

BENTON COUNTY SOLID WASTE PLANNING REGION

Solid Waste Needs Assessment

November 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
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INTRODUCTION

In an effort to coordinate and plan for safe, efficient solid waste disposal in the state, the Tennessee General Assembly enacted several pieces of legislation, which are compiled in Title 68, Chapter 211 of the *Tennessee Code Annotated*. To comply with the requirements of this chapter, all local governments must engage in specified planning and organizational activities (See the Solid Waste Management Act of 1991, T.C.A. §§ 68-211-801 through 68-211-874).

Regional Solid Waste Management Planning

To begin implementation of the Solid Waste Management Act, counties were instructed to form solid waste regions (single or multi-county) and establish a solid waste board. Each region was required to formulate a 10-year plan for collection and disposal of solid waste in the area and submit this plan to the Tennessee Department of Environment and Conservation. Each municipal solid waste region must submit an annual progress report and 5-Year Plan Update (T.C.A. § 68-211-814). The plan, and any revised plan, submitted by each region must be consistent with the state solid waste plan and with all relevant state laws and regulations.

At a minimum, each plan must contain the following items:

- Demographic information and projections;
- Analysis of economic activity in the Region;
- Characterization of the waste stream;
- Projection of solid waste generation;
- Evaluation of the county and municipal waste collection systems;
- Evaluation of existing solid waste management facilities and capacities, and of any new or expanded facilities planned;
- Statement of solid waste management goals that are consistent with the state plan;
- Analysis of existing or potential waste flows within the region and between adjacent regions;
- 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; and
- 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.

SECTION 1:

DEMOGRAPHIC INFORMATION AND PROJECTION

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

Population Trends in Benton County

According to the U. S. Census Bureau, Benton County's 2010 population was 16,489, which was a significant increase of the estimated population of 16,025 in 2009. The 2012 population is estimated to be 16,361, showing a decrease of 8%. As shown in Table 1.1 below, projections for the next five years also reflect decreases in population.

TABLE 1.1 Historic and Projected Population Trends (2002 thru 2018)

Year	County Population	Big Sandy	Camden	Unincorporated
2002	16,479	518	3,730	12,231
2003	16,381	515	3,696	12,170
2004	16,322	513	3,669	12,140
2005	16,265	511	3,654	12,100
2006	16,139	508	3,616	12,015
2007	16,152	508	3,610	12,034
2008	16,071	506	3,586	11,979
2009	16,025	504	3,575	11,946
2010	16,489	557	3,582	12,350
2011	16,430	556	3,569	12,305
2012	16,361	550	3,550	12,261
2013	16,340	545	3,545	12,250
2014	16,318	538	3,537	12,243
2015	16,290	535	3,525	12,230
2016	16,277	533	3,518	12,226
2017	16,253	528	3,507	12,218
2018	16,245	525	3,505	12,215

Sources: Historic data and projections are based on data from the U.S. Census Bureau.

Based on the latest U. S. Census Bureau statistics, 21.1% of Benton County's population is sixty-five years of age or older. Having this many retirees in the county should increase the tax base and the county's ability to fund governmental infrastructure and services. On the other hand, 19.9% of Benton County's population is less than 18 years of age. This leaves only 59% of population between the ages of 18 – 64, which results in a smaller work force.

The Benton County Regional Solid Waste Board has had many discussions to increase the recycling efforts within the county. There has been talk to construct or renovate an existing building into a recycle center. No capital funds have been placed in the budget to carry out such plans or to purchase the needed equipment for the endeavor.

Currently, many people take their recyclables to the Tennessee Vocational Rehabilitation Center or CSC Recycling. The Benton County Convenience Center is only set up to take waste tires. More effort should be made by the county to decrease solid waste from being deposited in the landfill by providing recycling and other waste reduction services for residents to drop-off their household recyclable materials.

SECTION 2:

ECONOMIC ACTIVITY WITHIN THE REGION

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

Economic Profile of Benton County

As shown in Table 2.2 on the following page, the Benton County economy is weak when compared to the state and national averages. Unemployment rates have ranged from a low of 6.3% in 2007 to a high of 13.8% in 2009. The recession hit Benton County hard in 2009 which resulted in the high unemployment rate.

The current unemployment rate in Benton County is 10.5% according to the August Unemployment Reports. It is estimated that the unemployment rate will decrease in the next five years due to lower population estimates within the county.

The 2012 average total wages in all industries in Benton County was \$28,231, which is lower than the reported averages in the state of \$43,955. The 2012 average industry wage is also much less than the industry average in the nation of \$49,289.

