

**FY2016
CARTER COUNTY
SOLID WASTE
DISTRICT
NEEDS
ASSESSMENT**



**Prepared by
First Tennessee Development District
June 2016**

INTRODUCTION

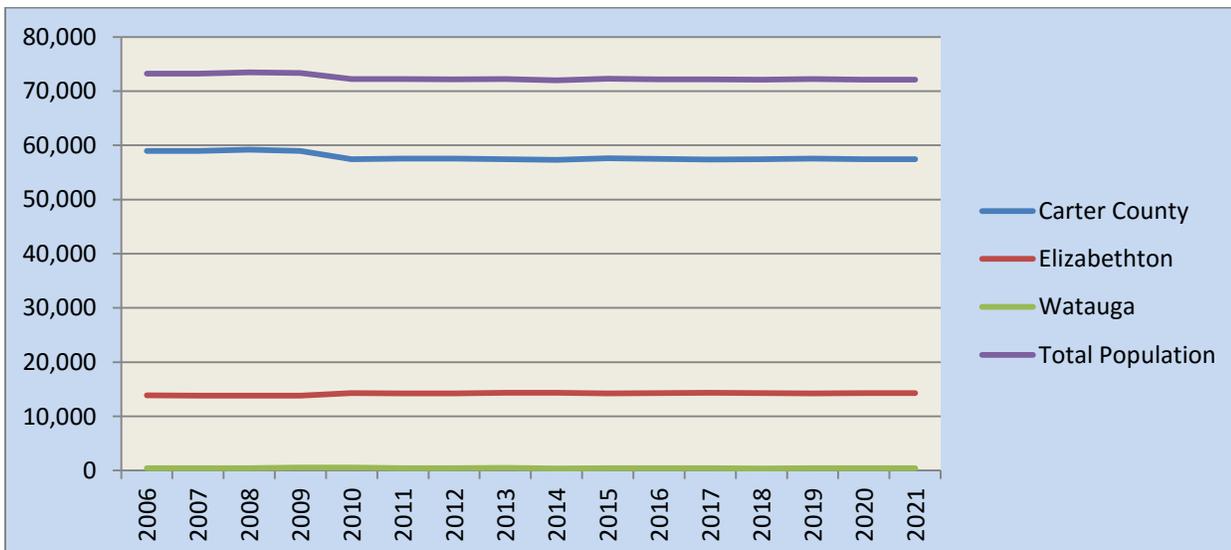
The Solid Waste Management Act of 1991 requires Tennessee local governments to prepare and maintain a comprehensive plan for managing their solid waste through modern, integrated, efficient systems. To assure that such planning is carried out on a solid foundation of relevant and objective knowledge 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 effect on the solid waste infrastructure needs over the next five (5) years.

Carter County Population Projections

	Carter County	Elizabethton	Watauga	Total Population
2006	58,956	13,848	431	73,235
2007	58,960	13,811	427	73,198
2008	59,201	13,817	427	73,445
2009	58,955	13,806	563	73,324
2010	57,424	14,306	521	72,251
2011	57,568	14,235	438	72,241
2012	57,531	14,228	421	72,180
2013	57,438	14,318	461	72,217
2014	57,298	14,322	360	71,980
2015	57,594	14,223	449	72,266
2016	57,458	14,274	425	72,157
2017	57,394	14,319	427	72,140
2018	57,413	14,278	389	72,080
2019	57,556	14,242	449	72,247
2020	57,408	14,299	417	72,124
2021	57,415	14,299	416	72,130



Population trends in Carter County, as shown in the above table, show that in the past 10 years, the population for the entire County, including the cities of Elizabethton and Watauga, has experienced relatively stagnant growth. In fact, the total population of the County has declined since 2006 but has virtually leveled out after 2009. The only area of population growth in the County has occurred in the City of Elizabethton. Elizabethton has seen an increase in population from 2009 to 2010 which could indicate that some residents in the rural areas of the County are relocating to the city.

After 2010, the population of Elizabethton has leveled off as well. Insignificant changes in populations in the urban and rural areas of Carter County in the future don't appear to be of concern from a solid waste management perspective and projections for the years 2017-2021 indicate this trend will continue. However, like any speculation of population growth, changes can occur in population growth due to factors not yet identified such as industrial expansions, residential developments, new industry, etc. Given the current economy of the region, we are confident at this time, all indicators of economic growth, residential development, etc., point to the fact that little or no population growth will occur in Carter County for the foreseeable future.

Taking into consideration population growth projections and economic factors such as employment, unemployment, per capita income and retail sales, there doesn't appear to be strong indications that the County's waste generation components will change much over the next 5 years. While we believe the current solid waste management system is sufficient to handle the waste projected over the next 5 years as a result of population changes and economic changes, there are some gaps in the system that need to be addressed in the future to provide a better level of service. These gaps are completely unrelated to demographic changes but should be considered in order to provide an increase in the level of service for residents in specific areas of the County.

Carter County should consider constructing an additional convenience center/recycling drop-off site in the western end of the County. This is a densely populated area of the County that doesn't have access to some of the County solid waste collection services such as special waste collection, solid waste drop-off or recycling drop-off. The City of Elizabethton is proposing to construct a drop-off recycling center in this area of the County that is inside the City limits, but it likely won't provide total coverage for Carter County residents in the western end of the County.

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:

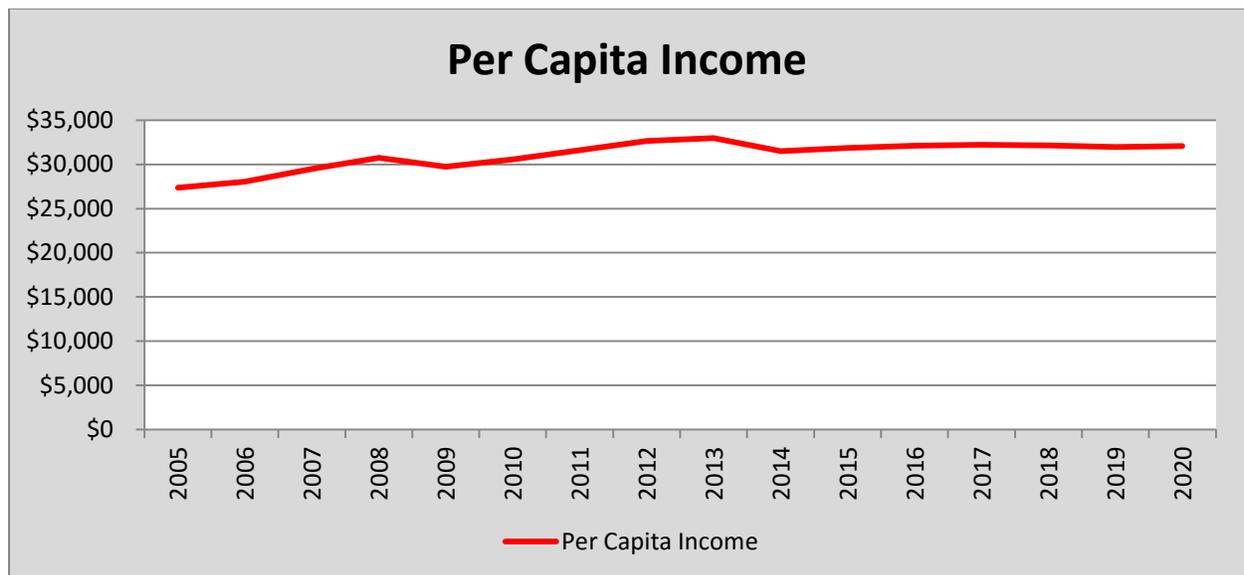
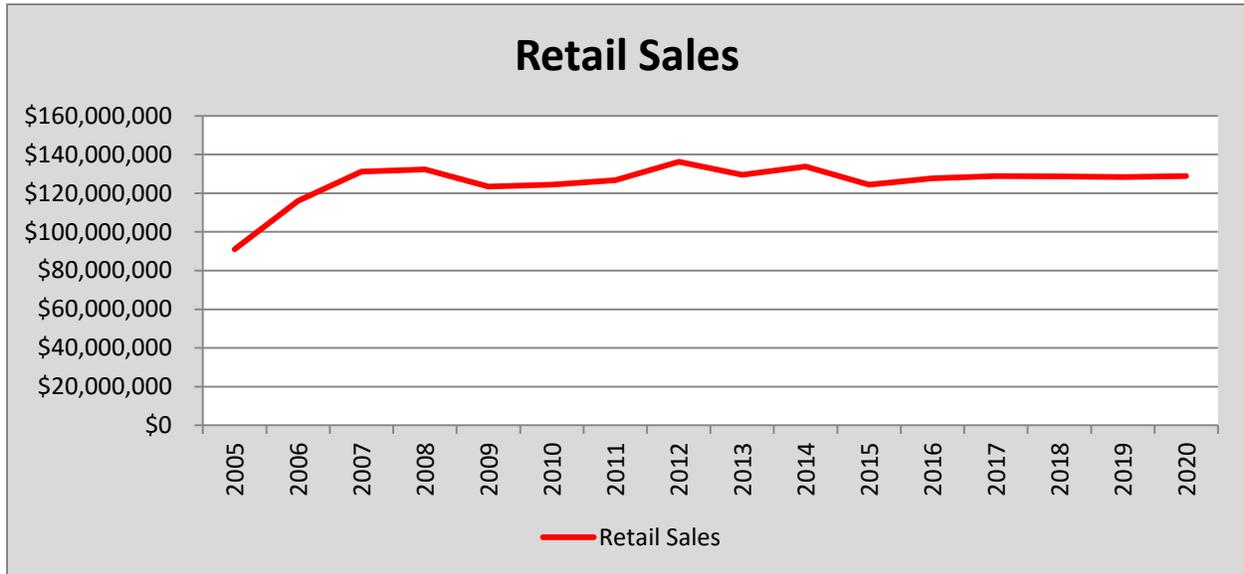
- **Taxable sales, property tax generation, and per capita income**
- **Evaluation by break down of each economic sector**
- **County or municipal budgeting information**
- **Other commonly accepted economic indicators**

