

**2010
GREENE COUNTY
SOLID WASTE
DISTRICT
NEEDS
ASSESSMENT**

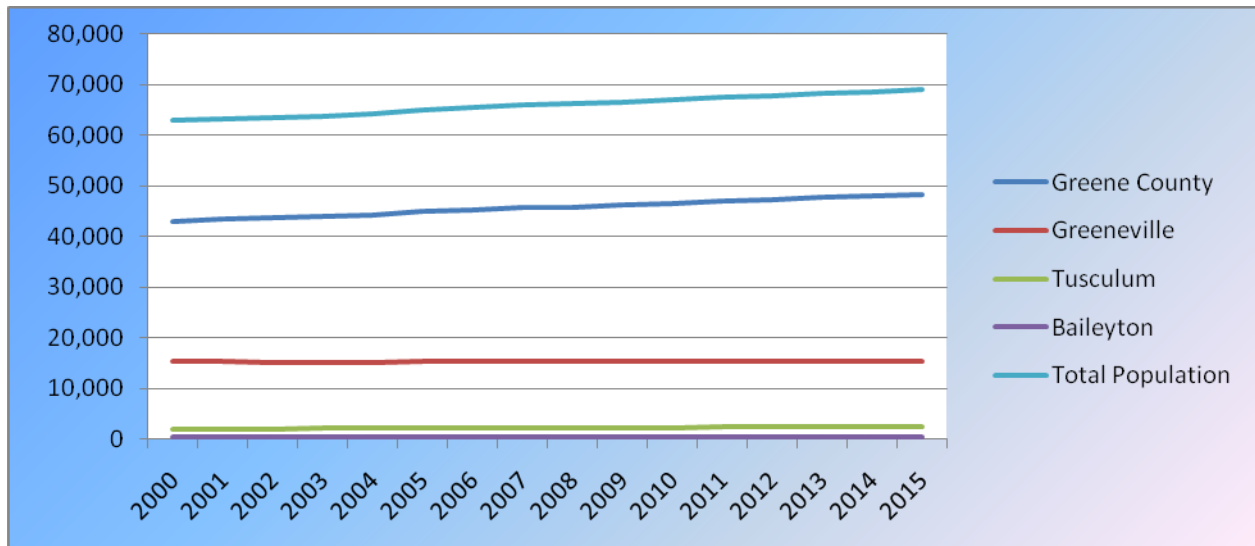


***Prepared by
First Tennessee Development District***

Item#1

Provide a table and chart showing the region's population for 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. Discuss projected trends and how it will affect solid waste infrastructure needs over the next five (5) years.

Year	Greene County	Greeneville	Tusculum	Mosheim	Baileyton	Total Population
2000	42,984	15,392	2,010	2,019	504	62,909
2001	43,463	15,313	1,990	2,010	503	63,279
2002	43,607	15,210	2,092	2,024	500	63,433
2003	43,848	15,156	2,148	2,016	498	63,666
2004	44,261	15,201	2,172	2,025	498	64,157
2005	44,858	15,278	2,200	2,027	501	64,864
2006	45,284	15,420	2,216	2,020	497	65,437
2007	45,744	15,446	2,262	2,024	495	65,971
2008	45,858	15,440	2,277	2,090	492	66,157
2009	46,217	15,446	2,310	2,099	491	66,563
2010	46,577	15,452	2,344	2,018	489	66,969
2011	46,936	15,458	2,377	2,117	488	67,375
2012	47,295	15,464	2,411	2,126	486	67,781
2013	47,654	15,470	2,444	2,134	485	68,187
2014	48,014	15,476	2,477	2,143	483	68,593
2015	48,373	15,482	2,511	2,152	482	68,999



Overall, the population trends of Greene County, Greeneville, Tusculum, Baileyton and Mosheim do not indicate a significant increase over the next 5 years and therefore is not expected to put serious stress on the County's solid waste management system. In addition to the door-to-door solid waste collection services offered by Tusculum and Greeneville, Greene County has 17 staff convenience centers to serve the needs of residents living outside the city limits of these communities.