The top ten county manufacturers are listed in the following table:

TABLE 2.1 Benton County Top 10 County Manufacturers

Manufacturer	Product	# Employed
Jones Plastic & Engineering Co. LLC	Finished injection molded plastic products	150
Carhartt Inc.	Men's coats & overalls	140
Palmer Tool Co. Inc.	Metal fabricated & machined products	60
Arnold Fabricating & Machine Inc.	Steel fabricator; machine shop; welding service	40
Monroe Motors Inc.	Car hauler, utility/equipment trailers	35
Magpro LLC	Magnesium & magnesium alloy rolling	29
Ata Defense Industries, Inc.	Target shooting equipment/electric scoreboards	23
Belisle Machine & Tool Inc.	Tools, dies, jigs & fixtures	23
Greystone Woods LLC	Sawing and planing mill	17
Tubbs Pallets & Lumber	Wood pallets /skids, wooden containers	15

TABLE 2.2 Benton County Historic and Projected Economic Indicators

Labor Force Data					Non-Farm Wage and Salary Employment									Per Capita Income	Total Retail Sales
Year	Total	Emp.	Unemployed Total	Rate(%)	Total	Goods Producing			Service Producing						
						Total	Mfg	Other	Total	Trade	Health	Govt.	Other		
2002	7,270	6,750	520	7.2%	4,120	900	710	190	3,220	1,020	490	930	780	20,035	122,402,245
2003	6,980	6,310	680	9.7%	4,010	720	550	170	3,290	1,060	550	910	770	20,420	126,028,825
2004	6,870	6,280	580	8.5%	4,050	780	600	180	3,270	1,000	590	920	760	20,730	128,507,704
2005	6,820	6,250	570	8.3%	4,050	800	600	200	3,250	990	570	900	790	22,017	132,078,269
2006	6,950	6,450	500	7.2%	4,130	820	610	210	3,310	960	560	950	840	23,049	146,090,684
2007	6,910	6,470	440	6.3%	4,150	830	620	210	3,320	950	510	1,000	860	24,265	153,203,328
2008	7,060	6,440	620	8.8%	4,190	820	640	180	3,370	940	550	1,030	850	25,359	158,519,896
2009	7,050	6,080	970	13.8%	3,930	700	550	150	3,230	890	530	1,020	790	26,247	142,614,980
2010	7,110	6,210	900	12.6%	3,920	700	550	150	3,220	900	530	1,010	780	27,129	145,948,866
2011	7,050	6,210	840	11.9%	3,920	700	560	140	3,220	900	530	1,000	790	28,199	160,365,724
2012	6,950	6,240	710	10.2%	3,970	780	640	140	3,190	900	520	980	790	28,558	163,222,325
2013	6,940	6,230	710	10.2%	3,930	700	550	150	3,260	930	530	1,000	820	29,127	165,320,460
2014	6,920	6,220	700	10.1%	3,930	700	550	150	3,260	930	530	1,000	820	29,804	167,456,789
2015	6,900	6,210	690	10.0%	3,920	700	540	160	3,250	930	530	990	820	30,216	169,123,963
2016	6,880	6,190	690	10.0%	3,900	680	520	160	3,240	920	530	990	820	30,531	172,741,369
2017	6,850	6,160	690	10.1%	3,890	670	510	160	3,220	910	520	990	810	30,983	175,654,123
2018	6,820	6,140	680	10.0%	3,880	660	500	160	3,200	910	520	980	800	31,542	177,852,147
2019	6,800	6,130	670	10.0%	3,870	650	500	160	3,180	900	510	980	800	31,925	179,762,954

Sources: Historic employment data are from the Tennessee Department of Labor and Workforce Development, per capita income data is from the U. S. Bureau of Economic Analysis, and retail data is from the Tennessee Department of revenue. All projections are by the NWTDD staff.

SECTION 3:

SOLID WASTE STREAM CHARACTERIZATION

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 during 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 noting source and amounts of such wastes entering or leaving the region, noting the source and amounts of such wastes.

Current MSW Stream

In the most recent Benton County Solid Waste Annual Progress Report (2012), the total MSW stream was reported as 29,895 tons. This amount consisted of 20,922 tons being disposed in Class I landfills, and 8,973 tons being diverted.

A large portion of the MSW stream is due to the residents of Benton County. It is estimated that the citizens make up 50% of the MSW stream. The remaining MSW stream is estimated to be 20% commercial, 15% institutional, and 15% industrial.

TABLE 3.1 Regional Solid Waste Stream Disposal for 2013 – 2018

Class I Disposal Site	Reported Year (APR 2012)	Projected Year					
	2012	2013	2014	2015	2016	2017	2018
MSW disposed in West Camden Class I Landfill located in Benton County	20,904	20,712	20,506	20,301	20,098	19,897	19,698
MSW disposed in Madison County Class I Landfill located in Madison County	18	0	0	0	0	0	0
Total Regional Waste Disposal	20,922	20,712	20,506	20,301	20,098	19,897	19,698

The five-year projections for waste disposal in Benton County are provided in the table above. These estimates are based on a 1% annual decrease to coincide with the population decreases that were projected in Section 1 of this assessment. Hopefully the disposal figures will decrease even more if Benton County can carry through on their plans to open a recycle center.

Most of the commercial and industrial wastes generated within Benton County are disposed of in the West Camden Landfill located in Camden. Only 509 tons of industrial waste was reported to be recycled on the 2012 Annual Progress Report. More than 600 tons of commercial waste was reported to be recycled.

Regional Solid Waste Management

The table below describes how the region's total waste stream is managed currently and how it will be managed in the next 5 years. Benton County, Camden, Big Sandy, and the businesses are listed separately.

