

# *Van Buren 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.*

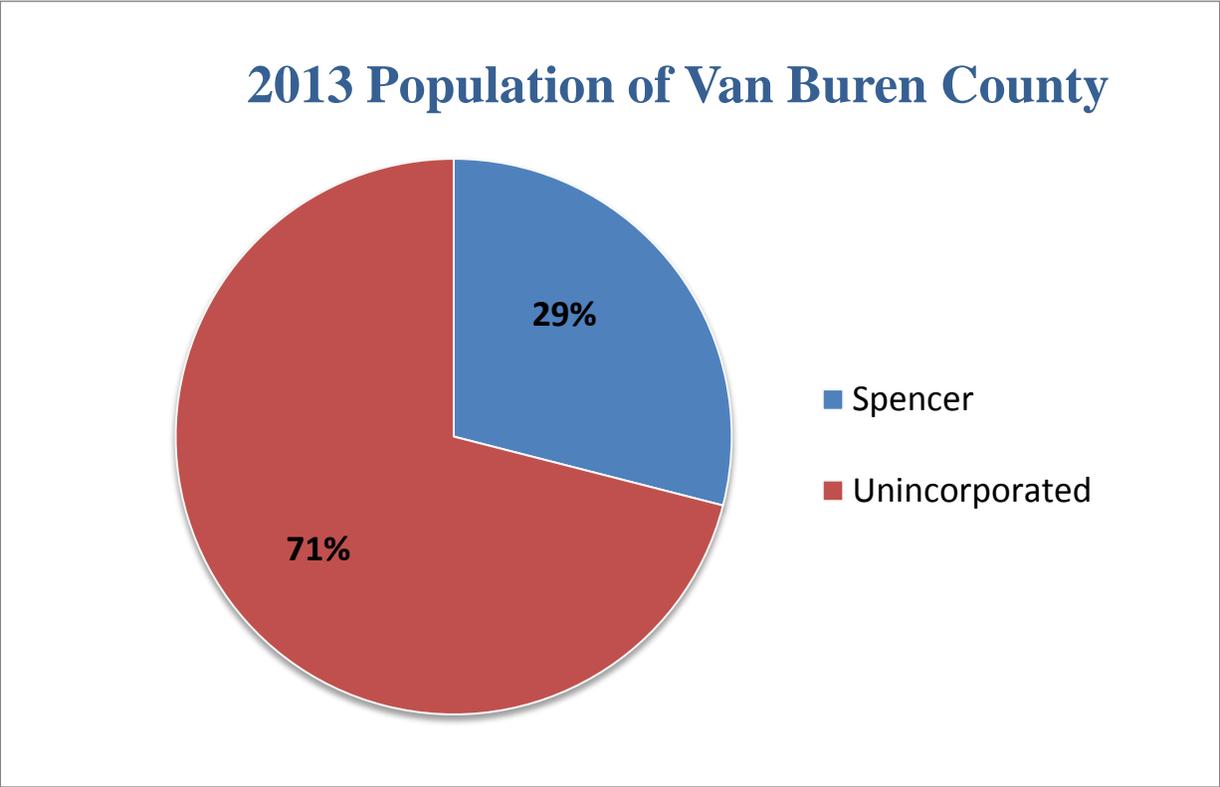
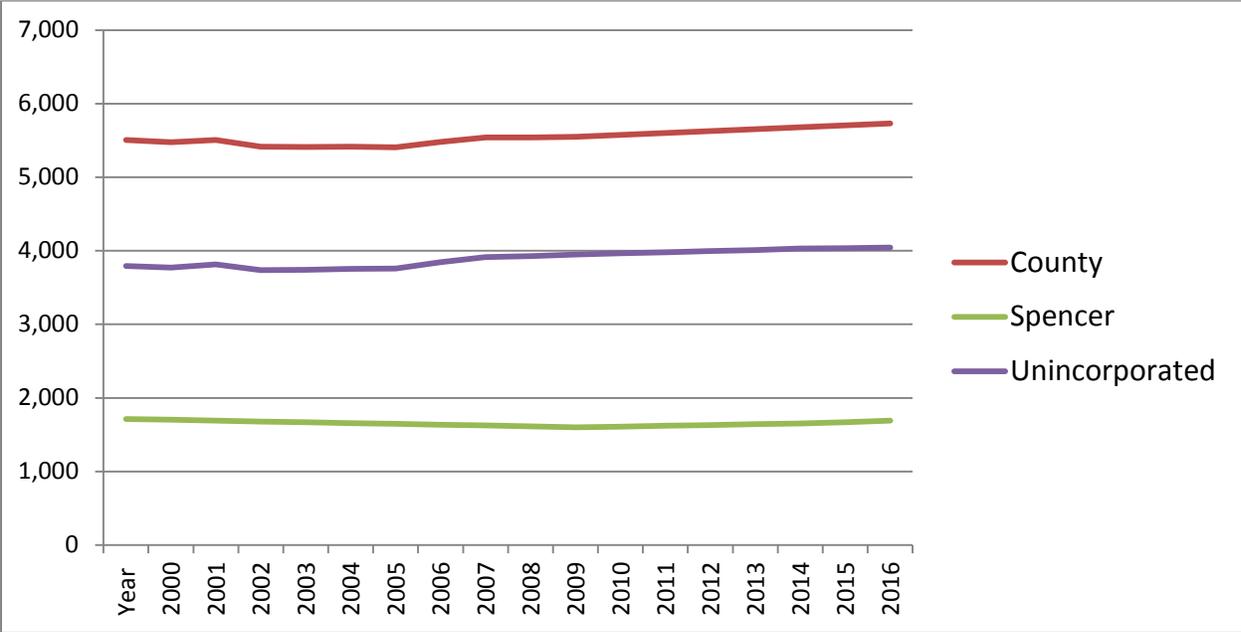
Van Buren County is the second smallest county in the Upper Cumberland Region with approximately 5,600 residents. Van Buren County is located in the southernmost portion of the Upper Cumberland region and is home to exceptional tourist destinations such as Cumberland Caverns and Fall Creek Falls State Park. Fall Creek Falls, a 256 foot waterfall is the largest freefall waterfall east of the Mississippi River. Cumberland Caverns is the second longest cave in TN and home of the famous Bluegrass Underground.