Item #2

Provide a table and chart showing the region's economic profile for all county and 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**

Greene County, Greeneville, Tusculum, Mosheim and Baileyton Economic Indicators

<i>Year</i>	<i>Total Employment</i>	<i>Unemployed</i>	<i>Unemployment Rate</i>	<i>Per Capita Income</i>	<i>Retail Sales</i>
1998	35,010	2,220	6.30	\$20,583	
1999	36,450	2,030	5.60	\$21,717	
2000	31,870	1,890	5.90	\$22,754	\$598,865,254
2001	30,950	2,380	7.70	\$23,402	\$615,024,535
2002	31,020	2,080	6.70	\$24,659	\$604,525,339
2003	31,940	2,430	7.60	\$27,409	\$623,385,567
2004	32,210	2,510	7.80	\$29,193	\$649,587,629
2005	32,140	2,750	8.60	\$30,062	\$685,130,231
2006	32,660	2,560	7.80	\$30,364	\$712,095,782
2007	31,220	2,220	7.10	\$31,490	\$719,088,234
2008	30,370	2,770	9.10	\$32,467	\$688,348,738
2009	30,520	2,858	15.30	\$33,439	\$697,297,086
2010	30,563	2,906	14.90	\$34,442	\$705,524,342
2011	30,609	2,988	8.10	\$35,421	\$715,624,242
2012	30,742	3,044	6.60	\$36,222	\$724,848,109
2013	30,889	3,098	6.72	\$36,925	\$732,374,157
2014	31,014	3,132	6.91	\$37,611	\$737,098,550
2015	31,178	3,190	7.00	\$38,336	\$739,598,827

Source: 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.

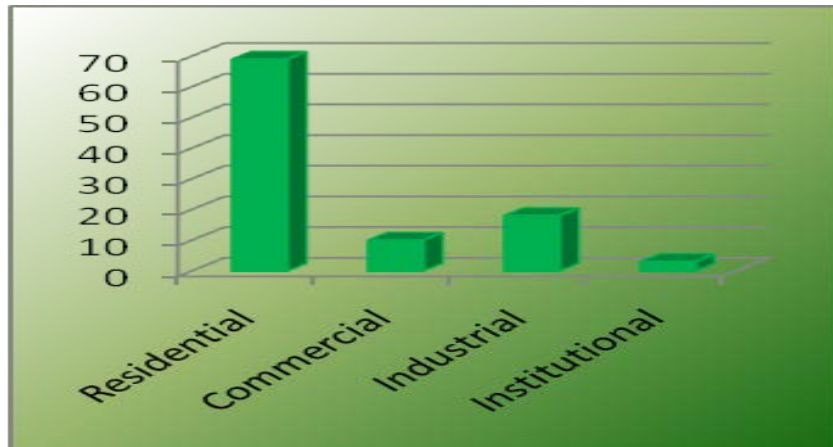
Item #3

Elaborate on the entire region's solid waste stream. Compare today's waste stream with anticipated waste stream over the next five (5) years. How will the total waste stream be handled in the next five (5) years? 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 or industrial wastes are managed. Also provide an analysis noting source and amounts of any wastes entering or leaving out of the region.

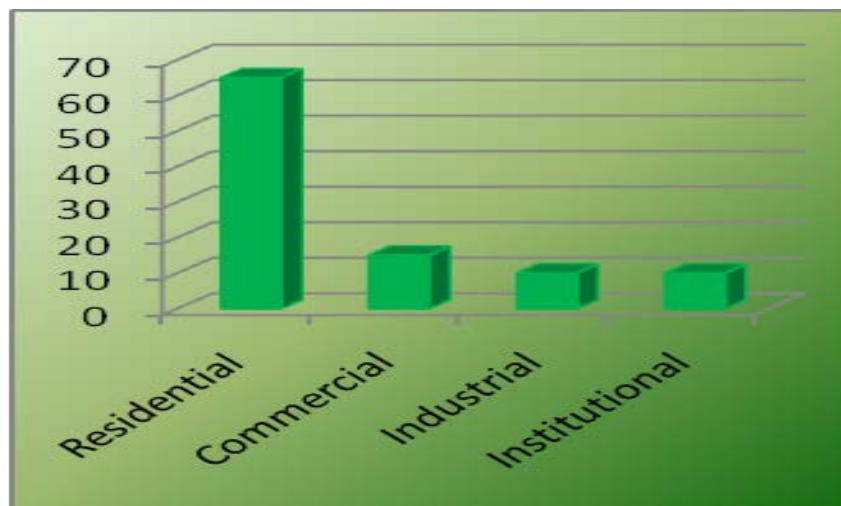
Greene County has experienced significant job loss and economic downturn during the end of 2008 through 2009. As a result of this, the Region's waste stream is expected to remain relatively the same as in recent years. The volume of waste generated may slightly decline due to the County's economy. However, it is expected that the breakdown of the waste stream will shift slightly from the manufacturing sector to more commercial and residential. Overall the Region's waste stream will be handled much the same as it has in the past. Door-to-door collection is provided in Tusculum and Greeneville while the rest of the County is served by private haulers or the County's network of staffed convenience centers. Greene County has one of the most comprehensive drop-off collection programs in the State for solid waste and recyclables. Waste tires and used oil are handled through the convenience center system. Tires are collected at the County's SW headquarters site. At this time, the County/Region does not have a program to collect and recycle latex paint for electronics. Program costs and management issues of these programs have been the primary causes for the lack of these programs.

