

**2013  
HANCOCK COUNTY  
SOLID WASTE  
DISTRICT  
NEEDS  
ASSESSMENT**



**Prepared by  
First Tennessee Development District  
September 2013**

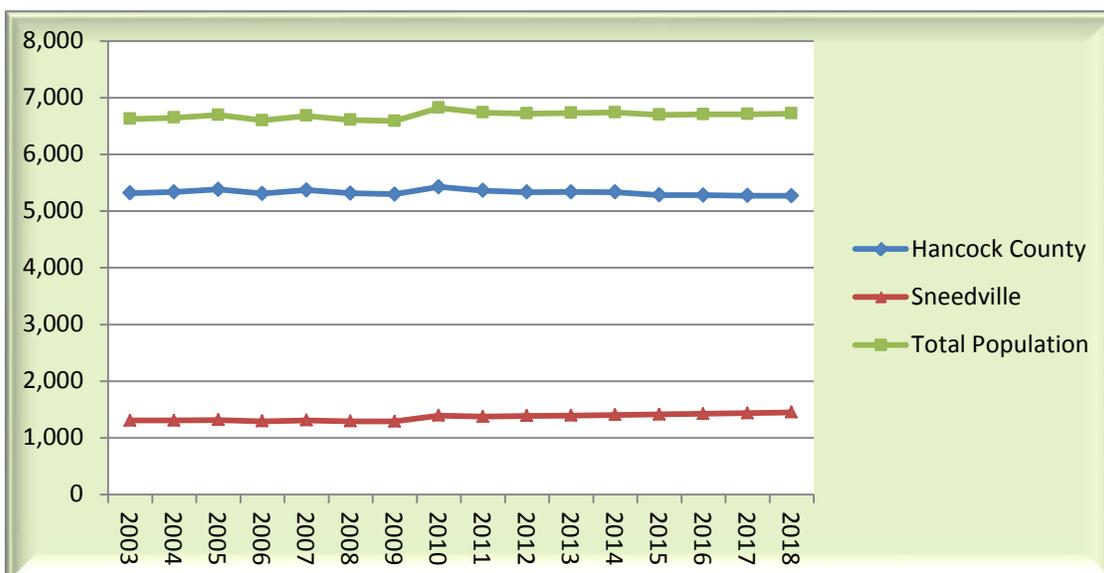
**INTRODUCTION**

The Solid Waste Management Act of 1991 requires Tennessee local governments to prepare and maintain a comprehensive plan for managing their solid waste through modern, integrated, efficient systems. To assure that such planning is carried out 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].

**Item 1-Demographic Information & Projections**

**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 municipality populations. Considering the trends, discuss the affect on the solid waste infrastructure needs over the next five (5) years.**

Year	Hancock County	Sneedville	Total Population
2003	5,315	1,308	6,623
2004	5,337	1,308	6,645
2005	5,380	1,314	6,694
2006	5,307	1,292	6,599
2007	5,369	1,310	6,679
2008	5,313	1,294	6,607
2009	5,297	1,291	6,588
2010	5,426	1,393	6,819
2011	5,362	1,375	6,737
2012	5,333	1,387	6,720
2013	5,335	1,395	6,730
2014	5,334	1,404	6,738
2015	5,283	1,413	6,696
2016	5,281	1,425	6,706
2017	5,272	1,436	6,708
2018	5,269	1,450	6,719



As evident from population figures and estimates, between 2003 and 2018 Hancock County is not predicted to experience much if any significant population growth. Most, if any growth in population is expected to occur in the Town of Sneedville. Due to the extremely rural nature of Hancock County, these population estimates are similar to what would be expected for a small, rural community with little or no economic growth. However, due to the expected flat rate of population growth over the next 5 years, there are no major solid waste infrastructure needs anticipated during this time period. The main “driver” for solid waste infrastructure is not population growth. It is the necessity to provide collection and transportation of solid wastes for residents that live extreme distances from the County’s Convenience Center or residents that live in extreme locations and isolated areas.

In recent years, elected officials have begun to address collection issues in these extremely rural areas. This will be discussed in a later section. However, strictly based on population trends and future estimates in Sneedville and Hancock County, nothing indicates a population change that will significantly affect the current solid waste management system. Officials believe the current system of door-to-door collection in the Town of Sneedville and drop-off collection for all other residents is more than sufficient to meet the needs of the County for the next 5 years.