The exhibits below highlight a very slow population growth of only 121 people during the past 13 years. Population growth for the county seat, Spencer, trended downward from 2000 to 2011 and has begun a slight upward trend in the past two years. Spencer currently accounts for 29% of Van Buren County's population which is a 2% decrease from 2000. Population is expected to continue this slow growth through 2017. Due to Van Buren County's slow population growth and the constant increase in government-owned property, the current solid waste infrastructure should be sufficient to accommodate the county waste for the next five years.

**VAN BUREN COUNTY  
HISTORIC AND PROJECTED POPULATION TRENDS**

Year	Van Buren County	Spencer	Unincorporated
2000	5,505	1,713	3,792
2001	5,475	1,702	3,773
2002	5,505	1,691	3,814
2003	5,415	1,680	3,735
2004	5,412	1,669	3,743
2005	5,413	1,658	3,755
2006	5,406	1,647	3,759
2007	5,480	1,636	3,844
2008	5,541	1,625	3,916
2009	5,540	1,614	3,926
2010	5,548	1,601	3,947
2011	5,574	1,610	3,964
2012	5,600	1,620	3,980
2013	5,626	1,631	3,995
2014	5,652	1,642	4,010
2015	5,680	1,650	4,030
2016	5,706	1,670	4,036
2017	5,732	1,690	4,042

# Van Buren 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

Van Buren County has seen several years of high unemployment as a result of the economic downturn in 2008 with a peak of 14.8% in 2009. This rate is steadily decreasing and is accompanied by a slow but steady increase in per capita income. The unemployment rate is expected to drop to 9.4% by 2017 and the per capita income is estimated to be nearly \$33,000 in 2017. Over 50% of Van Buren County residents travel to another county for employment. Overall economic progress has been slow and unpredictable, but there are no expected surges in new employment or an influx of residents that would affect the solid waste system of Van Buren County.