Commercial and industrial wastes are primarily handled through the private sector. Private haulers collect a majority of the waste generated by the commercial and industrial sector. The Town of Greeneville collects waste from a few private companies for a fee. There appears to be no waste entering the Region for disposal at the publicly owned transfer station. However, all of the waste generated in the Region is disposed of in other counties. Waste collected at the Greeneville/Greene County Transfer Station is disposed of in Hamblen County. Other waste collected by private haulers may be transported to Washington County for disposal. The following are estimations of the Region's waste stream from 1999 to 2012.

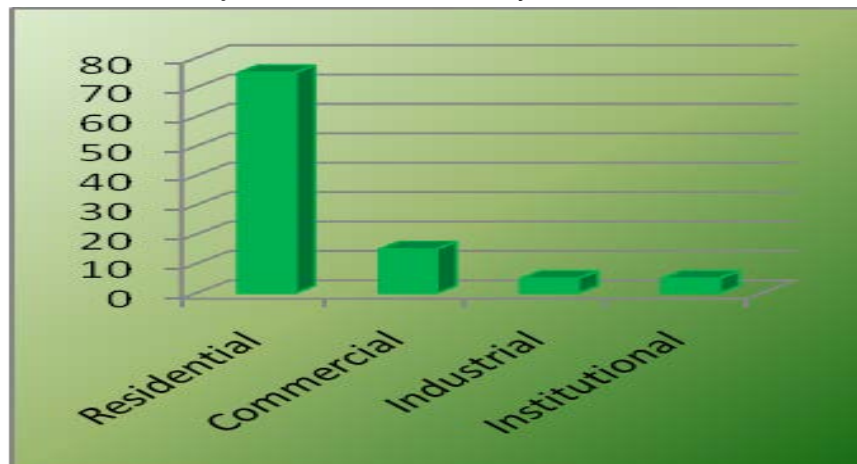
1999 Greene County Estimated Waste Stream %