**Item 2-Analysis of 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.**

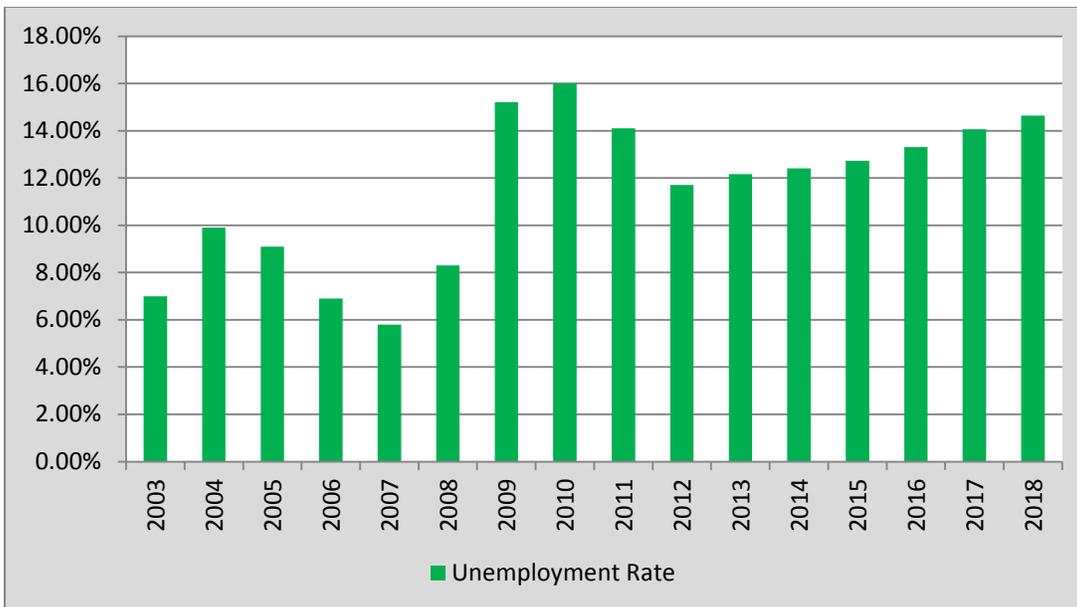
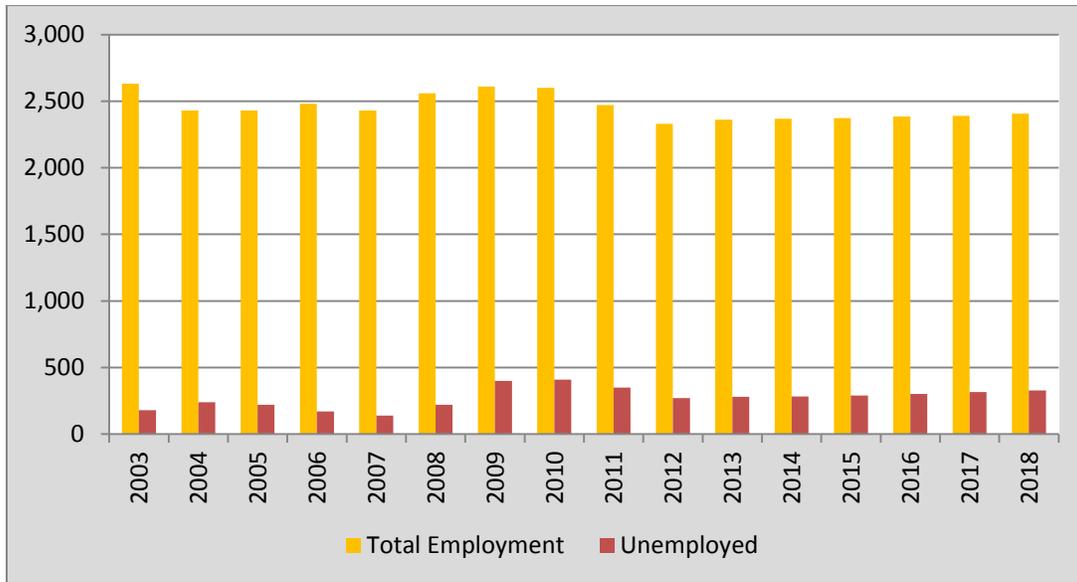
**This can be accomplished by using the following economic indicators:**