TABLE 3.2 Waste Stream Management

Jurisdiction or Sector	Solid Waste Stream Collection	Solid Waste Disposal Options	Present Problem Waste Handling	Future Problem Waste Handling 2013-2018	Other Problem Waste Types
Benton County	<p>County Convenience Center Available to all residents of the County and Camden and Big Sandy</p> <p>Residential solid waste collection site accepts only waste tires. Residential solid waste goes to the adjacent West Camden Landfill</p> <p>Local businesses are not permitted to use the convenience center</p>	West Camden Class I Landfill located in Camden as primary waste disposal facility for Benton County, Big Sandy, Camden and local business	<p>Waste tires: Waste tire contract</p> <p>Used oil: H & H Oil</p> <p>Automobile fluids: H & H Oil</p> <p>Latex paint: Not collected</p> <p>Electronics: Not collected</p>	<p>Waste tires: Waste tire contract</p> <p>Used oil: H & H Oil</p> <p>Used oil filters: H & H Oil</p> <p>Automobile fluids: H & H Oil</p> <p>Latex paint: Store at convenience center to be picked up on milk runs or HHW event</p> <p>Electronics: Collected, marketed by County thru RMCT, Inc.</p>	<p>HHW collected at mobile collection events</p> <p>Due to limited statewide mobile collection site scheduling, no regional approach has been developed to handle HHW</p> <p>A regional approach to handle HHW could be evaluated by the Northwest Development District. Planned program discussions can be scheduled in the near future.</p>
Big Sandy	Solid waste curbside collection fee service for city residents	West Camden Class I Landfill located in Camden as primary waste disposal facility for Benton County, Big Sandy, Camden and local business	Provided by Benton County	Provided by Benton County	Provided by Benton County
Camden	Solid waste curbside collection fee service for city residents	West Camden Class I Landfill located in Camden as primary waste disposal facility for Benton County, Big Sandy, Camden and local business	Provided by Benton County	Provided by Benton County	Provided by Benton County
Business	<p>Subscription service provided by:</p> <p>Contracts with private haulers, and</p> <p>Direct haul by business.</p>	West Camden Class I Landfill located in Camden as primary waste disposal facility for Benton County, Big Sandy, Camden and local business	<p>Available service provided by:</p> <p>In-house business programs and Contractors</p>	<p>Available service provided by:</p> <p>In-house business programs and Contractors</p>	Hazardous waste generated from commercial and industrial businesses is regulated by TDEC, Division of Solid Waste Management, and Hazardous Waste Section.

Source: Benton County APR 2012.

Wastes Entering or Leaving the County

Only 18 tons of MSW left the county in 2012. These tons went to the Madison County Landfill. A total of 330,269 tons of MSW came into the county to the West Camden Landfill in 2012 from twenty-six counties within Tennessee. The chart below shows the amount of MSW brought to the West Camden Landfill and from which county in Tennessee it originated.

TABLE 3.3 Wastes Entering the West Camden Landfill

County	Tonnage	County	Tonnage
Carroll	6,045	Henderson	2,588
Cheatham	2,153	Henry	6,269
Chester	148	Hickman	1,982
Crockett	764	Humphreys	16,969
Davidson	119,516	Madison	536
Decatur	99	Maury	61,049
Dickson	51,185	Obion	1,907
Dyer	148	Perry	977
Gibson	2,359	Shelby	25
Giles	15,320	Stewart	18
Hardeman	142	Sumner	58
Hardin	196	Weakley	506
Haywood	323	Williamson	38,987

Source: TDEC 2012 Solid Waste Origin Report

SECTION 4:

REGIONAL COLLECTION SYSTEMS

Describe in detail 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.

County and city governments throughout the United States are struggling to develop efficient and cost-effective plans for managing their MSW. In Benton County, the waste management systems consist primarily of waste collection and disposal at the West Camden Landfill.

Benton County

Benton County receives a \$1.20 host fee for every ton of MSW placed in the West Camden Landfill. These monies are placed in the county's general fund. No residents of Benton County, including Big Sandy and Camden, are charged a fee to dispose of their MSW in the West Camden Landfill.

Residents in the unincorporated portions of the county have the option to contract with private haulers or to take their solid waste directly to the landfill. If they contract with the private hauler, they have to pay a fee directly to the hauler. If they take their solid waste directly to the West Camden Landfill, there is no charge.