2009 Greene County Estimated Waste Stream %



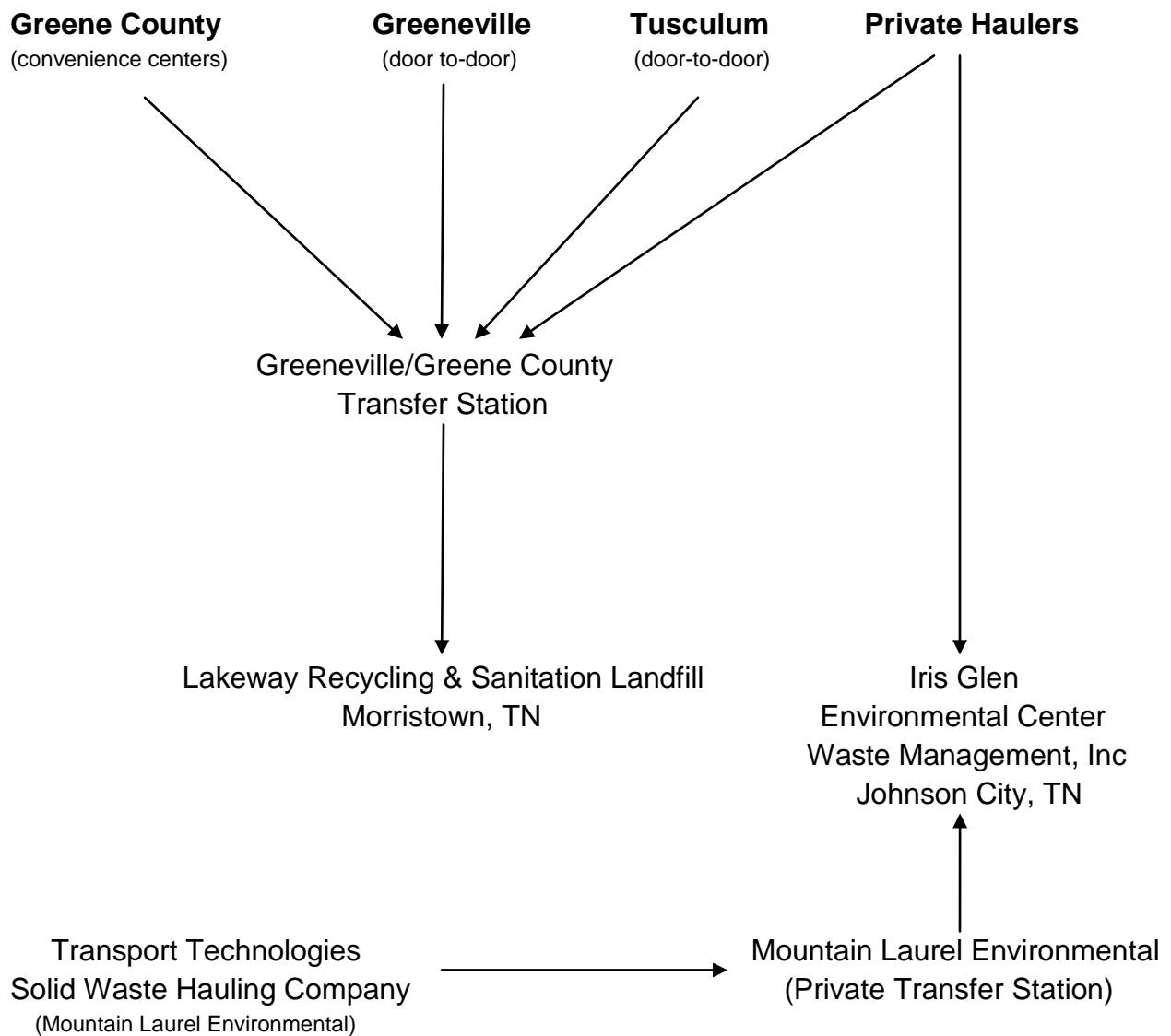
2015 Projected Greene County Waste Stream %



