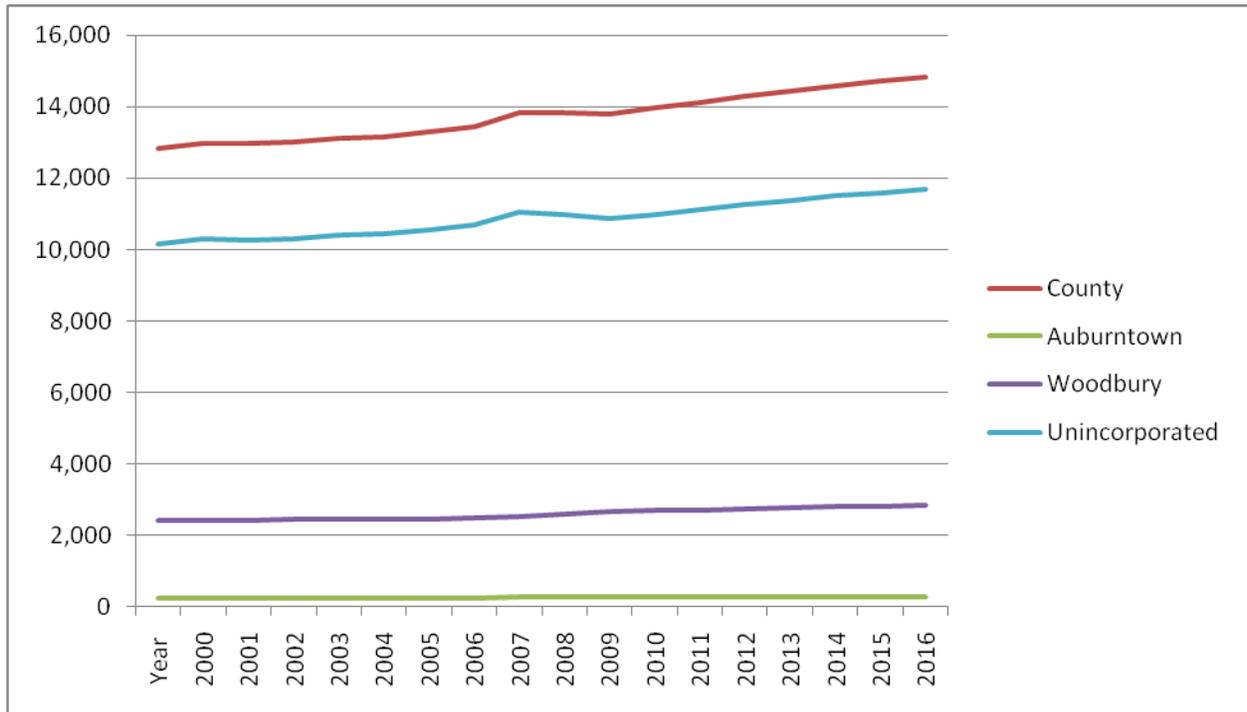
Cannon County, centrally located in Middle Tennessee, is home to a little over 14,400 residents and is part of the Nashville Metropolitan Statistical Area. Cannon County has two incorporated cities, Woodbury, the county seat, and Auburntown. Woodbury and Auburntown make up approximately 21% of Cannon County's population.

Exhibits 1.1, 1.2, and 1.3 below provide historic and projected population trends. Population has steadily increased since 2000, excluding an insignificant dip in 2010 of 22 people, and is projected to continue growing to an estimated 14,818 in 2017. Much of the county's growth may be attributed to its status as a "bedroom community" to the adjacent and rapidly growing Rutherford County. Cannon County will need to significantly expand its solid waste infrastructure to accommodate its increasing population.

**CANNON COUNTY  
HISTORIC AND PROJECTED POPULATION TRENDS**

Year	County	City Auburntown	City Woodbury	Unincorporated
2000	12,836	253	2,428	10,155
2001	12,990	253	2,439	10,298
2002	12,965	251	2,438	10,276
2003	13,020	251	2,458	10,311
2004	13,114	252	2,458	10,404
2005	13,153	252	2,472	10,429
2006	13,280	255	2,478	10,547
2007	13,435	257	2,495	10,683
2008	13,822	265	2,527	11,030
2009	13,823	266	2,599	10,958
2010	13,801	269	2,680	10,852
2011	13,958	270	2,705	10,983
2012	14,115	271	2,730	11,114
2013	14,272	272	2,755	11,245
2014	14,429	273	2,780	11,376
2015	14,584	274	2,805	11,505
2016	14,701	275	2,830	11,596
2017	14,818	276	2,855	11,687

# Cannon County Historic and Projected Population



Sources: Historic data – U.S. Census Bureau

Projections: Data from the University of TN CBER.