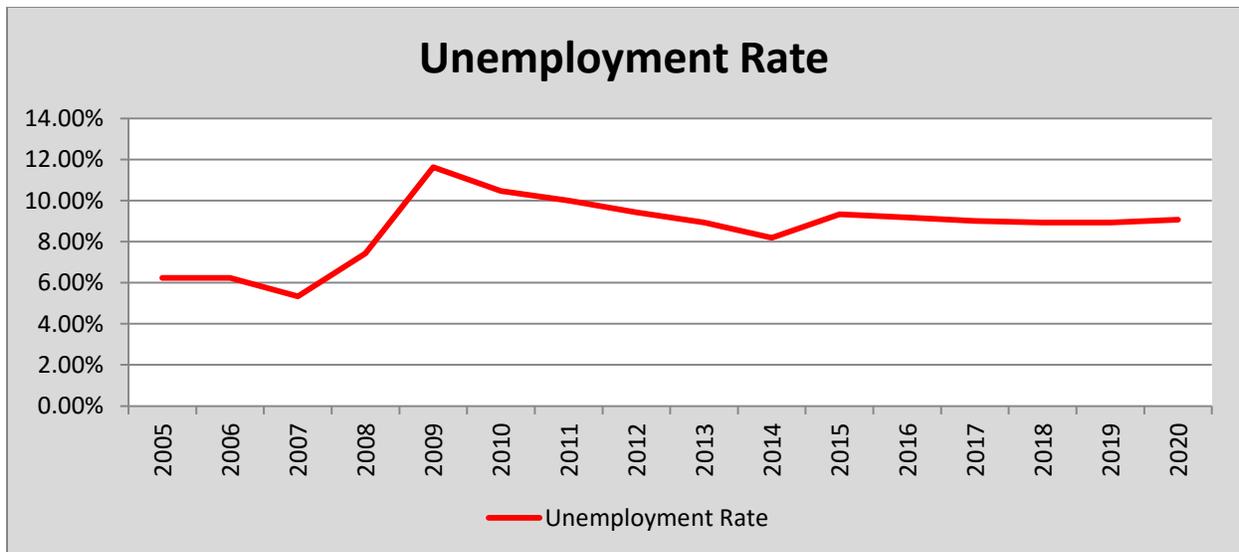
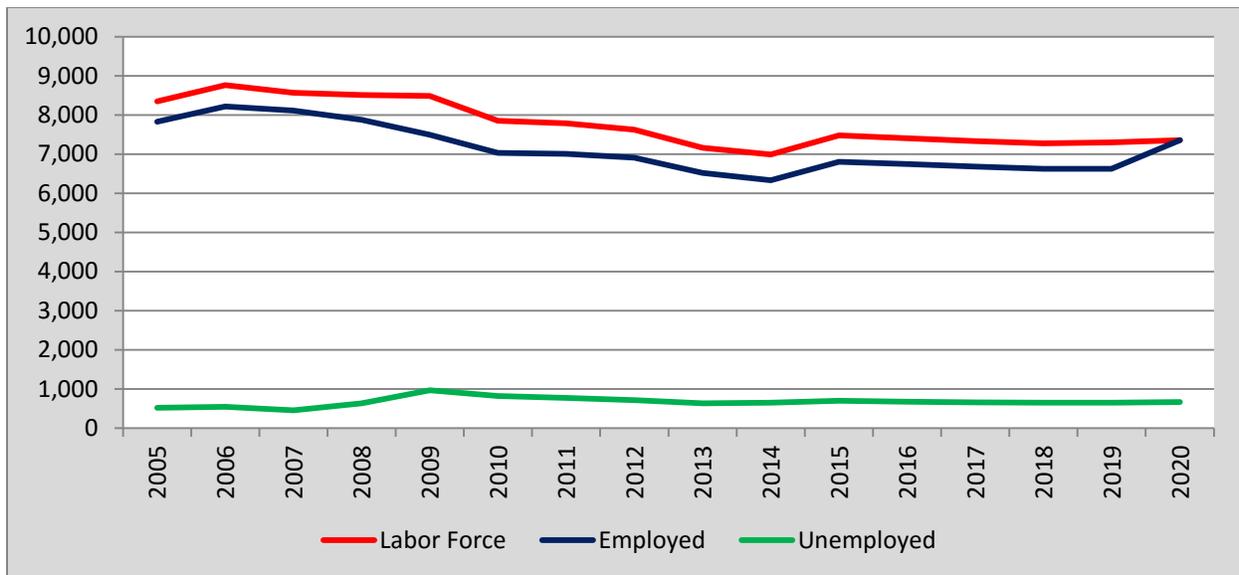
	Labor Force	Employed	Unemployed	Unemployment Rate	Per Capita Income	Retail Sales
2006	29,353	27,871	1,482	6.40%	\$17,684	\$478,781,378
2007	28,315	26,417	1,898	6.80%	\$17,533	\$499,909,488
2008	27,803	25,946	1,857	8.90%	\$17,847	\$478,446,540
2009	28,287	25,743	2,544	11.40%	\$17,256	\$445,853,571
2010	26,147	23,849	2,298	11.10%	\$17,318	\$443,922,183
2011	26,037	23,946	2,091	9.50%	\$17,750	\$453,298,496
2012	26,198	23,787	2,411	8.60%	\$18,549	\$459,775,352
2013	25,715	23,512	2,203	8.60%	\$18,976	\$467,065,490
2014	25,841	23,444	2,397	9.20%	\$19,385	\$485,761,809
2015	26,108	23,939	2,280	9.30%	\$18,396	\$461,964,666
2016	25,987	23,612	2,276	8.70%	\$18,611	\$461,573,162
2017	25,750	23,507	2,313	9.30%	\$18,783	\$468,028,096
2018	25,981	23,646	2,294	9.10%	\$18,830	\$469,678,644
2019	26,050	23,824	2,312	8.80%	\$18,801	\$470,201,274
2020	25,879	23,531	2,295	9.30%	\$18,684	\$467,089,169
2021	25,847	23,590	2,298	8.90%	\$18,742	\$468,114,069

Source: U.S. Census Bureau, East Tennessee State University Bureau of Business and Economic Research, Tennessee State Data Center – Center for Business and Economic Research and American FactFinder. Some projections were done by FTDD staff.