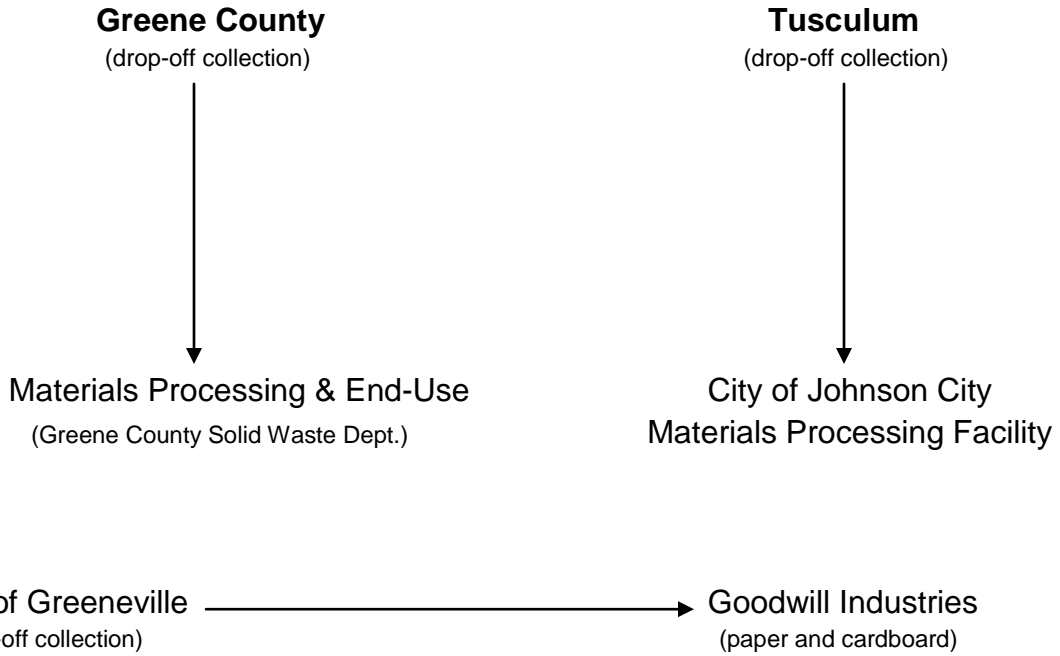
Item #4

Describe in detail the waste collection system of the region and every county and municipality. Provide 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.

SOLID WASTE



RECYCLABLES



The following are photographs of each of the County's convenience center/recycling center sites. These are located throughout the County to provide collection services to a majority of county residents.



Horse Creek Convenience Center



Plus Mark/Afton Convenience Center



Greystone Convenience Center



Clear Springs Convenience Center



Walkertown Convenience Center



West Pines Convenience Center



Romeo Convenience Center



Cross Anchor Convenience Center



Baileyton Convenience Center



West Greene Convenience Center



South Greene Convenience Center



Debusk Convenience Center



Hal Henard Convenience Center



Sunnyside Convenience Center



McDonald Convenience Center



St. James Convenience Center



Orebank Convenience Center



Tire Recycling Center



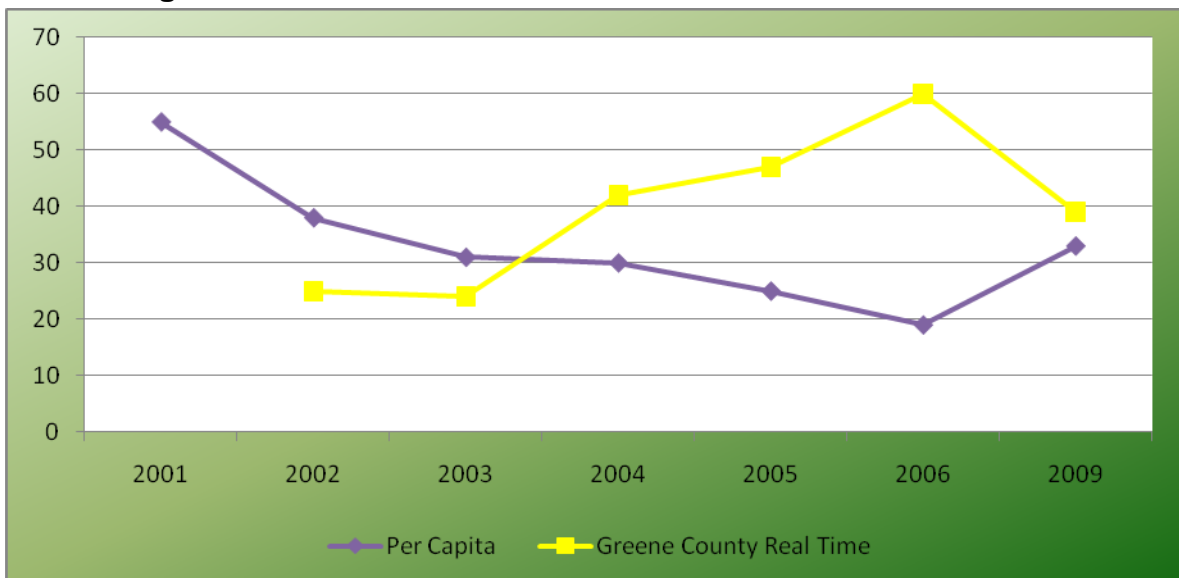
Recycling Processing Center



Greenville/Greene County Transfer Station

Item #5

The Solid Waste Management Act of 1991 states that all regions must 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 reduction rate by each goal calculation methodology. 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.



Greene County Per Capita Waste Reduction Rate vs Real Time Comparison 2001 – 2009.