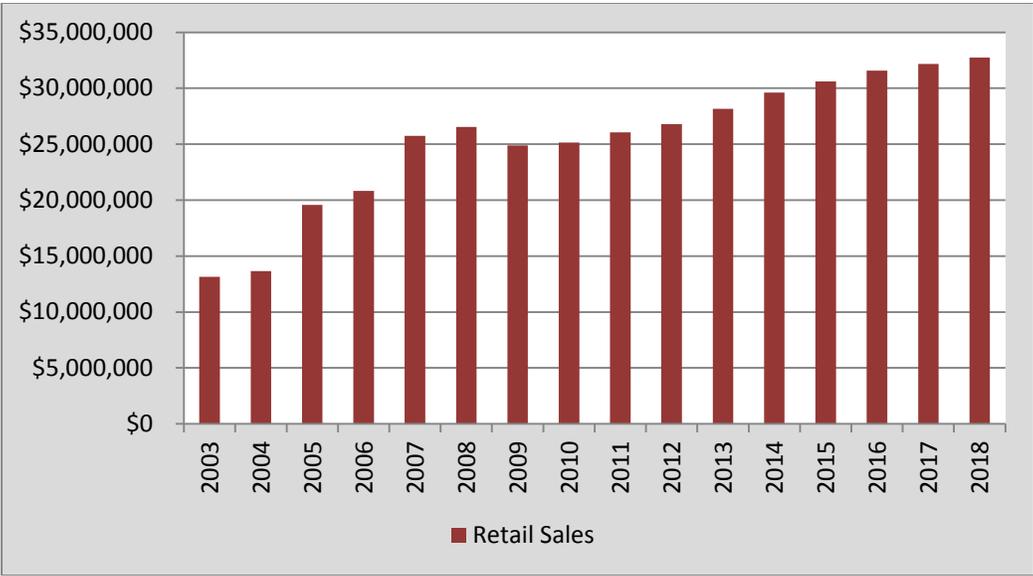
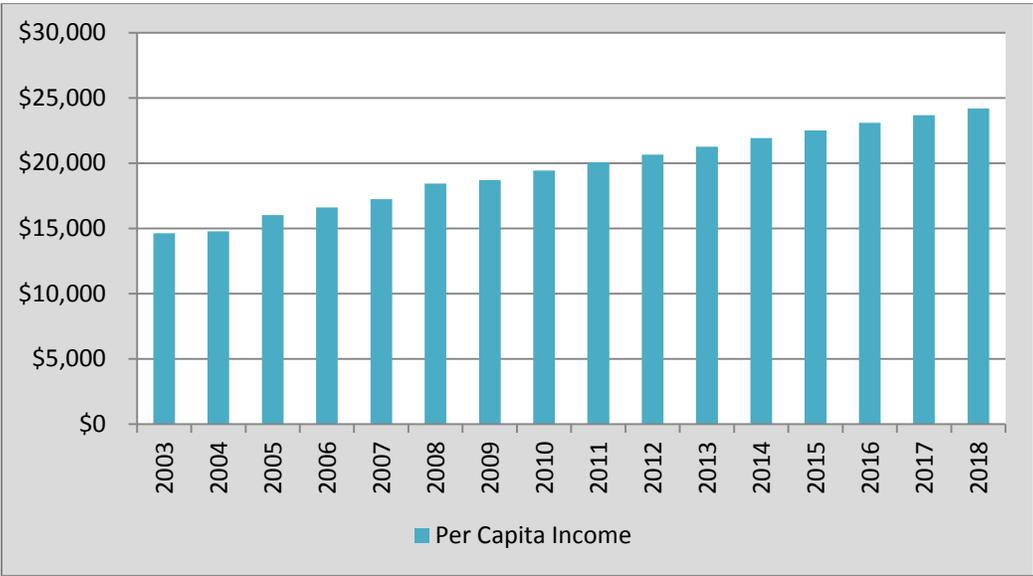
- **Taxable sales, property tax generation, and per capita income**
- **Evaluation by break down of each economic sector**
- **County or municipal budgeting information**
- **Other commonly accepted economic indicators**

Year	Total Employment	Unemployed	Unemployment Rate	Per Capita Income	Retail Sales
2002	2,630	180	7.0%	\$14,623	\$13,151,333
2004	2,430	240	9.9%	\$14,766	\$13,649,625
2005	2,430	220	9.1%	\$16,009	\$19,570,110
2006	2,480	170	6.9%	\$16,613	\$20,823,695
2007	2,430	140	5.8%	\$17,234	\$25,751,048
2008	2,560	220	8.3%	\$18,430	\$26,528,748
2009	2,610	400	15.2%	\$18,696	\$24,879,259
2010	2,600	410	16.0%	\$19,428	\$25,140,580
2011	2,470	350	14.1%	\$20,079	\$26,065,933
2012	2,330	270	11.7%	\$20,656	\$26,789,853
2013	2,360	279	12.17%	\$21,260	\$28,153,705
2014	2,367	283	12.4%	\$21,909	\$29,604,113
2015	2,373	289	12.73%	\$22,499	\$30,607,513
2016	2,384	301	13.31%	\$23,087	\$31,585,895
2017	2,389	317	14.06%	\$23,673	\$32,169,380
2018	2,406	327	14.64%	\$24,197	\$32,733,443

Source: U.S. Department of Economic Analysis, ETSU Bureau of Economic Research, Tennessee Comptroller of the Treasury, Tennessee Department of Labor. All projections done by FTDD staff.

The following tables illustrate the employment, unemployment, retail sales and per capita income in Hancock County from 2003 to 2018. As evident from the data, Hancock County suffers from higher than average unemployment and other indicators show low per capita income and retail sales.





### **Item 3-Characterization of the Solid Waste Stream**

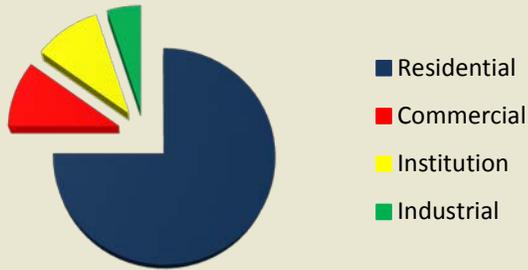
**Elaborate on the region's solid waste stream. Compare the current waste stream with trend anticipated over the next five (5) years, and discuss how this new total will be handled. Include in this discussion how problem wastes like waste tires, used oil, latex paint, electronics and other problem wastes 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.**

Most of the waste generated in Hancock County is from the residential sector. In 2007 and 2012 the waste stream was estimated to be between 75 and 90% residential. And in 2018, based on historical trends and economic indicators, the waste stream is predicted to be approximately 90% residential as well. With little or no economic growth expected in the County in the immediate future, the residential component of the waste stream will remain mostly residential. Given these factors, the solid waste collection and management system in place is more than adequate to handle the residential component of the waste stream.