The following charts show graphic representation of the data contained in the previous table. In 2008, Carter County experienced a significant decline in retail sales due to the national recession that had noticeable effect on the local economy and included an 11% unemployment rate. Data shows very little sustained growth in retail sales over the next 5 years which is a major portion of the Carter County economy. Unemployment rates in Carter County mirror those in other counties in the surrounding region. Most of the jobs in the County are in the service industry and retail sector. The County is trying to expand its economic base in the adventure tourism area through promotions of outdoor sports, etc. Similar to many other small rural counties in Tennessee, Carter County has experienced some growth in manufacturing jobs but these are often offset with plant closures or relocations. For the next 5 years, based on projections, the unemployment rate in Carter County is expected to remain around 9% which remains significantly higher than the national unemployment rate. The current unemployment rate in Carter County in 2016 is 8.7%

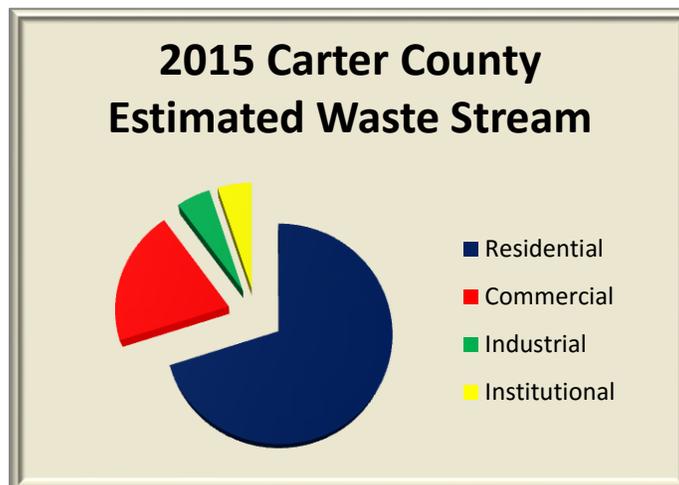
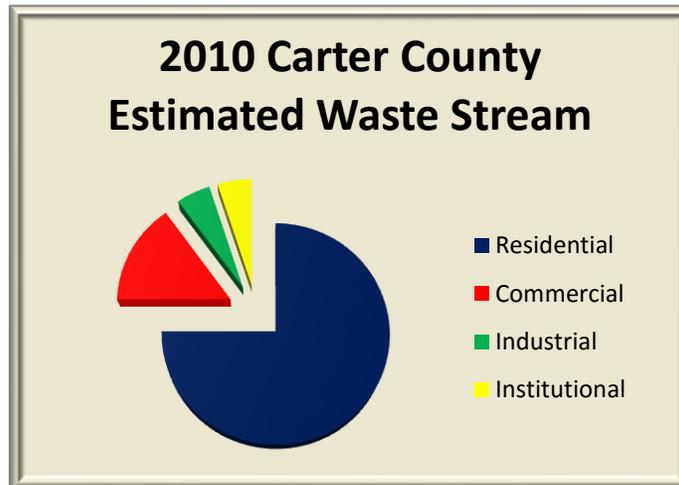
There does not appear to be a significant increase in the unemployment rate or retail sales figures to cause a stress on the County's solid waste collection system over the next 5 years. As currently comprised and based on current or projected economic indicators, the solid waste management system is sufficient to handle any increase in waste, with the exception of the issue raised in item #1 addressing level of service.

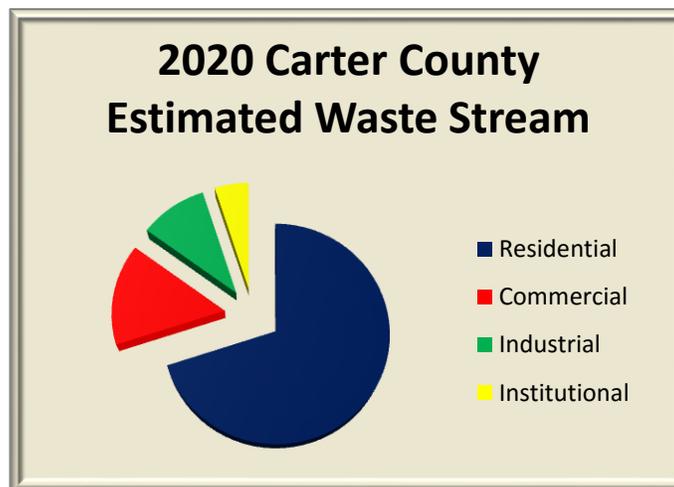




Item 3-Characterization of the Solid Waste Stream

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.





Carter County’s waste stream is primarily residential as would be expected and is based on estimates provided by local officials and reported in the County’s Annual Solid Waste Progress reports. There is not anticipated much change in the composition of the waste stream through 2020. Slightly more commercial and industrial waste is predicted, but these estimates are based on the possibility of economic growth such as new industry, industry expansion and an expansion of the County’s retail and commercial base. Waste stream estimates range 70 to 75% residential materials. Commercial wastes are estimated to range between 15 and 20% while industrial wastes in the waste stream are estimated to range from 5 to 10%. Over this 10 year period from 2010 to 2020, institutional wastes are estimated to remain at about 5% of the overall waste stream. This is expected due to the fact that institutional entities don’t often change much in a County. While these projections are estimates based on local opinion, we believe that the Carter County waste stream will be within a few percentage points of these estimates. A waste audit would be necessary to accurately determine current and predict future waste stream composition. However, the waste stream is subject to dramatic change should there be an significant decline or increase in economic activity. Solid waste generated within the city limits of Elizabethton and Watauga is from residential sources and is disposed of in the Iris Glen Environmental Center in Johnson City. However, waste collected at the County’s network of 3 convenience centers and the transfer station, is disposed of in the Advance Disposal Landfill in Blountville.

Commercial or industrial wastes are not accepted at the Roan Mountain or Little Milligan Convenience Centers. The commercial and industrial sector are managed through either private haulers that haul directly to Class I disposal facilities or the Carter County Transfer Station. Elizabethton does provide solid waste collection services for private entities on a fee schedule, Carter County does not. The City of Watauga does not provide commercial waste collection and provides residential collection via a collection contract with a private hauler. Over the next 5 years, Carter County appears to be positioned well to handle the MSW stream, regardless of the source. Historical and future trends appear meet the County’s current collection and transportation capacity.

Carter County’s special waste collection program is provided to residents at drop-off locations previously mentioned. The following table illustrates the details of the Carter County special waste collection and management program.

<u>Special Waste</u>	<u>Collection Process</u>	<u>End Use</u>
Waste Tires	Collect at transfer station (Washington Co. HUB)	Liberty Tire, Concord, NC
Lead Acid Batteries	Collected at transfer station	Sold for recycling.
Used Oil	Collected at transfer station, MRF and Roan Mtn CC	Burned in waste oil heater.
Antifreeze	Collected at transfer station	Fee is paid to recycle.
Electronics	Collected at transfer station and MRF	Sold for recycling
Latex Paint	Do not manage	
HHW	Host a State sponsored annual one day collection event	

In 2016, Carter County plans to add used oil collection to the services provided at the Little Milligan Convenience Center. Used oil collection grant funds will be used to purchase collection equipment and establish the site. There is not expected any changes to the County's special waste collection infrastructure over the next several years.

As mentioned earlier, waste from the City of Elizabethton is disposed of in the Region (Northeast Tennessee) at the Iris Glen Environmental Center. Solid waste disposed through the Carter County Transfer Station is disposed outside the Region at the Advance Disposal Landfill (EcoSafe) in Sullivan County. A small amount of waste, 1,148 tons in 2015, was disposed in the Carter's Valley Landfill in Hawkins County by private haulers. Out of county waste is prohibited at any of the County's convenience centers, however, some out of Region waste is disposed at the Carter County Transfer Station by private haulers collecting in neighboring counties.