Year	Greene County Current Year Disposal	Greene County Base Year Disposal	Greene County Per Capita Waste Reduction Rate	Greene County Real Time Comparison
2001	36,130	74,355	55%	
2002	50,331	74,355	38%	25%
2003	56,584	74,355	31%	24%
2004	58,044	74,355	30%	42%
2005	62,738	74,355	25%	47%
2006	67,978	74,355	19%	60%
2009	44,268	74,355	33%	39%

Greene County has been fortunate to meet the 25% waste reduction goal in each of the years since calculations became effective. The Region has met the goal primarily through the “per capita” calculation method from 2001 to 2005. Most recently the goal was met using the “real time” calculation. The main reason Greene County has been successful in meeting the goal is the participation from local businesses in the recycling data reporting program. Administered by the First Tennessee Development District, this program is responsible for collecting and documenting several thousand tons of recyclables or wastes reduced from private companies. This program, along with the County’s network of drop-off recycling centers are the main reasons why the County has met the goal. Class III/IV landfilling at a publicly owned facility and a privately owned C&D Landfill in the County are also factors in the success of the reaching the 25% waste reduction goal. All of these programs will continue to be the main force behind Greene County’s efforts to meet and sustain the 25% waste reduction goal. Furthermore, Greene County’s programs are responsible for the County exceeding the 25% goal during most years.

Item #6

- A. 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.**

<i>Site Name</i>	<i>Current Capacity</i>	<i>Maximum Capacity</i>	<i>Projected Life of Facility</i>
Carter’s Valley Landfill (Allied Waste)	1,500 tons/day	Depends on expansion plans and customer levels.	14 years
Iris Glen Env. Center (Waste Management)	1,400 tons/day	Depends on expansion plans and customer levels.	15 years

There appears to be no shortfalls in the ability of Greene County to manage the current waste stream or the projected waste stream over the next 5 years. The Greeneville/Greene County Transfer Station is capable of handling significantly more solid waste than is currently being disposed at this facility. Additional tonnage would increase the number of trips to the landfill. Although additional trips will increase the costs, the current system is capable of managing current and projected waste streams. The Town of Greeneville provides transportation of solid waste from the transfer station to the Carter's Valley Landfill. If necessary, additional trips to the landfill to accommodate an increase in solid waste generated, would be done by the Town of Greeneville with existing equipment and Greeneville/Greene County Transfer Station staff.

B. 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, population served by provider, frequency of collection, yearly tons collected, and the type of service provided.

<i>Provider of Service</i>	<i>Service Area</i>	<i>Population Total Under This Service</i>	<i>Frequency of Service (Weekly, Bi-weekly, on call, etc.)</i>	<i>Tonnage Capacity (estimated)</i>	<i>Type Service (Curbside, Convenience Ctr., Green Box)</i>
Greene County	County-wide	66,282	Anytime during hours of operation	25,000 tons	Convenience Centers
Greeneville	City Limits	15,336	Weekly	N/A	Curbside
Tusculum	City Limits	2,294	Weekly	N/A	Curbside
Waste Management	County-wide	N/A	Weekly	N/A	Curbside
Allied Waste	County-wide	N/A	Weekly	N/A	Curbside
Other Private Haulers	County-wide	N/A	Weekly	N/A	Curbside