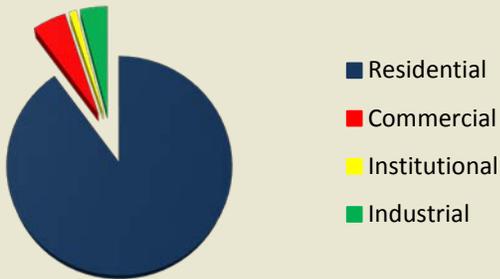
Problem wastes such as tires and used oil are managed through partnerships between Hancock County and the private sector. Tires are collected in a trailer, furnished by Liberty Tire, located at the Hancock County Farmer's CO-OP. Used oil is collected at the County's convenience center at several private businesses in the County and Town of Sneedville. Currently the County does not have a management program for latex paint or electronic wastes. As a result of this, Hancock County has not hosted a Household Hazardous Waste Collection event in several years. There are not proposed changes in the way used oil and tires will be handled in the future. In the event that the partnership with the Farmer's CO-OP ceases, Hancock County will re-locate the waste tire collection container to the convenience center site.

Hancock County does not provide solid waste collection for any commercial or business entities. However, due to an existing agreement between the County and one of the local industries, the County does accept the industry's waste at the convenience center. Sneedville provides some collection of wastes for commercial entities located within the city limits. There is no waste entering the County from other entities. All of the waste collected through the County's and City's solid waste collection programs is generated in Hancock County. 100% of the solid waste collected in Hancock County leaves the Region to a Class I landfill in Hawkins County. In 2012 the total amount of solid waste leaving the County was 2,635 tons. The following pie charts show the estimated and predicted breakdown of the Hancock County waste stream for 2007, 2012 and 2018. Estimates are based on conversations with local officials and a prediction based on historical estimates.

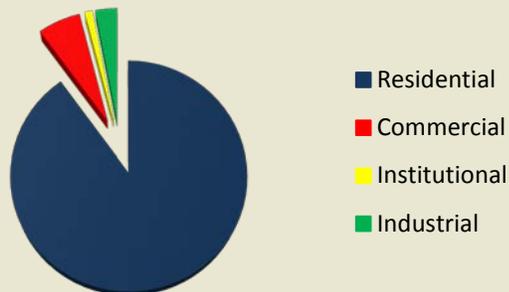
**2007 Hancock County  
Estimated Waste Stream**



**2012 Hancock County  
Estimated Waste Stream**



**2018 Hancock County  
Estimated Waste Stream**

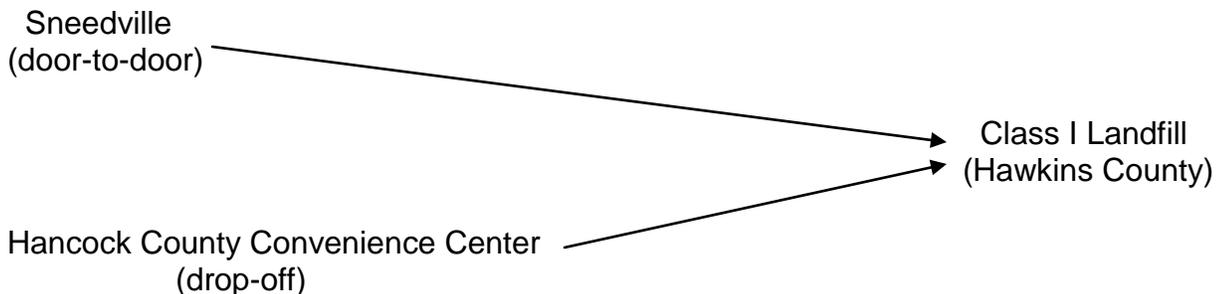


**Item 4-Solid Waste Collection System**

**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.**

Hancock County operates one drop-off convenience center location for use by all residents of Hancock County including those living in the City of Sneedville. In recent years, the County has also began offering drop-off collection in other areas of the County to benefit residents in some of the more isolated areas of the County. One day per week the County provides a roll-off container, with staff, in a different location each day. Typical locations include closed school sites, public recreational areas, etc. This addition to the County's collection program has resulted in a noticeable decline in illegal dumping and improper disposal of solid waste materials. Residents have responded to this commitment by the County by getting involved in beautification efforts, litter pickups, etc. and taking pride in their community. Sneedville provides door-to-door collection for residents living inside the city limits. In 2012, approximately 1,387 people resided in Sneedville and were served by door-to-door collection. This represents about 26% of the total population of Hancock County served by door-to-door collection. Waste collected at the County's convenience center is transported directly to a Class I landfill in Hawkins County. Waste collected by the City of Sneedville is also transported directly to the landfill in Hawkins County. At no point during this process does the solid waste become a useful product.