Carter County is fortunate to have a comprehensive solid waste management system that provides collection or disposal for all types of MSW ranging from household to commercial to construction and demolition. The County's construction and demolition landfill receives approximately 4,500 tons of C/D materials each year. Therefore, there appears to be no solid wastes that require special attention.

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.

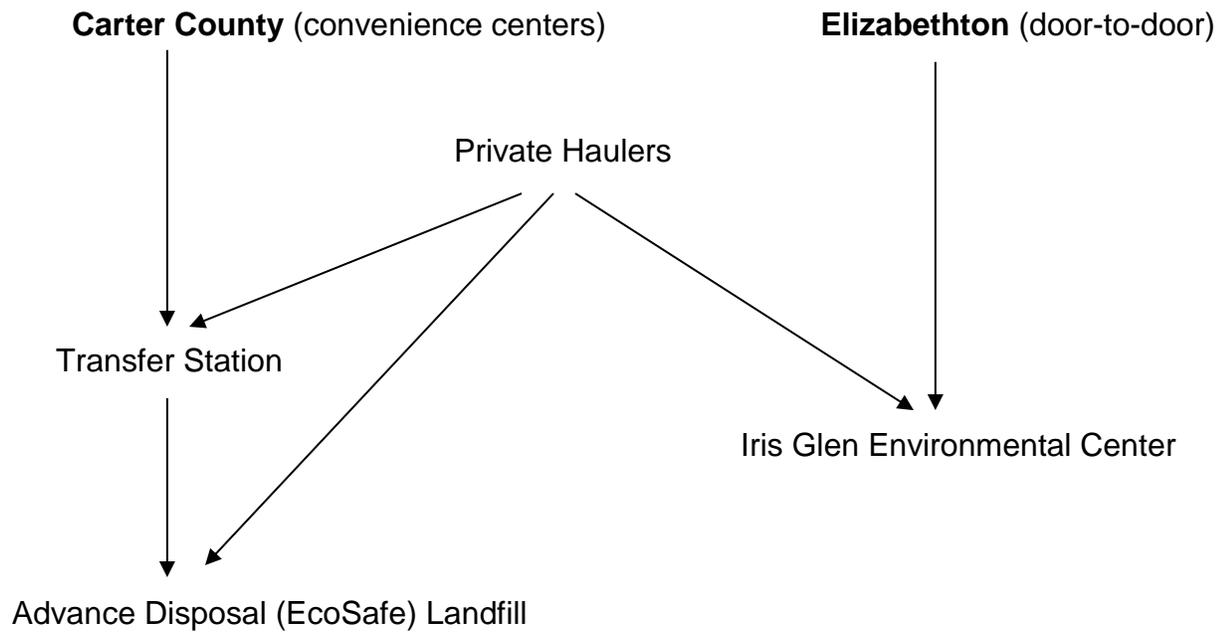
There are three public solid waste collection systems in Carter County. The County's system, which is available to all residents of the County, is a drop-off collection program consisting of 3 locations. The Roan Mountain and Little Milligan Convenience Centers are typical drop-off sites that collect solid waste and some special wastes. The Little Milligan Center is open a portion of the week and collects solid wastes and will eventually collect used oil. The third location in the County is the Carter County Transfer Station. This site functions as a drop-off facility and permits residents to use the transfer station to dispose of household wastes. Elizabethton operates a curbside collection program that is available to all residents of the City. Approximately 14,000 residents are served by the Elizabethton curbside program. The City of Watauga provides curbside collection services to its approximately 450 residents through a contract with a private hauler. MSW generated in Carter County is disposed in 2 different Class I facilities. The County has a disposal contract with Advance Disposal (EcoSafe) in

Blountville to accept waste collected through the Carter County Transfer Station. However, Elizabethton and Watauga wastes are transported directly to and disposed of in Iris Glen Environmental Center in Johnson City. This facility is owned by the City of Johnson City and operated by Waste Management.

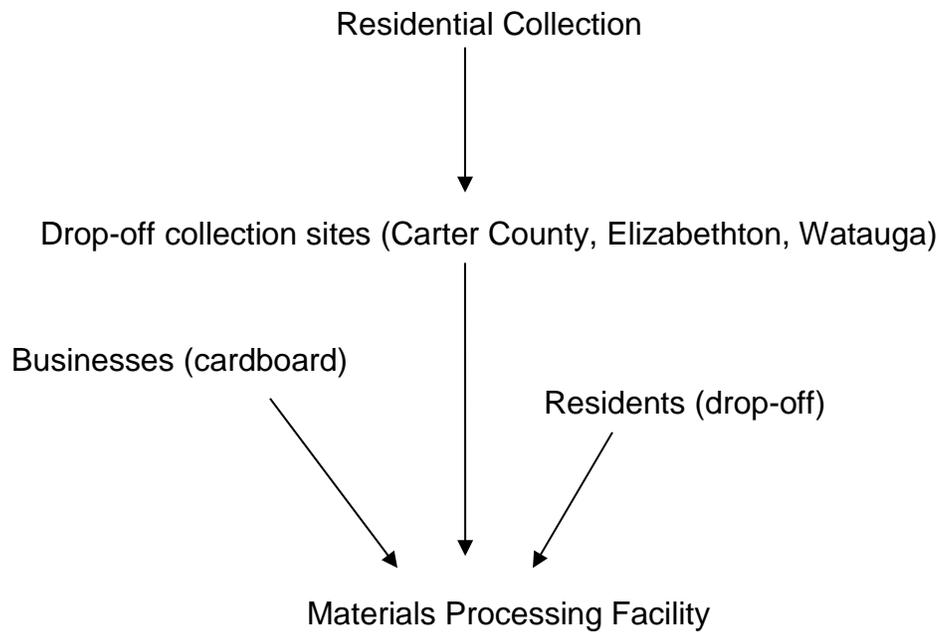
Carter County is lead entity in recycling in the County. Recycling collection is provided at each of the drop-off sites and the Materials Processing Facility location. Furthermore, Carter County has a highly successful cardboard collection program that is available to businesses and industries at no cost. In recent years, the County has expanded its recycling program to include County schools as permissible. Prior to 2015, these were the only opportunities for the public to recycle commodities. In late 2015, Elizabethton and Watauga partnered with Carter County to provide drop-off recycling services in these communities. In Elizabethton, the City provides the location and collection equipment and Carter County provides transportation and materials processing. In Watauga, the City provides the location and the County provides the collection equipment, transportation and materials processing. This partnership is the first of its kind in northeast Tennessee and has proved to be an excellent example of local governments working together to share resources to reach the goal of reducing waste instead of each community working independently. Because of this successful partnership, Elizabethton is exploring options to add additional drop-off sites in other areas of the City.

The overall functionality of the solid waste management system in Carter County is sufficient to meet the needs of residents. However, there appears to be one shortcoming in the system with regards to the public's access to drop-off solid waste collection services. The western end of Carter County is currently underserved in solid waste and recycling drop-off collection availability. An additional convenience center/recycling center is needed in the western section of the County. While residents in this area have access to private haulers, the availability of drop-off service for MSW, special wastes and recyclables is not. County officials have discussed this shortcoming in the past but have yet to move forward with construction of a facility. The author's recommendation would be to construct a convenience center in western Carter County to serve residents of this area. At no point during the life cycle of wastes in Carter County does the material become a useful product. All solid waste generated, collected and disposed from Carter County is placed in a Class I landfill. The following flow diagrams show the flow of solid waste and recyclables in the Region from initial collection points to eventual end-points.

SOLID WASTE



RECYCLABLES





Little Milligan Convenience Center



Roan Mountain Convenience Center



Carter County Transfer Station

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.