Item #7

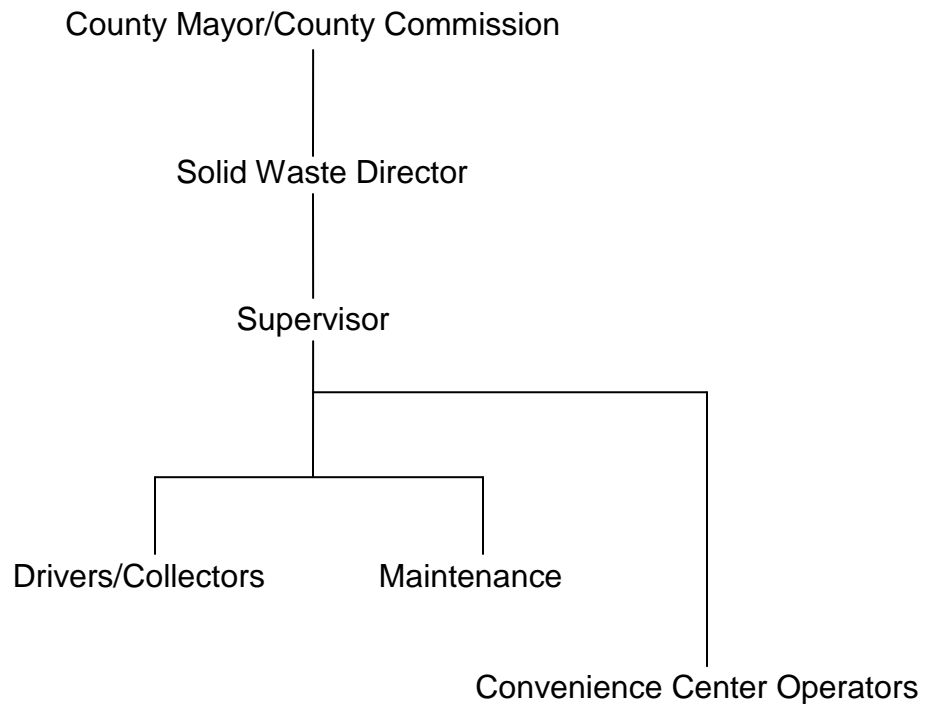
Complete the chart below and discuss unmet financial needs to maintain current level of service. Provide a cost summary for current year expenditures and projected increased costs for unmet needs.

Expenditures			
<i>Description</i>	<i>Present Need \$/year</i>	<i>Unmet Needs \$/year</i>	<i>Total Needs (Present + Unmet) \$/year</i>
Salary and Benefits	\$63,718		\$63,718
Transportation/hauling	\$100,200		\$100,200
Collection and Disposal Systems	\$1,238,033		\$1,238,033
Equipment	\$154,241		\$154,241
Sites			
Convenience Center	\$398,554		\$398,554
Transfer Station	\$37,184		\$37,184
Recycling Center			
MRF			
Landfills			
Site			
Operation	\$2,061,730		\$2,061,730
Closure			
Post Closure Care	\$77,250		\$77,250
Administration (supplies, comm. costs, etc.)			
Education			
Public			
Continuing Ed.			
Capital Projects			
Revenues			
Host agreement fee			
Tipping fees	\$2,297,478		\$2,297,478
Property taxes	\$1,693,178		\$1,693,178
Sales tax			
Surcharges			
Disposal Fees	\$37,178		\$37,178
Collection charges	\$650,000		\$650,000
Industrial or Commercial charges	\$275,000		\$275,000
Residential charges			
Convenience Centers charges			
Transfer Station charges			
Grants			
Sale of Recyclables			
Other Revenues	\$660,379		\$660,379

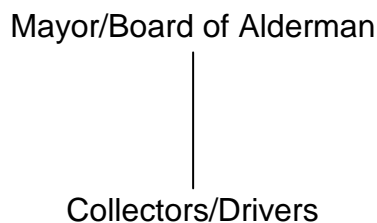
Item #8

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

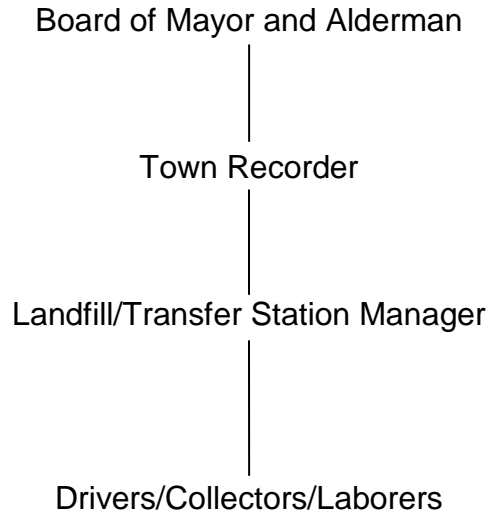
***Greene County
Solid Waste Department Organizational Chart***



***Town of Tusculum
Solid Waste Organizational Chart***



Town of Greeneville
Solid Waste Department Organizational Chart



There are currently no identified needs in staffing or facilities to provide a full level of service. Greene County and the municipalities in the County are currently delivering a level of service that is meeting the needs of their respected communities. Replacing aged and outdated equipment will continue to be a need for all of the entities over the next 5 years. However, no additional equipment is needed to increase the level of solid waste collection and disposal services.