The following flow chart shows the flow of waste collected in Hancock County to its final disposal site in Hawkins County.





Hancock County Convenience Center/Recycling Center located on Campbell Drive in Sneedville.



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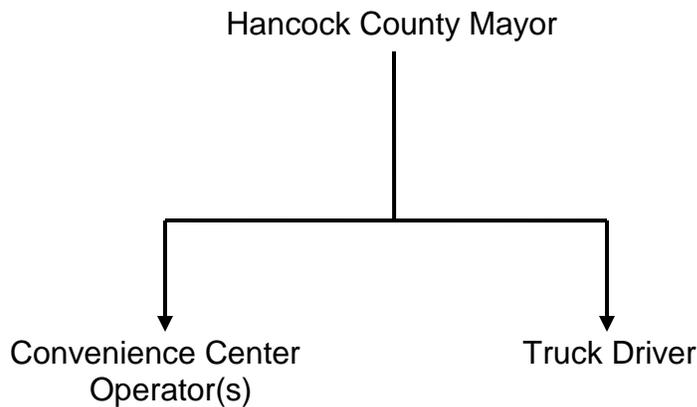


Hancock County Convenience Center/Recycling Center located on Campbell Drive in Sneedville.

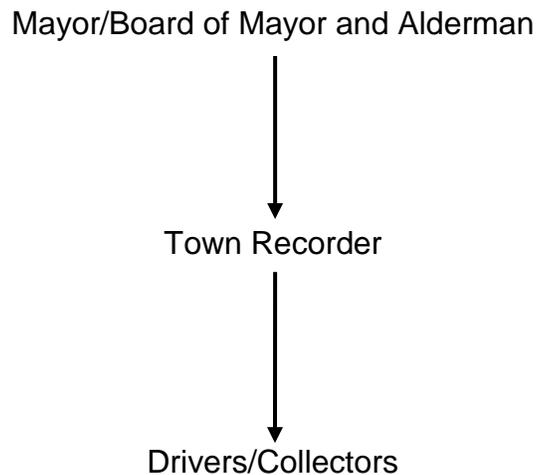
**Item 5-Analysis of Existing or Potential Solid Waste Flows within the Region and Between Adjacent Regions**

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 short comings in service and note what might be needed to fill this need.

**Hancock County**



**Sneedville**





Hancock County Waste Tire Collection site at the Farmer's CO-OP.