## 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

Cannon County has been less affected by the economic downturn than most other Upper Cumberland counties. Unemployment peaked at 11.9% in 2009 and has been declining since. Manufacturing jobs dipped to 2010 and have been growing slowly since then; a similar pattern may be seen in trade employment. Health care jobs are increasing and are expected to continue to do so as the population ages.

Cannon County's relatively positive economic patterns are directly correlated to its adjacent location to Rutherford County which is growing rapidly. Data from the U.S. Census Bureau's American Community Survey show that almost 70% of Cannon County workers commute outside Cannon County for employment. Per capita income continues to rise as do taxable sales and bank deposits. Property tax collections are also increasing, but this is partially related to increased tax rates. Each of these economic indicators is projected to continue rising, and the unemployment rate is expected to drop below the 2008 economic downturn level to 6.4% in 2017.

CANNON COUNTY HISTORIC AND PROJECTED ECONOMIC INDICATORS																		
Year	Labor Force Data				Non-farm Wage and Salary Employment										Per Capita Income (\$')	Property Tax Collections (\$')	Taxable Sales (\$000's)	Total Bank Deposits (\$000's)
	Total	Emp.	Unemployed Total	Unemployed Rate(%)	Total	Goods Producing			Service Producing									
						Total	Total	Mfg	Other	Total	Trade	Health	Gvt	Other				
2000	6,410	6,180	230	3.6	1,725	348	299	49	1,377	396	299	460	222	22,634	2,526,266	41,818	118,232	
2001	6,390	6,120	270	4.2	1,727	331	270	61	1,396	329	302	518	247	23,667	2,612,160	40,697	126,332	
2002	6,300	6,000	300	4.7	1,784	385	315	70	1,399	324	305	526	244	24,781	2,977,023	41,389	130,888	
2003	6,330	6,010	320	5.1	1,791	400	316	84	1,391	309	322	482	278	26,424	3,797,887	43,941	135,683	
2004	6,340	6,040	300	4.7	1,912	386	315	71	1,526	307	330	522	367	26,531	3,863,995	45,010	131,505	
2005	6,460	6,120	340	5.3	1,975	393	321	72	1,582	322	338	554	368	27,635	4,049,647	44,699	133,120	
2006	6,560	6,230	330	5.1	2,151	425	347	78	1,726	369	408	567	382	28,579	4,162,588	49,979	146,112	
2007	6,360	6,040	320	5.0	2,153	428	343	85	1,725	375	414	571	365	29,799	4,807,808	52,080	153,301	
2008	6,600	6,110	490	7.4	2,041	370	292	78	1,671	365	388	583	335	29,882	4,928,634	50,551	154,073	
2009	6,590	5,810	790	11.9	1,879	269	168	101	1,610	290	413	587	320	29,064	4,962,135	47,939	157,167	
2010	6,530	5,900	620	9.5	1,856	242	161	81	1,614	312	397	584	321	29,382	5,014,122	48,186	159,454	
2011	6,540	5,940	590	9.1	1,884	274	190	84	1,610	330	389	566	325	30,217	5,289,888	47,971	162,298	
2012	6,610	6,120	480	7.3	1,898	287	200	87	1,611	345	399	570	297	30,906	5,349,812	50,396	161,595	
2013	6,660	6,180	480	7.2	1,912	300	210	90	1,612	360	409	570	273	31,595	5,458,213	51,111	165,209	
2014	6,710	6,240	470	7.0	1,926	315	220	95	1,611	375	419	570	247	32,284	5,566,614	51,826	168,823	
2015	6,760	6,300	460	6.8	1,940	320	230	90	1,620	390	429	570	231	32,973	5,675,015	52,541	172,437	
2016	6,810	6,360	450	6.6	1,954	325	240	85	1,629	405	439	570	215	33,662	5,783,416	53,256	176,051	
2017	6,860	6,420	440	6.4	1,968	330	250	80	1,638	420	449	570	199	34,351	5,891,817	53,971	179,665	

Sources: Historic employment data is from the TN Department of Labor and Workforce Development, per capita income data is from the U.S. Bureau of Economic Analysis, retail data is from TN Department of Revenue, bank deposits are from the FDIC, and property tax collections are locally derived. All projects are made by the UCDD staff.