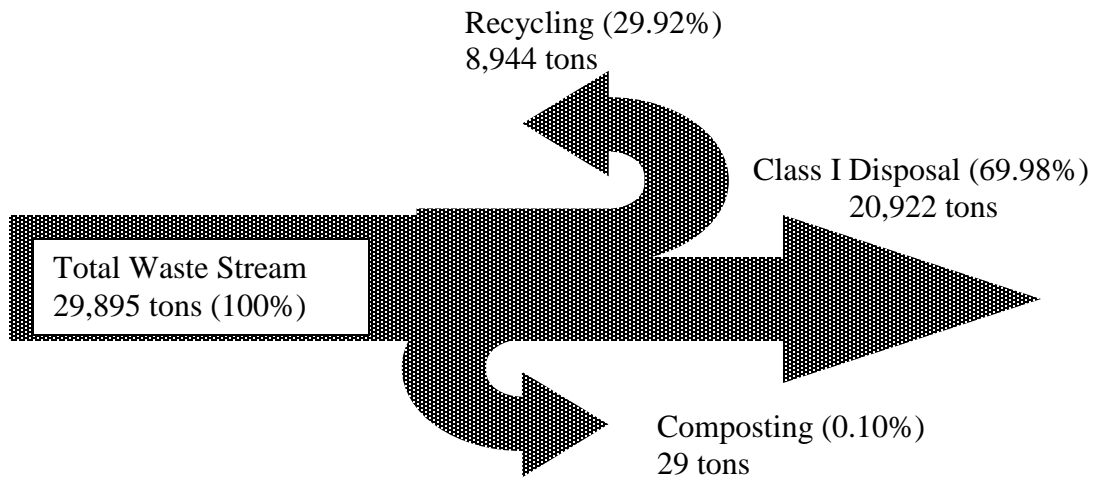
Benton County has one convenience center, which is located adjacent to the West Camden Landfill. The convenience center does not accept MSW but does accept waste tires. Benton County residents are instructed to take their MSW directly to the West Camden Landfill. The hours and days of operation for the convenience center are Monday and Tuesday from 8 a.m. to 4 p.m. and on Wednesday from 8 a.m. to 12 p.m.

Municipalities

Both Big Sandy and Camden operate residential door-to-door solid waste collection for their residents. The citizens of Big Sandy pay a monthly fee of \$10.00 for weekly pickup service, and the citizens of Camden pay a monthly fee of \$11.83 for pickup service twice per week. Neither Big Sandy nor Camden has to pay disposal costs at the West Camden Landfill. There are no public recycling options offered by either municipality.

Flow Diagram of Benton County Total Annual Regional Waste Stream

The figures shown in the flow diagram below were taken from the 2012 Benton County Solid Waste Annual Progress Report.



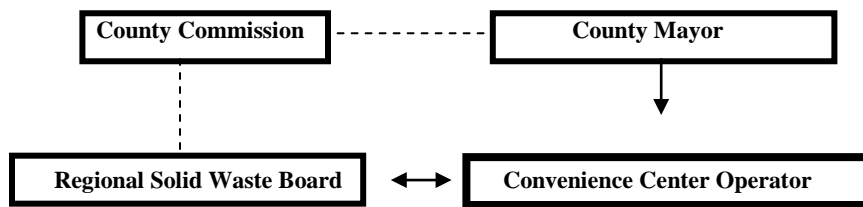
SECTION 5:

SOLID WASTE MANAGEMENT INFRASTRUCTURE

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

Benton County

An organizational chart is provided below for operations of the Benton County Sanitation Department.



Future Solid Waste Infrastructure Development Needs

Currently, Benton County does not have a Solid Waste Department. There is no single individual to provide solid waste assistance to the residents. A new Solid Waste Board was created in 2007, and the people on the board have taken a greater interest in solid waste issues within the county.

Benton County needs to hire a Solid Waste Director. This position is sorely needed to manage the waste tire grant, promote recycling and other waste diversion, provide education to the public, and provide oversight of the disposal figures at the West Camden Landfill. This person will need to be adequately trained in all aspects of solid waste management.

There has been recent talk of constructing a Recycle Center and purchasing the needed recycling equipment. In order to have a fully integrated solid waste system, this is a great need for Benton County. The only place in the county that accepts paper/cardboard is the Tennessee Vocational Rehabilitation Center located in Camden.

For every ton the West Camden Landfill collects, the County receives \$1.20. Since the average daily through put at the landfill is 2,300 tons per day, Benton County receives a significant amount of revenue each year. This revenue is placed in the General Fund with very little of the amount earmarked for Solid Waste.

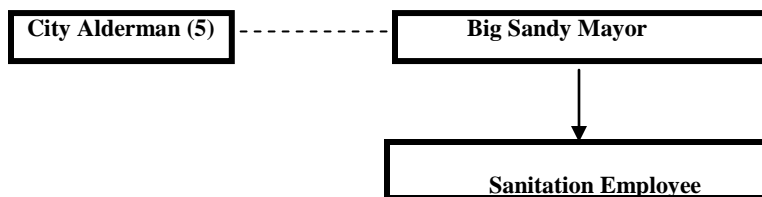
The table listed below provides a list of the minimum needs for Benton County to operate an integrated solid waste management program. The costs listed below are estimates only and should be considered a baseline for future planning.

TABLE 5.1 Future Solid Waste Needs

Need	Estimated Cost	Potential Revenue Source
Street Sweeper for Landfill Entrance	\$35,000	General Fund/Landfill
Solid Waste Director	\$30,000	General Fund
Recycle Building	\$200,000	General Fund/Grants
Box Truck	\$60,000	General Fund/Grants
Baler/Compactor	\$7,000	General Fund/Grants
Recycle Bins	\$25,000	General Fund/Grants
Shredder	\$12,000	General Fund/Grants
Scales	\$15,000	General Fund/Grants
Forklift	\$11,000	General Fund/Grants
Pallets	\$500	General Fund/Grants

Big Sandy

The Town of Big Sandy provides residential curbside collection and commercial subscription service for over 500 customers. The city does not provide recycling collection services. An organizational chart for the Town of Big Sandy Solid Waste Department is provided below.