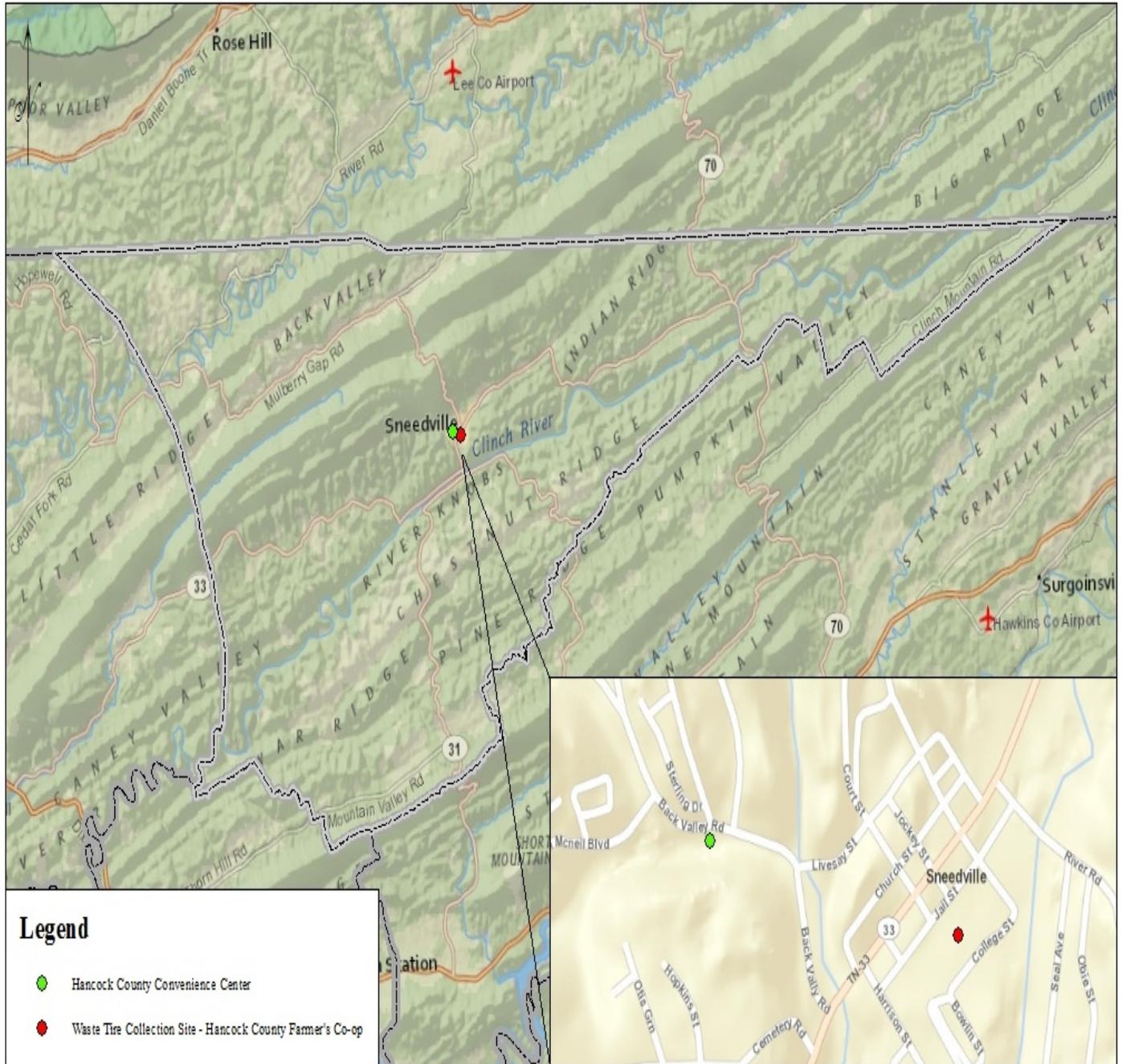




Hancock County Waste Tire Collection site.

Currently there are not shortcomings in staffing or service. However, the County Mayor is committed to continue growing the solid waste management system in Hancock County and at some point in the future would like to expand the number of permanent drop-off solid waste collection sites to better serve residents. The system is beginning to see revenues from the sale of metal recyclables that is used in the solid waste program to improve the system. Due to very limited funds from the County budget to make improvements or expand, Hancock County relies heavily on recycling revenues and is desperate for State grants, when available, to purchase solid waste equipment and construct additional drop-off sites. If/when expansion takes place, additional staff will be needed to meets growing needs.

It is remarkable that Hancock County is able to comply with all of the mandates included in the Tennessee Solid Waste Management Act of 1991 with such limited funding, extreme geographic characteristics of the County and the continuing economic conditions that Hancock County has faced for many years. Innovative partnerships with private businesses allow residents the services of waste tire collection and used oil collection. With very limited staff, equipment and funds, the County is providing basic recycling collection for metals that is producing much needed revenue for the solid waste program. If the County is successful with its 2013 Recycling Equipment Grant Application, cardboard, paper and other recyclables will be added to the collection program and will be baled to achieve highest market value.



**Legend**

- Hancock County Convenience Center
- Waste Tire Collection Site - Hancock County Farmer's Co-op

Map Created: November 14, 2013  
 For: Christopher L. Craig  
 Cartographer: Wendy S. Hill  
 Organization: First Tennessee Development District  
 Department: GIS Program Department  
 Mailing Address: 3211 North Roan Street  
                     Johnson City, TN 37601  
 Software Version: ArcGIS ArcEditor, Version 10.1

**Hancock County  
 Convenience Center Location Map**



All data, information, and maps are provided "as is" without warranty or any representation of accuracy, timeliness of completeness. The data is not guaranteed accurate or suitable for any use other than that for which it was gathered. The information is not to be used for development of construction plans or any type of engineering services.

**Item 6-Analyze Attitude of Region Toward Waste Management in General and Specify Needed Changes and/or Educational Measures**

**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.**

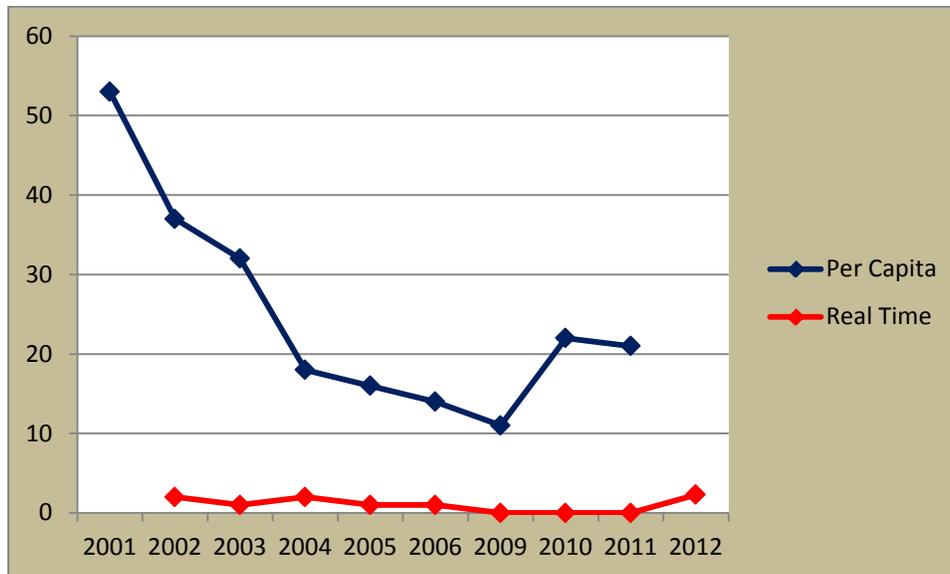
County officials believe there has been a noticeable change in citizen behavior over the last couple of years. With the increased effort of the County to provide additional temporary drop-off collection sites throughout the County, residents recognize the County's commitment to reducing litter and illegal dumping. Furthermore, the County has began an annual cleanup day and consistently has about 250-300 people participating each year. The annual Cleanup Day organized by a local volunteer provides food and drinks for participants and has become a type of community festival involving scout troops, school groups, county commissioners and citizens. Community pride is growing in Sneedville and Hancock County and will continue to show in the solid waste, recycling and waste reduction programs.