## 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.

Citizens bring their solid waste to the Cannon County Convenience Center (CCCC), located centrally in the county. The City of Woodbury does curbside trash pick-up for its residents. The City and local businesses bring their waste to the CCCC on a weekly basis. Auburntown at one time had two 40-yard dumpsters to which their citizens carried their trash but this service is no longer provided. Because Auburntown is located ten miles north of the CCCC, it has a desperate need for a permanent collection site.

Two private haulers who pick up waste in Cannon County are Waste Service and Allied Waste, both businesses from outside Cannon County. The county keeps one trailer at the CCCC to accept waste tires. The state pays Cannon county \$65 a ton for qualified tires. Due to insufficient staff, often the paperwork doesn't get done and the county bears the cost of disposal of the tires. Cannon County expressed concern about Liberty Tire Company, which it perceives as maintaining a monopoly of the waste tire industry. The CCCC does collect used oil and sells it to the Volunteer Oil Company. The CCCC does not accept latex or oil-based paint. The county plans to provide a public service announcement for its citizens regarding Rutherford County's Annual Paint Collection Project, as a means to more efficiently collect paint in the next five years. Cannon County plans to re-establish a business relationship with the Warren County company PC Disposal, in order to recycle its electronic waste. Cannon County plans to emulate Warren County's example of recycling metal generally, as opposed to strictly electronic waste.

Regarding commercial and industrial waste, the City of Woodbury collects trash from its businesses or the businesses will hire Waste Management Services to take its waste to the Middle Point Landfill in Rutherford County. Some businesses in Cannon County utilize dumpsters that they pay for, either from the city or a private company.

Cannon County waste travels from the CCCC to the Middle Point Landfill in Rutherford County, roughly 1-2 loads daily (10-12 tons per load) six to seven days a week. Regarding waste from outside the county, it is a problem. There is a need for greater enforcement at the CCCC, which is understaffed and overworked. The CCCC staff has no way to confirm that the waste is not coming in from other counties. They simply can't monitor all the plates of the cars and do their jobs simultaneously. Regarding problem waste management in the next five years, Cannon County plans to study best practices of other counties similarly situated for ideas. The county intends to inform its citizens to dry out their latex paint themselves, which presents no hazardous waste problems; also to inform them to take any oil-based paint to Rutherford County's hazardous waste facility.

#### **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.*

The Cannon County Convenience Center (CCCC) is the only facility in the county devoted to solid waste management. The county set up recycling trailers at local businesses and the schools continue to collect

cardboard. The City of Woodbury does curbside trash pick-up for its residents and pays the County \$40,000 annually for use of the CCCC' services, which includes hauling waste to the landfill, transportation costs and tipping fees. The City and local businesses bring their waste to the CCCC on a weekly basis. Auburntown at one time had two 40-yard dumpsters to which their citizens carried their trash but this service is no longer provided.

Cannon County waste travels from the CCCC to the Middle Point Landfill in Rutherford County. Cannon County is a member of a multi-county solid waste region, the Central Tennessee Solid Waste Planning Board.



Cannon County Convenience Center (CCCC)





Cannon County Convenience Center (CCCC)





Cannon County Convenience Center (CCCC) Tire Facilities





**Cannon County Convenience Center (CCCC) trash compactor / hopper**



**(See news report on next page)**

## **Cannon Co. man dies after accident at garbage site**

*Posted: Mar 26, 2012 9:45 PM CST Updated: Apr 23, 2012 9:51 PM CST*

Reported by Nancy Amons

WOODBURY, TN (WSMV) –

A father of three lost his life this weekend while doing a task most of us don't consider dangerous.

Jeffrey Fann, 47, was dumping his garbage when he fell into the county's trash compactor, hit his head and died.

Cannon County, like many rural counties, doesn't have home trash pick-up. Instead, residents bring their trash to the transfer station, throw it in the compactor, and then off it goes to the landfill.

Saturday evening, Fann was standing on the back of his pickup truck throwing out his trash when eyewitnesses say he slipped inside the compactor and fell to his death.

The compacting machine wasn't running, but he hit his head on the metal and died of his injuries at a hospital.

County Executive Mike Gannon called it a freak accident, and a sad one. Fann was his cousin's husband.