A map indicating all of the solid waste management facilities in the Region is attached. There are no significant shortages in the solid waste systems of Greene County or any of the municipalities. Greene County has committed significant resources to developing a comprehensive solid waste management system that includes diversion, composting, recycling, waste reduction, e-waste recycling, paint recycling and tire recycling. Following a feasibility study conducted by the University of Tennessee County Technical Assistance Service, Greene County has initiated a program to replace the inefficient front-loader system of collection at convenience centers with a more efficient compactor system. As a cost-saving measure, several of the County's 16 convenience centers have been converted to the compactor system. More of the centers will be converted as funding is available in the solid waste program budget.

Item #9

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 example in Chart 7 as an example to present data.

<u>Community</u>	<u>Current Revenue Source</u>
Greene County	General Fund Tipping Fees – Commercial Collection Grants Disposal Fees Sale of Recyclables
Greeneville	Landfill Tipping Fees Transfer Station Tipping Fees General Fund Commercial/Residential Collection
Tusculum	General Fund

Future Solid Waste Management Needs (5 year projection)

Community	Equipment	Estimated Costs	Potential Revenue Source
Greene County	(34) Cardboard cont.	\$25,000	General Fund, Grants
Greene County	(12) SW Compactors	\$240,000	General Fund, Grants
Greene County	(2) Roll-off Trucks	\$260,000	General Fund, Grants
Greene County	(2) Front Loaders	\$460,000	General Fund, Grants
Greene County	MRF Building	\$50,000	General Fund, Grants
Greeneville	Transfer St. Floor	\$200,000	Tipping Fees, General Fund, Grants
Greeneville	Roof on Building	\$150,000	Tipping Fees, General Fund, Grants
Greeneville	Wheeled Loader	\$120,000	Tipping Fees, General Fund, Grants
Greeneville	Wheeled Loader	\$150,000	Tipping Fees, General Fund, Grants
Greeneville	Track Loader	\$225,000	Tipping Fees, General Fund, Grants
Greeneville	Road Tractor	\$24,000	Tipping Fees, General Fund, Grants

Greene County’s future financial needs will be met through a combination of general fund allocations (as available), state grants and tipping fees. No single revenue source is adequate to provided funding for all of the County’s unmet financial needs, therefore a combination of sources will be needed. However, during difficult economic times, local governments in Greene County will be significantly challenged to meet future financial needs above and beyond normal operating costs. Expansion of the program, including additional or replacement equipment, additional service, etc. will likely be extremely difficult to accomplish over the next 3-5 years. If grants funds become more readily available or local tax revenues increase, Greene County or Greeneville may be able to address some future financial needs identified previously.

Item #10

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 on going 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?

Greene County citizens support from the efforts of the various local governments throughout the County in recycling and waste reduction programs. One reason for this support is the on-going efforts of the Keep Greene Beautiful Program. The County has been very supportive of the educational programs developed and implemented by the Keep Greene Beautiful Coordinator for local government and schools. Educational programs are directed at school groups and civic groups as well. Participation rates among citizens in the County are consistently greater than most counties because of the on-going educational efforts. The success of the Greene County Commercial/Industrial Waste Reduction/Recycling Reporting Program is evidence of the many waste reduction educational efforts in the County. Greene County is committed to providing services to all residents regardless of their location in the County and are constantly looking for ways to improved the overall service level of the recycling and waste reduction program.

Item #11

Discuss this region's plan for managing their solid waste management system for 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.

Greene County's plans for managing the solid waste management system over the next 5 years will remain very similar to the current operations. Inadequate funding levels to make significant changes to the program and replace or add new equipment will basically result in very little capital/equipment improvements in the program. Greene County will continue to improve the Commercial Recycling/Waste Reduction program which is extremely important to the Region in their efforts to maintain the 25% waste reduction goal using the "real time" or "per capita" calculation method. Greene County has been one of the most progressive Regions in our area in solid waste management, recycling and waste reduction programs that have been developed and implemented over the last several years. Greene County was the first to implement a program to assist businesses and industries with recycling/waste reduction reporting to the Region. The County continues to provide its residents with a successful comprehensive solid waste management system during this difficult economic time.

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 Greene County Solid Waste District Needs Assessment Update

2001-2007 Greene County Annual Solid Waste Progress Report

Greene County Operating Budget document