***Carter County
Solid Waste Program Organizational Chart***

Carter County Commission Landfill Committee



Solid Waste Director



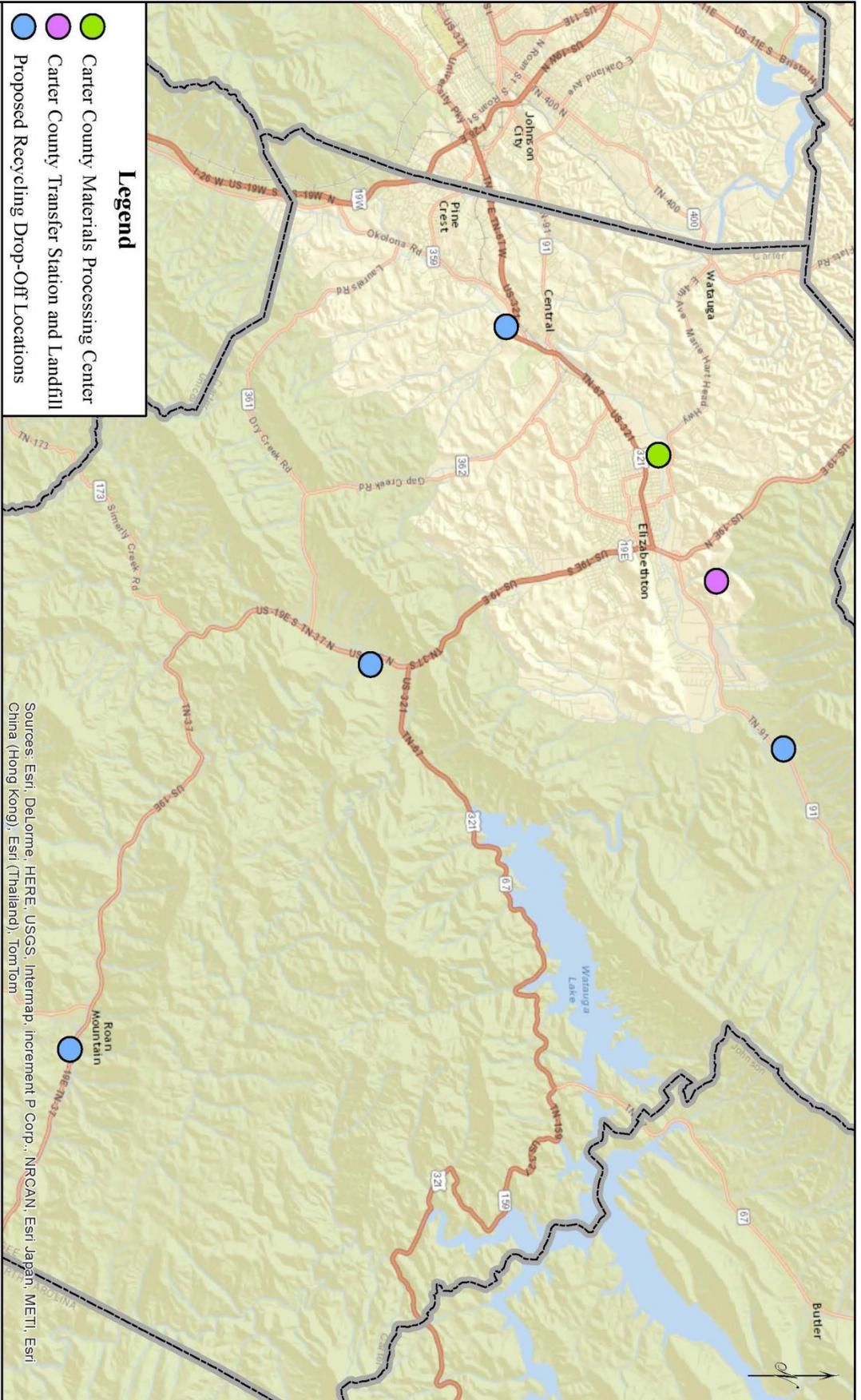
Solid Waste Staff - Drivers (2), Transfer Station (3), C/D Landfill (1), Convenience Centers (2), Recycling Center (1)

**Elizabethton
Solid Waste Program Organizational Chart**



There does not appear to be glaring staffing issues within either of the public solid waste programs, Elizabethton and Carter County. Although, officials would indicate that additional staff are always needed to expand programs and/or keep up with demand for services. Carter County has been fortunate to fill some staffing gaps with inmates from the Carter County Detention Center working at the County's Materials Processing Facility. In the future, Carter County would like to expand its recycling collection and processing capabilities which would certainly require additional staff. Currently, the County is transporting and processing recyclables from the City of Elizabethton drop-off site. Should the City expand the number of drop-off sites, additional staff may be needed to meet demand.

Additional staff is always a desire of local government solid waste programs, however with the current system and budgetary constraints, there appears to be no shortcomings in the staff levels that lead to a reduction in service. The following map shows the location of the network of convenience centers throughout the County that provide excellent coverage for residents relying on drop-off service for solid waste disposal. The identification of special waste collection, including tires is also expressed on this map.



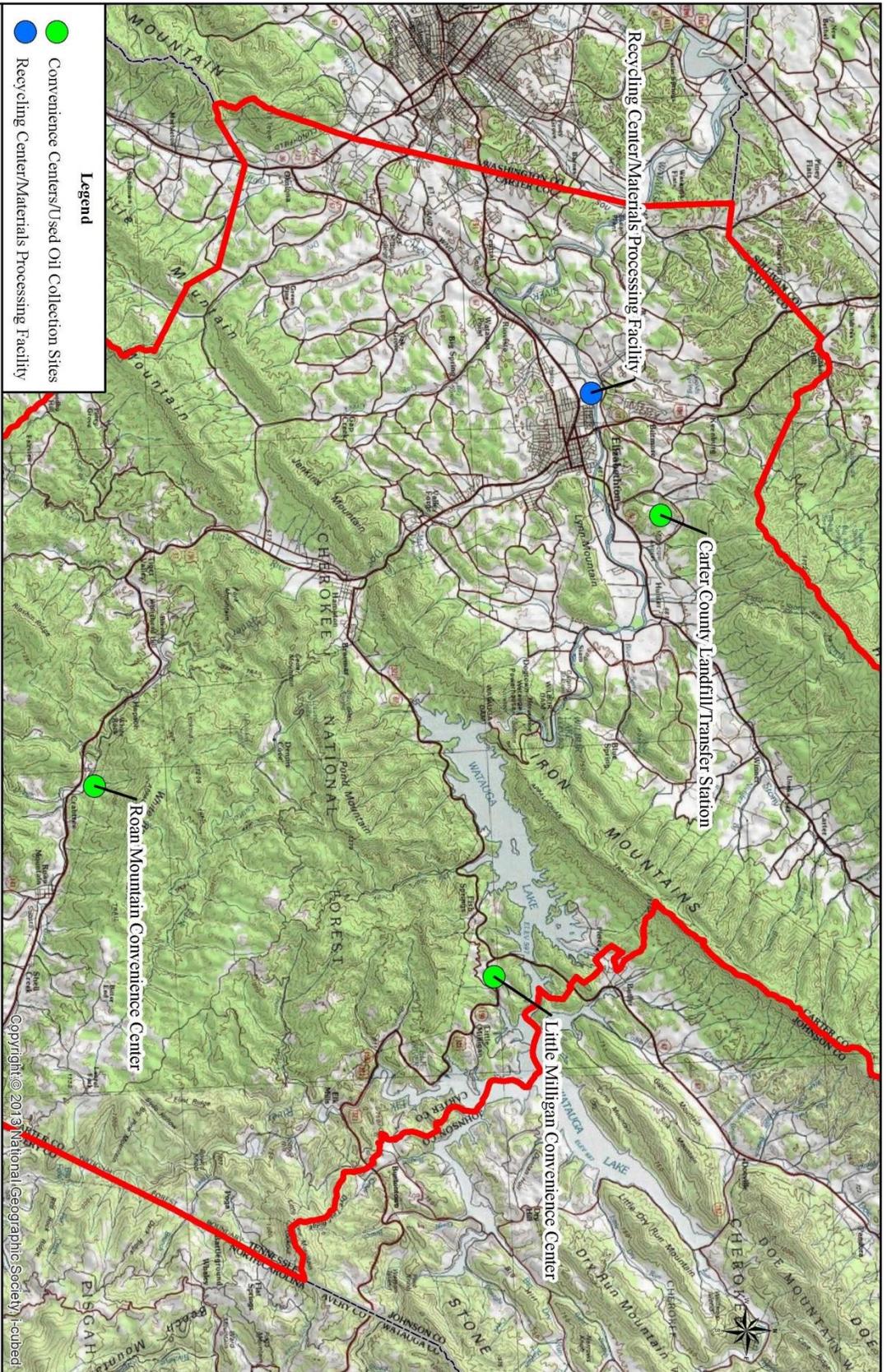
Map Created: September 17, 2015
 For: Christopher L. Craig
 Cartographer: Wendy S. Hill
 Organization: First Tennessee Development District
 Department: GIS Program Department
 Mailing Address: 3211 North Roan Street
 Johnson City, TN 37601
 Software Version: ArcGIS ArcEditor, Version 10.1