**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.*

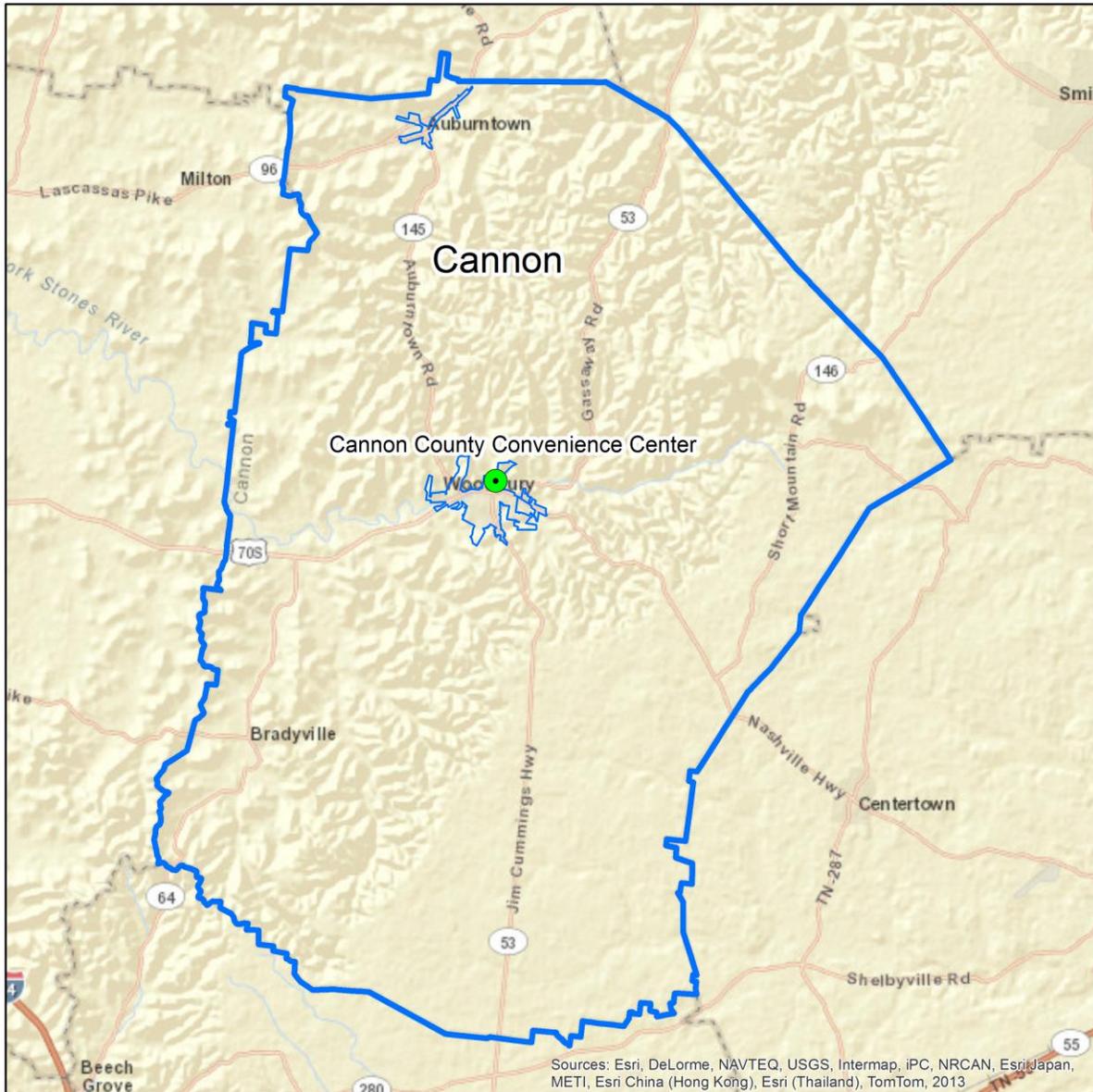
Currently Cannon County employs two full-time staff members who work staggered shifts to cover the operating hours of the CCCC. The City of Woodbury runs a truck for curbside service, employing two sanitation workers and a truck driver.

Cannon County’s solid waste management needs are many and varied. The County must restructure the CCCC to improve storage capacity, traffic flow, efficiency and safety (please see recent news article on previous page). It needs new containers for its recycling materials. It needs an additional baler and to hire more labor to effectively handle its volume of work. Other needs identified to provide the county a full level of service include a new trash compactor/hopper at the CCCC and hiring a full-time solid waste director and additional staff.

**SOLID WASTE ORGANIZATIONAL CHART**



# Cannon County Solid Waste Facilities



OBJECTID*	SHAPE*	Name	Address	Facility_Type	County
1	Point	Cannon County Convenience Center	201 Alexander Drive	Convenience Center	Cannon

- Solid Waste Facilities
- UCDD\_Counties



**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?*

Current attitudes of Cannon County’s citizens are fair regarding recycling and waste disposal but need improvement. Attitudes improve with each out of state citizen that moves to Cannon County. Schools, businesses and a moderate number of citizens utilize the CCCC. Some businesses, like welders or tool and dye shops, use private haulers to take off their waste or they take it to the salvage yards.