Education is the #1 priority in Hancock County to increase community awareness as more recycling and waste reduction services come online in the next few years. For the materials that the County provides collection, participation is relatively high. However more education is needed to increase awareness about the recycling program, illegal dumping and littering. When the County expands its recycling program to include cardboard, paper and other materials, education will be the key component to make the public aware of the program and therefore increase participation. One of the most significant improvements over the last several years has been the noticeable change in citizen's behavior toward recycling and proper solid waste management. New residents to the County are demanding change and services that have not been provided in Hancock County in the past and local elected officials are listening. An Annual County Cleanup Day would never been possible if not for the change in citizen's behavior over the last few years.

While the County can boast several significant achievements in recent years, public apathy still continues to be an issue. Although the County has a successful Cleanup Day and has been reaching out to the most isolated residents with collection alternatives, more than half of the population is still indifferent about recycling and waste reduction and will likely never participate in any waste reduction program. To better understand the attitude of residents towards recycling and waste reduction, a county-wide survey should be conducted. Results of the survey could be used to better focus educational efforts and direct funding to areas of greatest need to combat apathy among residents. In the mean time, instead of focusing on the negative 50% or more, County officials are moving forward into the future with the percentage of County and City residents that want to get involved and participate in Hancock County's continued efforts to beautify the County and develop a successful recycling and waste reduction program.

**Item 7-Evaluation of the Waste Reduction Systems for Counties & Municipalities in Region**

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.



	Per Capita	Real Time
2001	44%	1%
2002	37%	2%
2003	32%	1%
2004	18%	2%
2005	16%	1%
2006	14%	1%
2007	10%	4%
2008	7%	2%
2009	11%	0%
2010	22%	0%
2011	21%	0%
2012	19%	2%

As evident from the historical data, Hancock County has met the 25% waste reduction goal only 3 times since 2001 using either of the approved methods for calculation. Hancock County was the beneficiary of a base year adjustment in 1995 that is the main reason for successfully reaching the 25% goal in 2001, 2002 and 2003. Since that time Hancock County has failed to reach the goal. Given the low participation rate in the County’s recycling program and lack of a program to collect a variety of recyclable materials, the County will likely always have difficulty in reaching the goal using the “real time” calculation method. Plans that are in place by the

County Mayor will expand the current recycling program to include additional materials that will certainly move the County in the direction of reaching the goal, however due to the lack of adequate funding, rural nature of the County and its geographical isolation, recycling volumes alone will not provide enough waste reduction to reach the goal no matter how many infrastructure improvements or recycling collection programs are added. Each year Hancock County identifies several pieces of recycling equipment in its Annual Solid Waste Progress Report intended to reduce the amount of waste landfilled.

Efforts to achieve the 25% waste reduction goal also include encouraging recycling activities reporting from the few businesses and industries in the County. With the assistance of the First Tennessee Development District, the County will survey businesses and encourage them to participate in the reporting of recycling activities. According to data in the 2012 Hancock County APR, approximately 600 additional tons of recyclables reported from private entities would have enabled Hancock County to reach the 25% goal in 2012. The goal of County officials, working with the Development District, is to find additional recycling tons from businesses that will result in at least a 25% reduction using the “real time” calculation method.

**Item 8-Collection/Disposal Capacity and Projected Life of Solid Waste Sites**

**(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
Hancock County Convenience & Recycling Center	4 tons per day	8 tons per day	25 years
Carter’s Valley Landfill (Hawkins County)	1,500 tons per day	Private facility – depends on customer levels and expansion plans	10-15 years
<b>Total:</b>	<b>1,504 tons per day</b>	<b>N/A</b>	<b>35-50 years</b>

**(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)
Hancock County	County-Wide	6,730 (all residents)	Anytime during open hours	2,000	Convenience Center
Sneedville	City Limits	1,395	Weekly	1,000	Curbside

**Item 9-Unmet Financial Needs and Cost Summary**

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

**Chart 9**

<b>EXPENDITURES</b>			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$117,820		\$117,820
Transportation/hauling	\$58,800	\$90,000	\$148,800
Collection and Disposal Systems	\$100,000		\$100,000
Equipment			
Sites			
Convenience Center	\$3,700		\$3,700
Transfer Station			
Recycling Center		\$46,000	\$46,000
MRF			
Landfills			
Site			
Operation			
Closure			
Post Closure Care			
Administration (supplies, communication costs, etc.)	\$17,900		\$17,900
Education			
Public			
Continuing Ed.			
Capital Projects			
<b>REVENUE</b>			
Host agreement fee			
Tipping fees	\$300		\$300
Property taxes	\$221,744	\$90,000	\$311,744
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.)	\$16,350	\$46,000	\$16,350