VAN BUREN COUNTY HISTORIC AND PROJECTED ECONOMIC INDICATORS																		
Year	Labor Force Data				Non-farm Wage and Salary Employment										Per Capita	Property Tax	Taxable	Total Bank
	Total	Emp.	Unemployed		Total	Goods Producing			Service Producing				Income (\$'s)	Collections (\$'s)	Sales (\$000's)	Deposits (\$000's)		
			Total	Rate(%)		Total	Mfg	Other	Total	Trade	Health	Gvt					Other	
2000	2,680	2,550	130	4.7	1,180	510	(D)	(D)	670	110	(D)	440	(D)	\$18,703	\$1,088,026	\$11,854	\$25,046	
2001	2,610	2,450	160	6.2	1,100	430	(D)	(D)	670	140	(D)	410	(D)	\$18,988	\$1,089,909	\$11,369	\$23,847	
2002	2,520	2,340	180	7.0	1,040	330	(D)	(D)	670	150	(D)	420	(D)	\$20,546	\$1,140,666	\$10,710	\$23,984	
2003	2,490	2,300	190	7.6	1,020	320	250	70	700	180	70	400	50	\$21,884	\$1,176,073	\$11,322	\$25,250	
2004	2,470	2,320	150	6.4	1,060	350	270	80	710	220	80	370	40	\$23,835	\$1,278,798	\$12,492	\$28,013	
2005	2,470	2,260	210	8.6	1,070	330	260	70	740	240	80	370	50	\$24,416	\$1,295,084	\$13,368	\$28,945	
2006	2,470	2,270	200	8.0	1,100	330	270	60	770	270	90	380	30	\$25,377	\$1,351,023	\$13,951	\$27,446	
2007	2,480	2,280	200	8.1	1,140	340	280	60	800	280	100	390	30	\$25,111	\$1,725,211	\$14,720	\$30,540	
2008	2,510	2,300	210	8.3	1,110	280	230	50	830	280	100	390	60	\$25,612	\$1,844,068	\$14,890	\$33,595	
2009	2,450	2,090	360	14.8	990	230	180	50	780	210	90	410	50	\$24,605	\$1,833,558	\$13,588	\$38,556	
2010	2,350	2,040	310	13.3	880	230	170	60	650	70	100	420	60	\$26,156	\$1,853,535	\$13,539	\$40,911	
2011	2,320	2,040	280	12.0	870	240	180	60	630	60	100	410	60	\$27,573	\$1,916,870	\$14,460	\$42,113	
2012	2,290	2,030	270	11.6	860	250	190	60	620	70	90	410	50	\$28,460	\$1,944,267	\$14,068	\$36,334	
2013	2,300	2,040	260	11.3	880	260	200	60	630	80	100	410	40	\$29,347	\$1,988,078	\$14,879	\$37,275	
2014	2,310	2,060	250	10.8	900	270	210	60	650	90	110	410	40	\$30,234	\$2,031,889	\$15,690	\$38,216	
2015	2,320	2,080	240	10.3	920	280	220	60	670	100	120	410	40	\$31,121	\$2,075,700	\$16,501	\$39,157	
2016	2,330	2,100	230	9.9	940	290	220	70	680	110	125	410	35	\$32,008	\$2,119,511	\$17,312	\$40,098	
2017	2,340	2,120	220	9.4	960	300	230	70	690	120	130	410	30	\$32,895	\$2,163,322	\$18,123	\$41,039	

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.

The Convenience Center #1 in Spencer accepts waste tires at its tire trailer. Van Buren County also picks up tires on its county right of way, funded by the litter grant. The county charges the litter grant \$1.50 for each tire collected. Used oil is collected at all three convenience centers. When it gets full at the convenience centers, the county transports it to the recycling center in Spencer to heat the facility. Latex paint is also collected at all three convenience centers. Any quality paint is given to the county maintenance workers, while most of the paint is dried or brought in empty cans. The landfill does not accept oil-based paint. In terms of electronic waste, the county accepts anything with extension cords or batteries at all convenience center locations. The county then gives them away to a buyer, who trades skids and Gaylord metal and cardboard containers. Regarding other problem wastes like needles, the county instructs customers to place them in plastic jugs before bringing them in, which the county then collects and takes to the ambulance service for disposal.