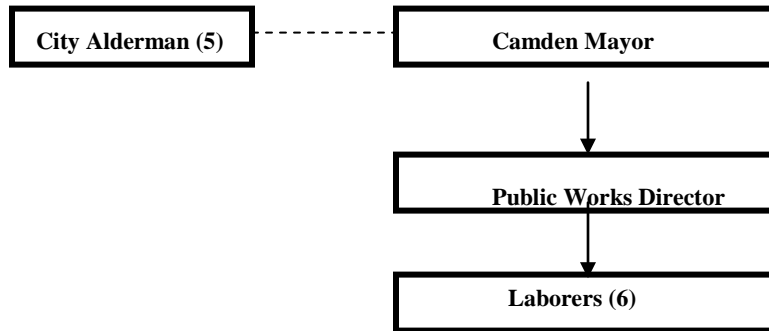


Only one position is funded out of the Big Sandy Solid Waste Budget, but three employees are involved in the MSW collections. The other two employees are funded from other departments. Big Sandy residents pay \$10 per month for collection service and the commercial rates vary. The city has one collection truck and hauls the MSW to the West Camden Landfill, where they do not have to pay disposal costs.

Since the Town of Big Sandy is not required by Tennessee statute to provide a fully integrated solid waste system, no recycling efforts are conducted by the city.

Camden

The City of Camden provides residential curbside collection and commercial subscription service for approximately 3,500 customers. The City does not provide recycling collection services but the Tennessee Vocational Rehabilitation Center will take paper products and cans and CSC Recycling will accept cans and scrap metal. Both of these businesses are located in Camden. An organization chart for the City of Camden Sanitation Department is provided below.