Carter County Recycling Equipment Locations



All data, information, and maps are provided "as is" without warranty or any representation of accuracy, timeliness or 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.

Sources: Esri, DeLorme, HERE, USGS, Intermap, Increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom



Map Created: August 11, 2015
 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

Carter County Convenience Center Location Map



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

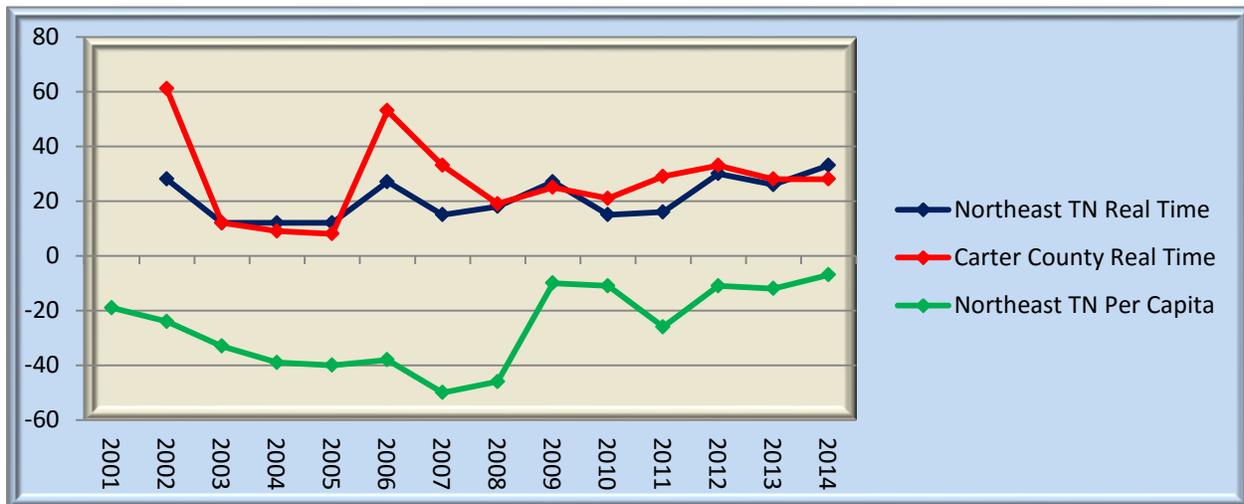
Describe current attitudes of the region and its citizens towards recycling, waste diversion, and waste disposal in general. Where recycling is provided, discuss participation within the region. Indicate current and ongoing education measures to curb apathy or negative attitude towards waste reduction. Are additional measures needed to change citizen's behaviors? If so, what specific behaviors need to be targeted and by what means.

Since the last District Solid Waste Needs Assessment in 2009, the attitude and perception of Carter County residents toward waste management has changed very little. Although residents have participated in the County's drop-off recycling program for many years, their willingness to be fully engaged in the process remains relatively low. Current efforts by the City of Elizabethton and Carter County to expand the recycling opportunities for residents may have a positive impact on the attitude of residents. This will not be known for several years. Participation throughout the program would also be classified as low and comparable to many other small rural counties in the State with little available funding to promote or expand opportunities for residents. Illegal dumping and littering continue to be issues throughout the County, which is a direct reflection on the attitude of citizens.

Organized and focused educational programs are lacking in Carter County. If funding were available, the County needs to focus its attention more on educational program that are directed at the general public and/or support educational programs in the local school system. Not unlike most other counties of similar demographics, solid waste and recycling educational programs in Carter County often are lower priority than infrastructure needs such as equipment and facilities. Programs such as the Carter County Clean Teens have made great strides in promoting environmentally sound solid waste management practices, however the program does not occur year round and primarily focuses on school aged children. Additional measures needed to change citizen's behavior and increase participation, include promoting the program in the community, dedicating funding for an organized educational program and eventually employing staff dedicated to providing public education 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.



Year	Northeast TN Region Real Time	Carter County Real Time	Northeast TN Region Per Capita
2001			-19%
2002	28%	62%	-24%
2003	12%	12%	-33%
2004	12%	9%	-39%
2005	12%	8%	-40%
2006	27%	53%	-38%
2007	15%	33%	-50%
2008	18%	19%	-46%
2009	27%	25%	-10%
2010	15%	21%	-11%
2011	16%	19%	-26%
2012	30%	33%	-11%
2013	26%	28%	-12%
2014	N/A	28%	-7%

Since 2001, Carter County has met the State's 25% waste reduction goal 8 out of 13 years using the Real Time calculation method. As a member of the Northeast Tennessee Solid Waste Planning Region, which consists of Carter, Johnson, Unicoi and Washington Counties, Carter County has contributed significantly to the Region meeting the goal 5 out of the last 12 years since 2002. The primary reason for the County not meeting the goal every year is the lack of recycling and waste reduction data from private entities such as businesses and industries. Historically, across the State, Region's that have a high participation rate from businesses and industries in reporting recycling data, typically achieve >25% waste reduction rate using the "real time" calculation method. With proposed changes to the 25% waste reduction goal coming soon, Carter County will struggle to meet the goal using any calculation method without mandated participation from private business and industry. The State should consider requiring business and industries to report annually the amount of materials diverted or recycled. This would certainly benefit Carter and other counties across the State to meet the waste reduction goal. The First Tennessee Development District assists the County with this data gathering process but is limited to mailed surveys which are historically ineffective in achieving responses. This is voluntary participation program started by the Development District in 2001-2002. Unfortunately, if participation is low, the percentage of waste reduction is also low.

As mentioned earlier, one important infrastructure improvement that can be made is to expand the drop-off recycling program to heavily populated areas of the County that are currently underserved. Carter County is approaching the point where program costs significantly outweigh the benefits in the recycling/waste reduction program. Recently, marketing certain materials has become very difficult, making it even more difficult to justify program expansion and thus additional program costs. The next and probably final step to take is to implement curbside collection, which is financially and politically not viable. While officials in Carter County wholeheartedly support reducing wastes from entering the landfill by at least 25%, it is in some cases unattainable due to several factors that have been previously mentioned.

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
Little Milligan Convenience Center	Approximately 50 tons/month	Approximately 100 tons/month	25 Years
Roan Mountain Convenience Center	Approximately 150 tons/month	Approximately 300 tons/month	25 years
Carter County Transfer Station	Approximately 1,000 tons/month	Approximately 2,000 tons/month	5 years
Carter County/Elizabethton Demolition Landfill	Approximately 400 tons/month	Dependent on customer levels	7-8 years
EcoSafe/Advance Disposal	Approximately 14,780 tons/month	N/A Privately Owned	>25 years
Total:	Approximately 16,380 tons/month	Approximately 2,400 tons/month	

There appears to be no shortfalls in the ability of Carter County to manage the current waste stream or the projected waste stream over the next 5 years. While very difficult to determine maximum capacity, Carter County’s network of staffed convenience centers has the capacity to manage twice the amount of waste currently disposed of at these facilities. Additional tonnage would only increase the number of trips to the transfer station. It is not expected that over the next 5 years, population growth would cause the County to expand the footprint of these Centers or construct a new Center to handle additional waste flow. While the recommendation earlier mentioned is to construct an additional convenience center in the western section of the County, it is not needed to handle flow, but to increase accessibility.