Regarding commercial and industrial waste, Van Buren County picks up cardboard at businesses. The privately-owned Best Disposal Service (BDS) picks up most of the businesses' solid waste. Several businesses bring their recyclables to the Recycling Center in Spencer. Private hauler Hale's Garbage Pick Up does curbside service for homes and some businesses; Hale's brings solid waste and occasionally recyclables to Convenience Center #1. Van Buren County does charge 11 cents a pound for garbage dropped off. Anything that's not recyclable, the county crushes and sends to the Smith County Landfill in Carthage. In other counties, citizens may bring their garbage for free but pay a wheel tax or other tax for the service. Van Buren County does accept waste from other counties and charges them the same rate as its citizens.

#### **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.*

Van Buren County performs recycling at all three convenience centers where solid waste is collected. The current capacity for the three centers is a total of 30 Tons (10 Tons at each center). Cardboard, plastics and paper products are sold through RCR, a state program. Glass is processed through a glass crusher and then given to a buyer from Mississippi. Like electronic waste, the county gives the recycling away to a buyer who provides storage equipment. The City of Spencer brings its municipal solid waste to the county facilities. Van Buren County does not have a landfill. It transports its waste, averaging one load a week of about ten tons, from the Convenience Center #1 in Spencer to the landfill in Smith County.



**Convenience Center #1 at Spencer**



**Recycling Center at Site Above**



Plastics Storage at Recycling Center





Storage of Recyclables





Convenience Center #2 at Bone Cave





Convenience Center # 3 at Mooneyham





Best Disposal Service is a private waste disposal facility and service in Van Buren County.