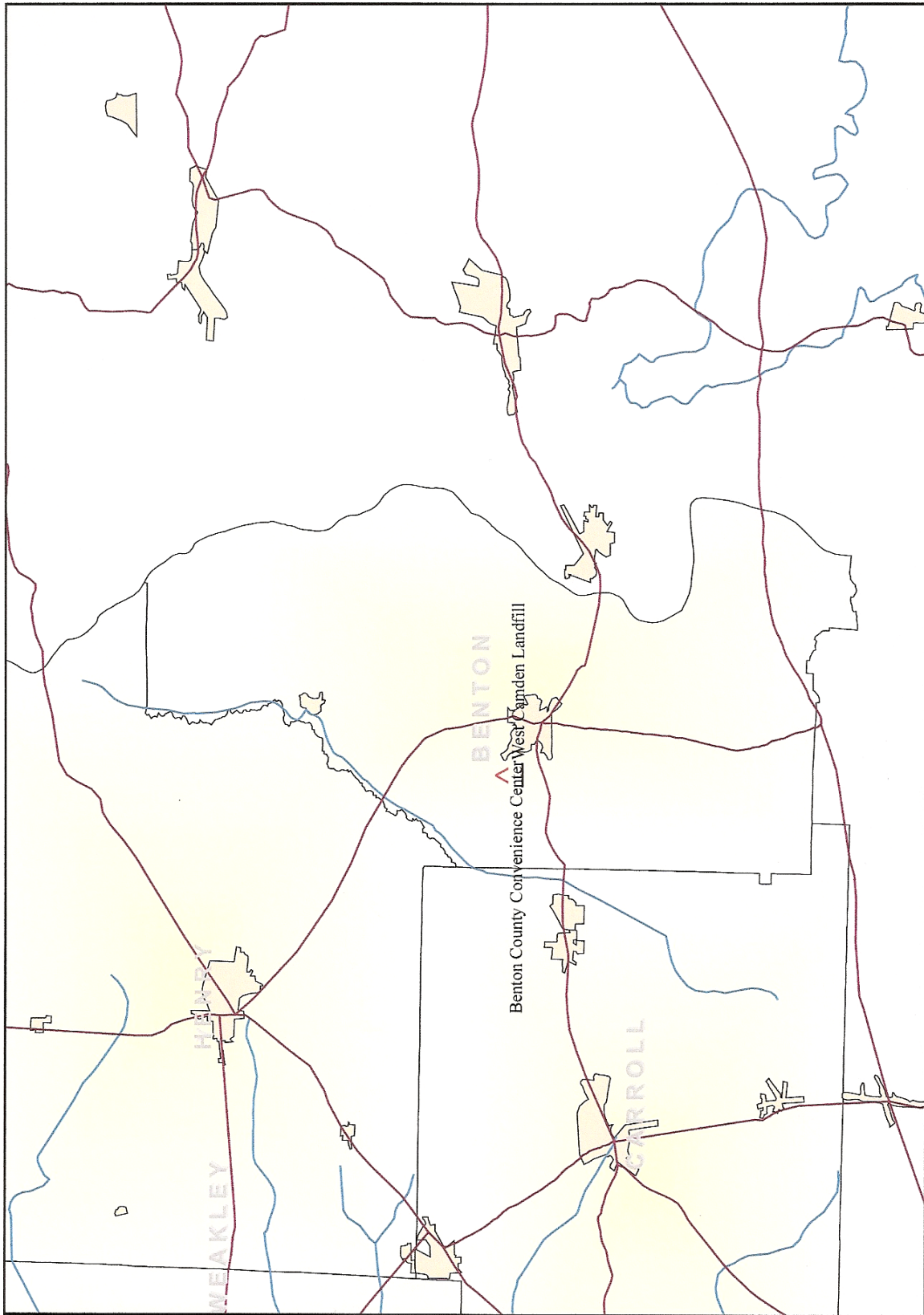


The Camden Sanitation Department employs a Public Works Director and 6 Laborers. Not all of the Public Works Director's salary comes from the Sanitation Department – the salary is split among other departments. The City operates two collection trucks. Camden residents pay \$11.83 per month for collection service and the commercial rates vary. The MSW is hauled to the West Camden Landfill, where they do not have to pay disposal costs.

Locations of Solid Waste Facilities

A Benton County map is provided on the following page with the locations all solid waste facilities in the county. The only solid waste facilities within the county are the Benton County Convenience Center and the West Camden Sanitary Landfill. They are located next to each other.

Benton County Solid Waste Facilities



SECTION 6:

PUBLIC PARTICIPATION

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 Concerning Recycling, Waste Diversion, and Waste Disposal

Benton County officials have shown a remarkable amount of interest in recycling, waste diversion, and waste disposal since the 2007/08 Fiscal Year and continuing to this fiscal year. New members were appointed to the Solid Waste Board, and some of these members went on a tour at the Henry County Recycle Center. After seeing what Henry County has done regarding recycling, the board is very interested in starting a Recycle Center in Benton County. The County Mayor has made this one of the county’s major goals, and he has appointed one of the county commissioners to look into the project and gather information.

The only public entity that offers recycling in Benton County is the Tennessee Vocational Rehabilitation Center. Many residents take their paper, cardboard and cans to the center, and government buildings have small recycle bins that the center employees collect paper from.

The Solid Waste Board has also been exploring ways to improve conditions at the West Camden Landfill. At the board meetings, several citizens will voice concerns about the landfill and the board investigates ways to mediate these situations. The board has been working with TDEC to find ways to make the environment better in Benton County.

Education Measures

The Litter Grant funds all education measures in Benton County. The table below illustrates the programs that were conducted in 2012.

TABLE 6.1 Public Education and Information Activities

Program Name	Sponsor	Effectiveness	Program Type	Target Group	# Served
Litter Awareness Handouts	Benton County	Positive	Classroom	Children/Teachers	All county elementary schools
Anti-litter handouts are distributed to all county elementary school students					
Promotional Materials	Benton County	Positive	Community Outreach	Adults/General Public	600
Promotional materials were distributed at Neighborhood Watch Meetings.					
Earth Day	Benton County	Positive	Community Outreach	Adults/General Public	80
Benton County participated in the Earth Day activities at the Benton County Library.					
Magic Show	Benton County	Positive	Classroom	Children/Teachers	All county elementary schools
A magician went to the elementary schools and conducted a show involving magic, recycling, and reduction.					

More information about recycling and waste diversion needs to be provided to the public. Poster contests and can drives could be conducted at the schools for little or no money. Presentations could be made at civic organizations meetings, schools, and local businesses.

SECTION 7:

REGIONAL SOLID WASTE REDUCTION GOAL

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 they did not. If the region did not meet the 25% waste reduction goal, what steps or infrastructure improvements should be taken to attain the goal and to sustain this goal into the future.

TABLE 7.1 Measurement of Regional Waste Reduction Goal

County	Waste Reduction Goal Calculation Method			
	Compared to Base Year	Population Ratio	Economic-Population Ratio	Qualitative - Real Time
Benton County	-93%	-93%	-132%	30%
25% Waste Reduction Goal Achieved	No	No	No	Yes

Source: TDEC, Division of Solid Waste Management, Division of Solid Waste Assistance Program.

Variables Affecting Regional Waste Reduction Efforts

The main reason Benton County cannot meet three of the four waste reduction goal calculation methods is because the base year figures cannot be accurate. There are several reasons these figures are inaccurate.

1. Most existing disposal contracts in the 1990’s established fees based on cubic yards and reporting tonnage figures required estimating how many cubic yards of waste weighed a ton.
2. The landfill operators depend on the customer to accurately report the origin of the MSW. There was no system in place in 1995 to determine if the origin was accurate. Currently, the customer is still the first source of information for the landfill operators to initiate the reporting process to TDEC.
3. Many private haulers bring waste to the West Camden Landfill, both in state and out of state. This makes it very difficult for Benton County to accurately measure the waste being generated in Benton County only. The county cannot monitor or control the origins of the MSW being brought into the county since the landfill operators have the responsibility to report these figures to TDEC.

Benton County did meet the Qualitative – Real Time Method of waste reduction by showing a real time diversion rate of 30%. The only reason the county made this rate is because CSC Recycling is located in the county and collects scrap metal and cans.

In 2012, CSC Recycling reported more than 6,000 tons of scrap metal that they recycled.