Curbside collection as is offered by the City of Elizabethton is designed to easily expand with additional routes should the need arise due to an increase in tonnage of materials generated in the Town. The Carter County Class III/IV Landfill, which accepts C/D waste primarily from County residents, has enough capacity for the next 5 years. The projected life of the C/D Landfill is approximately 7-8 years. The Materials Processing Facility is fortunately capable of processing a significantly larger amount of materials than currently flow through the facility. As mentioned earlier, the MRF is processing materials from Elizabethton and Watauga’s drop-off sites. The infrastructure is sufficient for the next 5 years, however additional staff may be necessary if the volume of materials increases significantly.

(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)
Carter County	County-wide	56,800	Hours of operation	14,000 tons	Drop-off
Elizabethton	City Limits	14,200	Weekly	16,000 tons	Curbside
Watauga (Private Contractor)	County-wide	450	Weekly	1,000 tons	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.

EXPENDITURES			
Description	Present Need \$/year	Unmet Needs \$/year	Total Needs (Present + Unmet) \$/year
Salary and Benefits	\$241,823.00		\$241,823.00
Transportation/hauling			
Collection and Disposal Systems			
Equipment		\$415,000.00	\$415,000.00
Sites			
Convenience Center	\$32,200.18		\$32,200.18
Transfer Station		\$20,000.00	\$20,000.00
Tire Recycling Center			
MRF	\$34,879.33		\$34,879.33
Landfills			
Site	\$534,692.60		\$534,692.00
Operation			
Post Closure Care			
Administration (supplies, communication costs, etc.)			
Education			
Public			
Capital Projects/Site Development			
Total:	\$843,595.11	\$435,000.00	\$1,278,594.51
REVENUES			
Host agreement fee			
Tipping fees	\$57,000.00		
Property taxes/Other Taxes			
Sales tax			
Surcharges			
Disposal Fees			
Collection charges			
Residential charges			
Convenience Centers charges			
Transfer Station charges	\$522,000.00		
Sale of Recyclables	\$70,000.00		
Fund Balance Transfer	\$167,618.31		
Other sources: (Grants, bonds, interest, sales, etc.)	\$37,000.00		
Total:	\$853,618.31		

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.

Locality	Revenue Source
Carter County	Transfer Station Tipping Fees Disposal Fees Grants Sale of Recyclables Operating Transfers
Elizabethton	Collection Fees

Future Solid Waste Management Needs

Community	Item	Estimated Cost	Potential Revenue Sources
Carter County	1 - Skid Steer Loader	\$30,000	Grants, Program Funds
Carter County	1 – Auto Tie Horizontal Baler	\$100,000	Grants, Program Funds
Carter County	5 – 40 yd Recycling Collection Containers	\$25,000	Grants, Program Funds
Carter County	1 – Front Loader Truck	\$250,000	Grants, Program Funds
Carter County	1 – Disposal Chute	\$20,000	Grants, Program Funds
Carter County	2 – Roll Off Containers	\$10,000	Grants, Program Funds

Carter County has identified nearly \$500,000 in equipment and facility needs in both the solid waste management and recycling/waste reduction programs. Capital expenditures have long been an issue for the County’s solid waste program. The primary source of funding for the program is tipping fees, disposal fees and sale of recyclables. When available, Carter County has been fortunate to receive several State grants that provide the needed funded for capital improvements. Each year, the County Commission appropriates funds to offset the expected shortfall. This funding structure makes it virtually impossible for the program to generate enough funds to meet future equipment and/or facility needs. Furthermore, the legislative body is often reluctant to fund capital improvements until the need becomes dire.

Without grants for solid waste equipment and or significant construction projects, it will be virtually impossible for Carter County to be able to meet solid waste management equipment and facility needs over the next 5 years without raising property taxes. In this County, property tax increase to fund the solid waste program or purchase new equipment, is generally “off the table”. County officials feel there must be more solid waste equipment and infrastructure grants available to meet the needs of cities and counties with deteriorating equipment and facilities, specifically in solid waste programs.

Given that most, if not all, State funded solid waste and recycling equipment grants require a local cash match, it is recommended that Carter County appropriate funds each year that will be used to provide the local match. Should the County choose to apply for infrastructure grants, the local match would be readily available and already approved. The City of Elizabethton's solid waste program is funded through monthly collection fees assessed to property owners. The fee structure is established to adequately fund the solid waste management program based on budgetary needs and proposed capital improvements. As needs arise, additional funds are appropriated to annually to purchase solid waste equipment and recycling collection equipment.

CARTER COUNTY
2015-16 APPROVED BUDGETS

ACCOUNT	2014-15 Approved Budget	2015-16 Proposed Budget	Increase/ Decrease
GENERAL FUND			
116 SOLID WASTE			
Revenue			
43109 Transfer Waste Stations Collection	\$ 522,000.00	\$ 522,000.00	\$ -
43110 Tipping Fees	\$ 57,000.00	\$ 57,000.00	\$ -
44145 Sale of Recycle Materials	\$ 70,000.00	\$ 70,000.00	\$ -
44170 Miscellaneous Refunds	\$ -	\$ 15,000.00	\$ 15,000.00
46990 Other State Revenues-Tire Fee	\$ 22,000.00	\$ 22,000.00	\$ -
49800 Operating Transfers	\$ 167,618.31	\$ 167,618.31	\$ -
Total Revenue	\$ 838,618.31	\$ 853,618.31	\$ 15,000.00