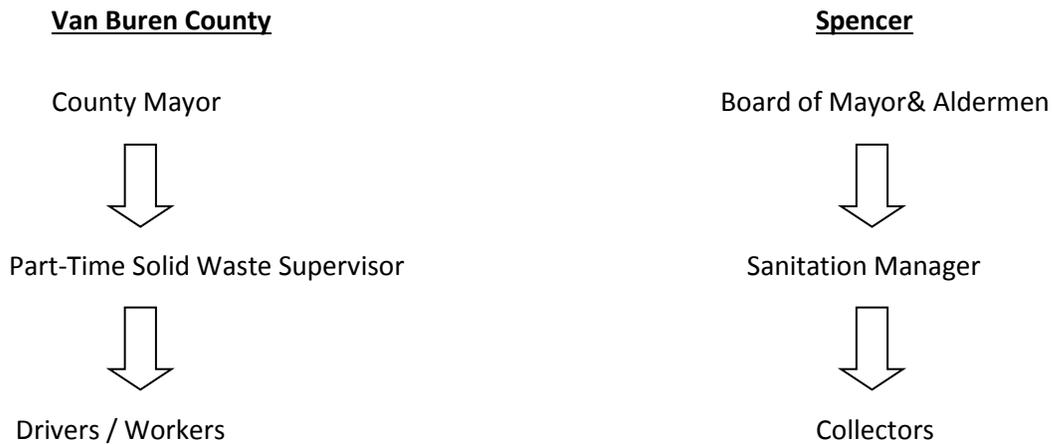
**ITEM 5**

*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.*

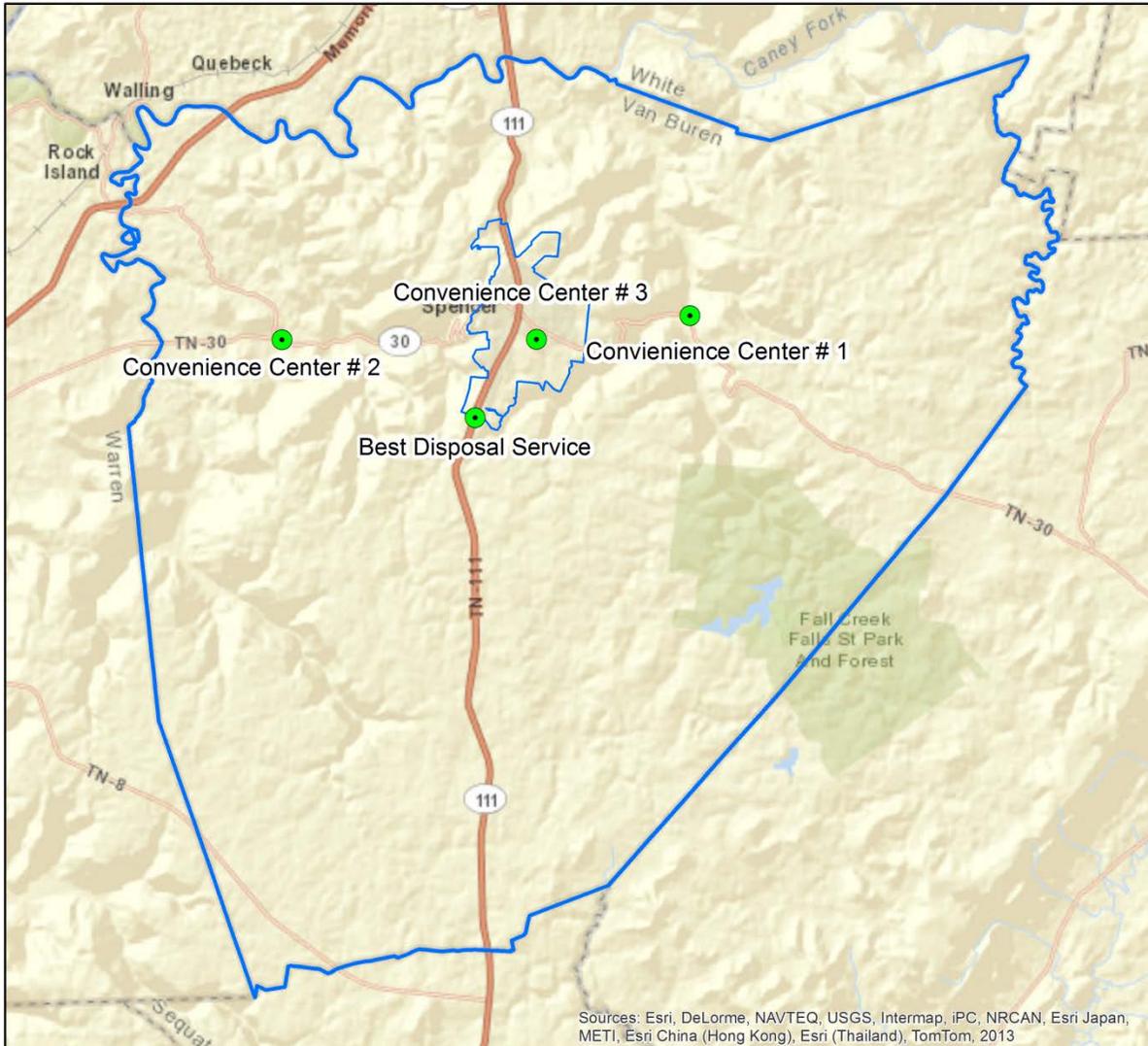
The Van Buren County solid waste program consists of five part-time staff plus the part-time solid waste supervisor. Two staffers work at the Recycling Center and the other three rotate to cover the hours at the convenience centers. The county also employs one part-time truck driver for the solid waste program.

Equipment is Van Buren County’s greatest need. It needs two 12-foot roll-off boxes, each with three 4-foot sections and three doors, for cardboard, plastic and aluminum. The county needs two switch-out boxes for the garbage compactors. Also, the county needs an outside shed addition on the back of its Convenience Center, a 25x75 concrete area with a roof for additional recycling storage. Other costs include frequent repairs on the scale sensors at the convenience centers, due to damage done by rodents, lightning strikes, etc.

Van Buren County does not have a landfill. It transports its waste, averaging one load a week of about ten tons, from the Convenience Center #1 in Spencer to the landfill in Smith County.