Future Regional Waste Reduction Program

One of the current goals of Benton County is to set up a recycling center. The County Mayor has appointed one of the County Commissioners to look into this project and gather information. This project will be contingent on grant funding.

Benton County needs to hire a Solid Waste Director for several reasons.

1. There have been many problems with the waste tires. One person writes out the manifest, another person prepares the invoice and sends it to the state, and another person receives the reimbursement from the state. A Solid Waste Director could oversee this entire process from start to finish.
2. Since there is a large landfill in the county, more oversight needs to be provided by the county. A Solid Waste Director could keep a closer check on the West Camden Landfill to ensure the reporting of numbers is accurate.
3. More education could be offered to the public to encourage waste diversion activities.

SECTION 8:

SOLID WASTE DISPOSAL CAPACITY

Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum throughput. 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.

TABLE 8.1 10-Year Regional Disposal Assurance in Benton County in 2012

Site Name(s)	Annual Tons Disposed by Benton County*	Solid Waste Permit #	Current Disposal (daily throughput)	Maximum Disposal Capacity (daily throughput)	Projected Life of Facility
West Camden Sanitary Landfill located in Benton County	20,904	SNL 03-0247	2,300 tons per day	5,000 tons per day	25+ years remaining life

Source: West Camden Landfill, November 2013

*Note: Annual tonnage disposed includes the towns of Big Sandy and Camden and Businesses

No potential shortfalls in materials management capacity at the collection or processor level are foreseen. Benton County does not utilize any Class III/IV landfills.

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

TABLE 8.2 Public and Private Collection Service in Benton County in 2012

Service Provider	Service Area*	Frequency of Service (Weekly, Bi-weekly, on call, etc.)	Estimated Average Annual Tons Collected*	Type Service (Curbside, Convenience Center, Green Box)
Big Sandy	City residents Local business subscription	Weekly	640	Residential curbside Local business subscription
Camden	City residents Local business subscription	Weekly	4,600	Residential curbside Local business subscription
Private Haulers*	County-wide	NA	15,664	Residential curbside Local business subscription
Total			20,904	

*Several private haulers operate waste collection service for residents and businesses in Benton County. Information on customers and areas served and tonnages collected is not available and considered confidential by the private sector.

SECTION 9:**UNMET FINANCIAL NEEDS**

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

TABLE 9.1 Expenditures and Revenues for Benton County for 2013

EXPENDITURES			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	39,963	13,188	53,151
Transportation/hauling	6,489	0	6,489
Collection and Disposal Systems			
Equipment			
Sites			
Convenience Center	16,350	16,000	32,350
Transfer Station			
Recycling Center			
MRF			
Landfills			
Site			
Operation			
Closure			
Post Closure Care			
Administration (supplies, communication costs, etc.)	6,824	0	6,824
Education			
Public	6,700	0	6,700
Continuing Ed.			
Capital Projects	0	330,500	330,500
REVENUES			
Host agreement fee			
Tipping fees			
Property taxes			
Sales tax			
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.)	54,100	381,914	436,014

Benton County's Sanitation Management and Sanitation Education/Information budgets are lumped within the General Fund. It is difficult to determine if there are current unmet needs within these budgets. The entire amount of the host fee at the West Camden Landfill goes directly to the General Fund, and none of it is specifically marked for sanitation. There is never enough money from the Waste Tire Grant to pay the total cost for the disposal of waste tires.

TABLE 9.2 Expenditures and Revenues for the Town of Big Sandy for 2013

Expenditures	
Description	Amount
Salary and Benefits	37,336
Transportation/hauling	6,000
Collection and Disposal Systems	
Equipment	500
Administration (supplies, communication costs, etc.)	1,500
Insurance	3,500
Total Expenditures	48,836
Revenues	
Collection Charges	53,000
Interest and Other Revenue	30
Total Revenues	53,030

Big Sandy provides residential curbside collection and commercial subscription service for a little over 500 residents. Only one employee is listed in the budget to the left, but a total of three employees are involved in waste collection. The other two employees are paid from a different budget.

TABLE 9.3 Expenditures and Revenues for the City of Camden for 2013

Expenditures	
Description	Amount
Salary and Benefits	238,894
Transportation/hauling	27,140
Collection and Disposal Systems	2,500
Equipment	11,500
Administration (supplies, communication costs, etc.)	11,210
Insurance	21,131
Capital Outlay	14,832
Total Expenditures	327,207
Revenues	
Collection Charges	357,793
Total Revenues	357,793

The City of Camden provides residential curbside collection and commercial subscription service for approximately 3,500 residents. The city employs four full-time employees and two part-time employees.

SECTION 10:

CURRENT REVENUE SOURCES

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.

Benton County

As stated before, the Benton County Sanitation Management budget is located within the county's General Fund. The General Fund is the county's primary operating fund. It accounts for all financial resources of the general government, except those that are required to be accounted for in another fund. No revenue is listed in the actual Sanitation Management budget – only expenditures are listed.

The revenue of the General Fund includes: Property Taxes, Local Option Sales Taxes, Other Local Taxes, Grants and Contributions not restricted for specific programs, Unrestricted Investment Earnings, and Miscellaneous. The \$1.20 Host Fee from the West Camden Landfill goes into the General Fund.