Expenditures

2015-16 APPROVED BUDGETS

ACCOUNT		2014-15 Approved Budget	2015-16 Proposed Budget	Increase/ Decrease
116	Convenience Centers			
55732				
Elk Mills				
149-11	Laborers	\$ 11,157.00	\$ 11,157.00	\$ -
201-11	Social Security	\$ 691.73	\$ 691.73	\$ -
210-11	Unemployment Compensation	\$ 90.00	\$ 90.00	\$ -
212-11	Employer Medicare	\$ 161.78	\$ 161.78	\$ -
335-11	Maintenance & Repairs-Building	\$ -	\$ 11,800.00	\$ 11,800.00
351-11	Rentals	\$ 600.00	\$ 300.00	\$ (300.00)
409-11	Stone	\$ 2,000.00	\$ 1,000.00	\$ (1,000.00)
452-11	Utilities	\$ 500.00	\$ 2,000.00	\$ 1,500.00
599-11	Other Charges	\$ 1,000.00	\$ 500.00	\$ (500.00)
TOTAL ELK MILLS		\$ 16,200.51	\$ 27,700.51	\$ 11,500.00
Roan Mountain				
149-13	Laborers	\$ 20,500.00	\$ 20,500.00	\$ -
201-13	Social Security	\$ 1,271.00	\$ 1,271.00	\$ -
204-13	State Retirement	\$ 3,062.70	\$ 3,062.70	\$ -
206-13	Life Insurance	\$ 36.00	\$ 36.00	\$ -
207-13	Medical Insurance	\$ 7,073.52	\$ 7,073.52	\$ -
208-13	Dental Insurance	\$ 235.20	\$ 235.20	\$ -
210-13	Unemployment Compensation	\$ 231.00	\$ 231.00	\$ -
212-13	Employer Medicare	\$ 297.25	\$ 297.25	\$ -
307-13	Communication	\$ 700.00	\$ 700.00	\$ -
349-13	Printing, Stationery & Forms	\$ 150.00	\$ 150.00	\$ -
351-13	Rentals	\$ 1,100.00	\$ 1,100.00	\$ -
452-13	Utilities	\$ 1,300.00	\$ 1,300.00	\$ -
599-13	Other Charges	\$ 200.00	\$ 200.00	\$ -
TOTAL ROAN MOUNTAIN		\$ 36,156.67	\$ 36,156.67	\$ -
Total Convenience Center		\$ 52,357.18	\$ 63,857.18	\$ 11,500.00
116				
55751	Recycle Center			
149	Laborers	\$ 23,815.00	\$ 23,815.00	\$ -
169	Part-Time Personnel	\$ -	\$ -	\$ -
201	Social Security	\$ 1,476.53	\$ 1,476.53	\$ -
204	State Retirement	\$ 3,557.96	\$ 3,557.96	\$ -
206	Life Insurance	\$ 36.00	\$ 36.00	\$ -
207	Medical Insurance	\$ 7,073.52	\$ 7,073.52	\$ -
208	Dental Insurance	\$ 235.20	\$ 235.00	\$ (0.20)
210	Unemployment Compensation	\$ 140.00	\$ 140.00	\$ -
212	Employer Medicare	\$ 345.32	\$ 345.32	\$ -
307	Communication	\$ 675.00	\$ 675.00	\$ -
335	Maintenance & Repair Services-Bulk	\$ 1,000.00	\$ 1,000.00	\$ -
336	Maintenance & Repair Services-Equi	\$ 10,000.00	\$ 10,000.00	\$ -
351	Rental	\$ 1,000.00	\$ 1,000.00	\$ -
425	Gasoline	\$ 1,500.00	\$ 1,000.00	\$ (500.00)
433	Lubricants	\$ 1,000.00	\$ 1,000.00	\$ -
435	Office Supplies	\$ 100.00	\$ 100.00	\$ -
442	Propane Gas	\$ 1,500.00	\$ 1,500.00	\$ -
452	Utilities	\$ 3,540.00	\$ 3,540.00	\$ -
599	Other Charges	\$ 3,000.00	\$ 2,200.00	\$ (800.00)
Total Recycle Center		\$ 59,994.53	\$ 58,694.33	\$ (1,300.20)
55754	Landfill Operation & Maintenance			
105	Supervisor/Director	\$ 43,351.00	\$ 43,351.00	\$ -
149	Laborers	\$ 143,000.00	\$ 143,000.00	\$ -
201	Social Security	\$ 11,553.76	\$ 11,553.76	\$ -
204	State Retirement	\$ 27,840.84	\$ 27,840.84	\$ -
206	Life Insurance	\$ 256.00	\$ 256.00	\$ -
207	Medical Insurance	\$ 45,270.24	\$ 45,270.24	\$ -
207-34	Medical Insuran Retirees	\$ -	\$ -	\$ -
208	Dental Insurance	\$ 1,411.20	\$ 1,411.20	\$ -
210	Unemployment Compensation	\$ 816.00	\$ 816.00	\$ -
212	Employee Medicare	\$ 2,702.09	\$ 2,702.09	\$ -
307	Communication	\$ 2,500.00	\$ 2,500.00	\$ -
322	Evaluation & Testing	\$ 17,500.00	\$ 19,500.00	\$ 2,000.00
335	Maintenance & Repair Services-Bulk	\$ 10,125.00	\$ 10,000.00	\$ (125.00)
336	Maintenance & Repair Services-Equi	\$ 65,098.00	\$ 66,000.00	\$ 902.00
348	Postal Charges	\$ 400.00	\$ 400.00	\$ -
351	Rentals	\$ 2,500.00	\$ 2,000.00	\$ (500.00)
355	Travel	\$ 2,500.00	\$ 2,500.00	\$ -
359	Disposal Fees	\$ 202,000.00	\$ 212,000.00	\$ 10,000.00
409	Crushed Stone	\$ 10,000.00	\$ 10,000.00	\$ -
412	Diesel Fuel	\$ 40,000.00	\$ 40,000.00	\$ -

2015-16 APPROVED BUDGETS

ACCOUNT	2014-15 Approved Budget	2015-16 Proposed Budget	Increase/ Decrease
423 Fuel Oil	\$ 1,000.00	\$ 500.00	\$ (500.00)
424 Garage Supplies	\$ 1,000.00	\$ 1,000.00	\$ -
425 Gasoline	\$ 10,000.00	\$ 10,000.00	\$ -
433 Lubricants	\$ 3,500.00	\$ 3,500.00	\$ -
435 Office Supplies	\$ 3,500.00	\$ 3,500.00	\$ -
451 Uniforms	\$ 4,259.00	\$ 4,259.00	\$ -
452 Utilities	\$ 4,500.00	\$ 4,500.00	\$ -
499 Other Supplies & Materials	\$ 500.00	\$ 500.00	\$ -
506 Liability Insurance	\$ 169.09	\$ 169.09	\$ -
508 Premiums on Surety Bonds	\$ 150.00	\$ 150.00	\$ -
513 Workman's Compensation Ins	\$ 21,864.38	\$ 21,864.38	\$ -
599 Other Charges	\$ 15,000.00	\$ 15,000.00	\$ -
718 Motor Vehicles	\$ -	\$ 15,000.00	\$ 15,000.00
Total Landfill Operation & Maintenance	\$ 694,266.60	\$ 721,043.60	\$ 26,777.00
116			
58900 Miscellaneous			
510 Trustee's Commission	\$ 10,000.00	\$ 10,000.00	\$ -
Total Miscellaneous	\$ 10,000.00	\$ 10,000.00	\$ -
Revenue	\$ 838,618.31	\$ 853,618.31	\$ 15,000.00
Expenditures	\$ 832,818.82	\$ 853,595.11	\$ 20,776.29
Fund Balance	\$ (5,799.49)	\$ (23.20)	\$ 5,776.29
Total	\$ 838,618.31	\$ 853,618.31	\$ 15,000.00

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.

Carter County's plan for managing solid waste over the next 5 years will remain virtually unchanged based on current knowledge of the system and/or proposed changes. The County is well positioned for the next several years on a Class I disposal contract that will extend beyond the next 5 years ensuring disposal assurance. As mentioned previously, the only significant deficiency that has been noted is the need for an additional convenience/recycling center in the heavily populated western area of the County. While not necessary to provide collection assurance, an additional center in this area will provide more accessibility to residents for special waste collection and recycling collection.

Another area that needs improvement the effort to increase participation in the business and industry waste reduction/recycling reporting program through the First Tennessee Development District In the coming years, staff need to work more closely with major businesses and industries in the Region to further expand the voluntary reporting program. This program is extremely important to the Region in their efforts to attain the 25% waste reduction goal using the "real time" calculation method. Due to low participation rates in recycling and the lack of any other significant waste reduction opportunities in the County, reporting from private entities is vital to Carter County's efforts to achieve the goal. This will become ever more relevant, should the waste reduction goal be raised and Class III/IV diversion be eliminated from the waste reduction calculation, which is currently being evaluated by the State.

Overall, the County's system is very sufficient to meet the needs of residents. The growing partnership between the County and the cities of Watauga and Elizabethton, is an innovated approach to achieve waste reduction and recycling goals. This model should serve as an example for other city/county partnerships throughout the State. Lastly, Carter County needs to explore the potential to hire additional staff to address the deficiencies previously mentioned in the public information and educational program. Additional staff will be vital to the success of a County wide education program. Although the Carter County program is not as elaborate of larger county programs, it is truly a comprehensive program that deals with everything from MSW to household hazardous wastes and long-term sustainability of the solid waste collection system is not in question. County officials have exhibited a commitment to maintaining the system in a way that provides residents with a solid waste program.

Sources:

U.S. Census Bureau Population Projections

East Tennessee State University Bureau of Business and Economic Research

2015-2016 Carter County Approved Budget, Carter County Finance Department

Tennessee Department of Labor

First Tennessee Development District staff

2009 Carter County Solid Waste District Needs Assessment Update

Carter County Annual Solid Waste Progress Reports

Tennessee State Data Center – Center for Business and Economic Research

American FactFinder - "Report: B01003 – Total Population, 2010-2014 American Community Survey 5-Year Estimates."