**Item 10-Compare Revenue Sources for the Region’s Current Solid Waste Programs with Projected Future Demands. Identify Any Potential Shortfalls in that Capacity**

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 these needs will be met. (Use Chart 9 as an example to present data)

Locality	Revenue Source
Hancock County	Property Taxes
	Tipping Fee
	Grants
Sneedville	Property Taxes
	Collection Fees

**Future Solid Waste Management Needs**

Community	Equipment	Estimated Cost	Potential Revenue Sources
Hancock County	Vertical or Horizontal Baler	\$20,000 - \$40,000	Grants/Property Taxes/Sale of Recyclables
	Roll-off Containers	\$6,000	Grants/Property Taxes/Sale of Recyclables
	Roll-off Truck	\$90,000	Grants/Property Taxes/Sale of Recyclables

To meet the future solid waste and recycling equipment needs, Hancock County will most likely use a combination of grants, General Fund allocations and revenue from the sale of recyclables. Due to the uncertainty of grant funds, few General fund allocations and the small revenue generated from the sale of recyclables, the process to generate enough revenue to purchase new equipment will be a multi-year process. Recycling sales will not increase until additional collection and processing equipment is added to the system. A majority of the equipment in use today in the County’s solid waste management system, was purchased through the aid of State grant programs. Unfortunately, Hancock County will rely heavily on this source of revenue in the future to meet equipment needs over the next 3-5 years.

### **Item 11-Sustainable Goals Consistent with the State Plan**

**Discuss the region's plan for managing its solid waste system over the next five (5) years. Identify any deficiencies in that plan and offer recommendations for eliminating these deficiencies. Suggest and list the specific ways in which the region can improve its solid waste program to reach a level of waste reduction above that of the goal and provide long term sustainability to the current solid waste collection system. Show how the region's plan supports the statewide Solid Waste Management Plan.**

Although Hancock County's solid waste management system is very basic, it adequately serves the needs of the citizens of the County. Rural communities such as Hancock County and the Town of Sneedville must utilize the resources available in the most efficient way possible, both financial and non-financial. We believe the Region has successfully implemented a system that serves the populations needs by providing a low cost waste collection and disposal program that is sustainable for years to come. Over the next 5 years, Hancock County will continue to provide solid waste collection services via one staffed convenience center. Historically, this center has demonstrated the capacity to serve all of the residents of the County no currently served by door-to-door collection. Obviously, Hancock County officials would like to provide additional collection alternatives (convenience centers) but construction costs and capital costs prohibit adding additional collection centers for the foreseeable future. Additional centers would provide more accessibility to residents living in the most isolated areas of the County. However, without grant funding to assist with expansion costs, the County will continue to maintain one center. To address temporary collection needs in the most isolated areas of the County, County officials have implemented temporary drop-off collection at various sites throughout the County. The result has been less litter and improper disposal of wastes.

Specific ways that Hancock County can reach a level of waste reduction above the 25% waste reduction goal include working with businesses and industries to become involved in reporting of waste reduction and recycling activities. Hancock County can benefit from these efforts using the "real-time" waste reduction calculation method. Hancock County would have met and exceeded the 25% goal in 2012 if 600 tons of recyclables had been reported from local businesses. A concerted effort needs to be made in 2014 to gather as much private recycling data from commercial and industrial entities as possible. Furthermore, the County needs to consider expanding its recycling program to include recycling in each of the County schools. Cardboard, metal and paper can easily be recycled from schools and will account for a significant amount of weight which can be counted toward achieving the goal. While its admirable to assume that Hancock County can implement some of the waste reduction programs others counties do to achieve 25% waste reduction, the fact is that Hancock County is very limited financial and socially in the programs they can implement. With one on the highest unemployment rates in the State, high poverty rate and low per capita income, the focus of local government programs and expenditures will be placed on programs with higher priorities than waste reduction projects.

It's taken several years for Hancock County to develop a comprehensive solid waste management program that supports the Statewide Solid Waste Management Plan. Present administration has worked diligently to ensure that Hancock County is meeting or exceeding all applicable regulation related to the Solid Waste Management Act of 1991 and amendments. With limited resources, this has been a challenge, but Hancock County continues to look for new ways to develop a solid waste management system that goes beyond the minimum requirements for recycling, waste reduction and solid waste collection/disposal.

**Sources:**

U.S. Census Bureau

U.S. Bureau of Economic Analysis

ETSU Bureau of Economic Research

Tennessee Comptroller of the Treasury

Tennessee Department of Labor

First Tennessee Development District staff.

1999 Hancock County Solid Waste District Needs Assessment Update

Hancock County Annual Solid Waste Progress Reports