The 2012 Benton County property tax rate is \$2.94, which is high when compared to surrounding counties. The local option sales tax is at the maximum rate of 2.75%. Benton County does not impose a wheel tax, but this has been voted on in the past and turned down. If the West Camden Landfill reaches maximum daily through put, the monies from the host fee will more than double.

Due to the current recession, unemployment rates are expected to increase and local option sales tax to decrease. The state is currently requiring Benton County to construct a new jail facility, which will cost several million dollars. Monies are very tight within the county at the present time.

The only revenue sources for the county to utilize in these hard economic times are grants for solid waste management and/or waste diversion. Hopefully, if these grants are offered, Benton County will be able to fund a fully integrated solid waste program.

Big Sandy

Big Sandy residents pay a monthly rate of \$10 for residential curbside pickup and the commercial rate varies. In the 2013 budget, no additional revenue is included but allowances were made for high fuel costs.

If Big Sandy needs more funds in the solid waste budget, collection fees could be increased. With a population of slightly more than 500, Big Sandy will depend on the county to provide waste management services other than MSW collection.

Camden

Camden residents pay a monthly rate of \$11.83 for residential curbside pickup and the commercial rate varies. The city utilized the TML bond fund to help fund the sanitation budget and allow for capital outlay projects.

Since the city has the TML bond fund in the budget, there should be sufficient money to operate the sanitation department. If more monies are needed, the collection rates could be increased.

SECTION 11:

REGIONAL SOLID WASTE PLAN

Discuss this region’s plan for managing its solid waste management 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.

The table below summarizes Benton County’s existing programs, future programs, and the Tennessee Solid Waste Management Plan.

TABLE 11.1 Regional Solid Waste Management Plan

Solid Waste Program	Existing Solid Waste Programs	Future Solid Waste Programs	Tennessee Mandated Plan
Residential Solid Waste Collection	<p>Big Sandy and Camden provide residential curbside collection of solid waste.</p> <p>Benton County residents can take MSW and other items directly to landfill located beside Convenience Center.</p> <p>Private haulers provide collection/disposal serves for local residents and businesses.</p>	<p>Continue Big Sandy and Camden collection services.</p> <p>Continue contract with West Camden Sanitary Landfill for free disposal for residents.</p> <p>Continue private hauling services.</p>	<p>County to provide CCC’s for residents according to population or service area, maintain required design and operational standards.</p>
Recycling	<p>Residents can take paper, cardboard, and cans to the Tennessee Vocational Rehabilitation Center to be recycled.</p> <p>CSC Recycling will accept cans and scrap metal.</p>	<p>Construct a Recycle Center where residents can drop off recyclables.</p>	<p>County to provide at least one (1) drop-off site for collection of residential recyclable materials.</p>
Waste Reduction	<p>Benton County met reduction goal by the real time method with 30% diversion.</p>	<p>Continue to meet the 25% Waste Reduction Goal.</p>	<p>Region to achieve 25% Waste Reduction Goal.</p>
Problem Waste Management	<p>Benton County collects waste tires at the CCC. Automobile fluids and batteries are collected by private entities.</p>	<p>Construct a Recycle Center to accept automobile fluids, batteries, and waste tires.</p> <p>Host a HHW collection event every other year.</p>	<p>County to provide at least one (1) site to accept automobile fluids, batteries, and waste tires.</p>
Public Education and Information	<p>Benton County provides educational activities to the schools through the Litter Grant.</p>	<p>Increase educational activities to target government, business, media, public schools, and civic groups.</p>	<p>Region to develop and implement solid waste management action plan for adults and children.</p>
Disposal	<p>Benton County contracts disposal services with West Camden Sanitary Landfill.</p>	<p>Continue to contract disposal services with West Camden Sanitary Landfill.</p>	<p>Region to assure 10-year disposal capacity.</p>
Planning	<p>The Benton County Solid Waste Board meets frequently throughout the year to discuss solid waste issues.</p> <p>All reporting requirements are up to date.</p>	<p>Continue meetings throughout the year to discuss solid waste issues.</p> <p>Keep reporting requirements up to date.</p>	<p>Region to provide Annual Progress Reports, Needs Assessments, and other reporting requirements as needed.</p>

Sustainability of the Solid Waste Plan must include, at the minimum:

- Continue Benton County Solid Waste Board involvement,
- Hire a Solid Waste Director,
- Construct a Recycle Center,
- Pursue all grant funds for equipment and facilities,
- Utilize technical assistance providers,
- Research technologies and other program options,
- Promote waste reduction efforts, and
- Expand public outreach and educational programs

This list is neither conclusive nor listed in priority. Expansion and sustainability will depend on the economy and funding sources. Benton County needs to start the expansion of their solid waste program with the hiring of a Solid Waste Director. This Director would be the first step to meeting all of the above recommendations.

Sources: Cite all sources, documents, surveys, and contacts.

U. S. Census Bureau

Tennessee Department of Labor and Workforce Development

U. S. Bureau of Economic Analysis

Tennessee Department of Revenue

2012 Benton County Annual Progress Report

Barry Barnett, Benton County Mayor

Benton County Budget Document

Big Sandy Budget Document

Camden Budget Document