# Van Buren County Solid Waste Facilities



OBJECTID*	SHAPE*	Name	Address	Facility_Type	County
2	Point	Best Disposal Service	326 Pine Grove Road	Disposal Service	Van Buren
3	Point	Convenience Center # 1 at Spencer	747 Drake Shockley Road	Convenience Center	Van Buren
8	Point	Convenience Center # 2 at Bone Cave	Bone Cave Road	Convenience Center	Van Buren
9	Point	Convenience Center # 3 at Mooneyham	<Null>	Convenience Center	Van Buren

- Solid Waste Facilities
- Administrative Boundaries



**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?*

The people who have recently moved to Van Buren County place greater value on recycling and waste diversion than many locals, as they often come from communities and cultures which place a greater emphasis on personal responsibility in waste reduction. Convenience Center #1 has a good record of citizens recycling. The Mooneyham Convenience Center is challenged in this regard but improving.

The Litter Grant Coordinator provides educational materials to students and teachers throughout the school system. The county plans to continue providing educational programs in the schools through the 4-H Club to promote recycling through its litter grant. The county provides promotional materials to the students like caps, rain gauges, thermometers and calculators to the students to further its message and change negative behavior or apathy about recycling and waste diversion. The solid waste staff hand out educational brochures at the three convenience centers, targeting customer’s self-interest in separating waste to recycle and encouraging them to “save yourself some money.”

**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.*

County	Waste Reduction Goal Calculation Method	
	Compared to Base Year	Qualitative - Real Time
<b>Van Buren County</b>	18%	13%
<b>25% Waste Reduction Goal Achieved</b>	No	No

Van Buren County did not meet the waste reduction goals set by the Legislation. The region will be coached using various methods discussed throughout this report.

**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
Smith County landfill	130 Tons Per Day	Dependent on expansion plans and customer levels	12 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)
Van Buren County	County-wide	5,626	Anytime during the hours of operation	N/A	Convenience Center
Spencer	City-wide	1,631	Weekly	N/A	Curb-side
Private Haulers	County-wide	5,626	Weekly Pickup and anytime during the hours of operation at facility	N/A	Curb-side

**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	\$57,583		\$57,583
Transportation/hauling	\$8,900		\$8,900
Collection and Disposal Systems	\$19,200		\$19,200
Equipment		\$25,000	\$25,000
Sites			
Convenience Center	\$2,500		\$2,500
Transfer Station			
Recycling Center	\$3,466	\$27,000	\$30,466
MRF			
Landfills			
Site			
Operation			
Closure			
Post Closure Care	\$7,000		\$7,000
Administration (supplies, communication costs, etc.)	\$7,156		\$7,156
Education		\$2,500	\$2,500
Public			
Continuing Ed.			
Capital Projects			
<b>REVENUE</b>			
Host agreement fee			
Tipping fees			
Property taxes	\$44,667		\$44,667
Sales tax			
Surcharges	\$5,059		\$5,059
Disposal Fees			
Collection charges	\$45,285		\$45,285
Industrial or Commercial charges			
Residential charges			
Convenience Centers charges			
Transfer Station charges			
Sale of Methane Gas			
Other sources: (Grants, bonds, interest, sales, etc.)	\$11,043	\$25,000	\$36,043

**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
Van Buren County	General fund and Service Fees
Spencer	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.*

As the cost of fuel continues to increase, Van Buren County must ensure that its trucks are hauling full loads to the landfill to save on costs. The solid waste department plans to have at least ten tons of waste in the truck before hauling to the landfill in Smith County. The county will most likely leave the tipping fee costs for tires at \$1.50 per tire; otherwise the residents would likely dump the tires at illegal dump sites in the county.

Van Buren County must work on reducing its waste stream by encouraging recycling. The county anticipates its system structure to remain roughly the same. The recycling center needs to be expanded. The county plans to construct a shed on the back side of the Recycling Center in Spencer, which will provide better storage and increase productivity. The recycling center needs a switch-out compacter box. This additional box would enable the workers to switch the existing box out with another one, especially on the weekends and holidays, thus avoiding overflow of solid waste.

**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

Van Buren County Operating Budget FY 2012-2013

2012 Van Buren County Solid Waste Annual Progress Report

Upper Cumberland Development District GIS Department

Interviews with Van Buren County Mayor Staff and Solid Waste Supervisor