Cannon County intends to improve its education outreach to its citizens and businesses. For their convenience, the county plans to provide additional collection bins and trailers at strategic locations. Other initiatives the county plans to pursue include investigating options regarding vendors, potential partnerships with other counties, renewed involvement with RMCT, and exploring hub/spoke programs and other grants.

Cannon County has enjoyed some success with its cardboard recycling. Trailers at the schools and 6-8 businesses practice cardboard recycling and fill up their trailers, which the county then picks up. It takes forty bales of cardboard to fill up the truck. The county then pays REMCT, a broker paid by TDEC for the material. Cannon County currently does not recycle plastic. Cannon County must improve its facilities and equipment before it can fully encourage its citizens regarding recycling. For example, the county needs a baler before conducting outreach to people to recycle plastic and a glass crusher before it can encourage citizens to recycle glass.

**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.*

Cannon County had a diversion rate of 11 %; however, the Central Tennessee Solid Waste Planning Board last year enjoyed a 34 % diversion rate in real time. Current numbers are not available at the time of this writing because Rutherford County is still being finalized.

County	Waste Reduction Goal Calculation Method	
	Compared to Base Year	Qualitative - Real Time
<b>Cannon County</b>		11% County but?? Regionally
<b>25% Waste Reduction Goal Achieved</b>	No	Not Individually but achieved as part of multi-county region

**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.*

Site Name (s)	Current Capacity	Maximum Capacity	Projected Life of Facility
Middle Point Landfill	3,200 Tons Per Day	39,000,000 cubic yards dependent on expansion plans and customer levels	19 years

*(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.*

Provider of Service	Service Area	Population Total Under This Service	Frequency of Service (Weekly, Bi-weekly, on call, etc.)	Annual Tonnage Capacity	Type Service (Curbside, Convenience Center, Green Box)
Cannon County	County-wide	14,272	Anytime during the hours of operation	N/A	Convenience Center
Woodbury	City-wide	2,755	Weekly	N/A	Curbside
Private Haulers	County-wide	14,272	Weekly	N/A	Curbside

**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.

<b>EXPENDITURES</b>			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$52,000	\$40,000	\$92,000
Transportation/hauling			
Collection and Disposal Systems	\$400,000	\$250,000	\$650,000
Equipment			
Sites		\$30,000	\$30,000
Convenience Center			
Transfer Station	\$2,800		\$2,800
Recycling Center			
MRF			
Landfills			
Site			
Operation			
Closure			
Post Closure Care			
Administration (supplies, communication costs, etc.)	\$2,255		\$2,255
Education			
Public			
Continuing Ed.			
Capital Projects			
<b>REVENUE</b>			
Host agreement fee			
Tipping fees			
Property taxes	\$365,000		\$365,000
Sales tax	\$63,000		\$63,000
Surcharges			
Disposal Fees			
Collection charges			
Industrial or Commercial charges			
Residential charges			
Convenience Centers charges			
Transfer Station charges			
Sale of Methane Gas			
Other sources: (Grants, bonds, interest, sales, etc.)	\$61,900		\$61,900

**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.*

Community	Current Revenue Source
Cannon County	Property Tax Interest and Penalties on Property Tax Sales Tax Portion of Excise Taxes
Woodbury	General Fund

**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.*

With the exception of its truck, all of Cannon County’s equipment is thirty years old, so constant repairs on equipment present them with a huge financial obstacle. The physical layout of their existing transfer station (CCCC) is in desperate need of revision to ensure safety, efficiency and improved recycling capability. The county needs additional staff to properly operate its facility.

Cannon County needs to offer more recycling opportunities to its citizens. The county plans to add trailers for its businesses to recycle cardboard, which will save them disposal costs and increase county recycling revenue. The county is seeking additional recycling recovery resources and researching opportunities in the Hub/Spoke grant programs. In an effort to upgrade their disposal and recycling programs, the county plans to communicate with both its neighboring counties and other similarly situated rural counties, to investigate potential improvements of its existing solid waste system.

**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

Cannon County Operating Budget FY 2012-2013

2012 Cannon County Solid Waste Annual Progress Report

Upper Cumberland Development District GIS Department

Interviews with Cannon County Solid Waste Volunteer Coordinator