

2009
SULLIVAN COUNTY
SOLID WASTE
DISTRICT
NEEDS
ASSESSMENT



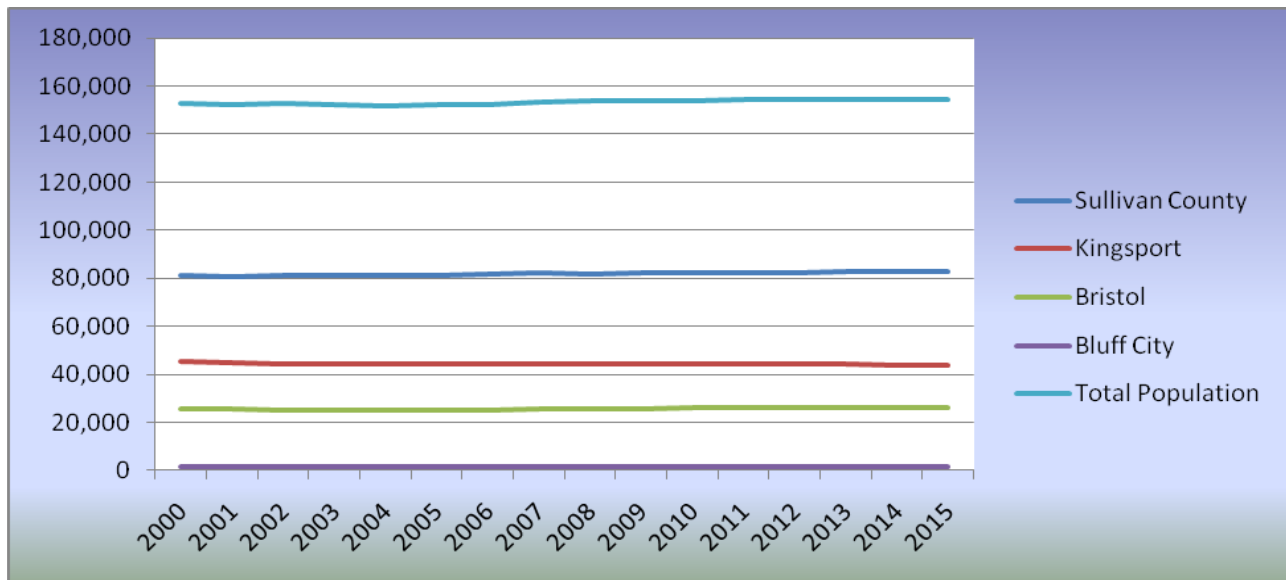
Prepared by
First Tennessee Development District

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	Sullivan County	Kingsport	Bristol	Bluff City	Total Population
2000	80,974	45,125	25,391	1,558	153,048
2001	80,804	44,741	25,339	1,553	152,437
2002	81,198	44,572	25,330	1,551	152,651
2003	81,337	44,410	25,140	1,572	152,459
2004	81,073	44,081	24,979	1,568	151,701
2005	81,316	44,114	25,067	1,595	152,092
2006	81,542	44,122	25,244	1,613	152,521
2007	81,999	44,435	25,474	1,611	153,519
2008	81,957	44,473	25,817	1,653	153,900
2009	82,080	44,392	25,870	1,665	154,007
2010	82,203	44,310	25,924	1,677	154,113
2011	82,326	44,229	25,977	1,689	154,220
2012	82,449	44,147	26,030	1,701	154,326
2013	82,571	44,066	26,083	1,712	154,433
2014	82,694	43,984	26,137	1,724	154,539
2015	82,817	43,903	26,190	1,736	154,646

Less than 1% of the Sullivan County population resides inside the city limits of Johnson City.



Overall, the population trends of Sullivan County, Kingsport, Bristol and Bluff City 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. Over the next 5 years, there may be some expansion of the County's drop-off recycling collection system, but it will not be in response to overall population growth. Growth in certain areas of the County may dictate and expansion of the drop-off system to include another drop-off site in the next 5 years. Except for a potential new drop-off recycling center, there are no other identifiable solid waste infrastructure needs projected over the next 5 years.

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

Sullivan County, Kingsport, Bristol and Bluff City Historic and Projected 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	74,980	2,860	3.80	\$22,677	
1999	75,900	3,100	4.10	\$23,381	
2000	73,340	2,770	3.80	\$24,532	\$1,815,449,286
2001	73,310	3,170	4.30	\$25,499	\$1,835,827,591
2002	73,130	3,860	5.30	\$26,324	\$1,866,678,878
2003	73,460	4,220	5.70	\$26,803	\$1,864,051,873
2004	71,900	40,50	5.60	\$28,216	\$1,883,359,498
2005	71,860	37,50	5.20	\$28,683	\$1,956,632,411
2006	73,620	3,300	4.50	\$30,725	\$2,063,106,084
2007	72,800	2,990	4.10	\$32,141	\$2,083,973,661
2008	73,530	2,980	4.10	\$33,017	\$2,063,458,582
2009	73,549	3,001	8.90	\$33,866	\$2,088,259,512
2010	73,573	3,018	9.50	\$34,702	\$2,113,502,704
2011	73,617	3,102	5.70	\$35,540	\$2,138,185,086
2012	73,633	3,214	5.70	\$36,414	\$2,165,598,408
2013	73,806	3,298	5.71	\$37,233	\$2,193,822,299
2014	74,001	3,343	5.76	\$38,088	\$2,217,541,287
2015	74,039	3,347	5.89	\$38,825	\$2,232,984,808

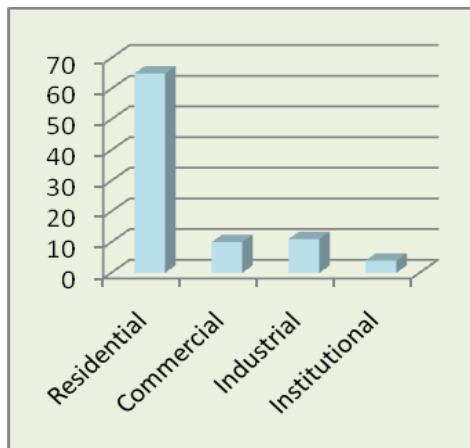
Source: U.S. Bureau of Economic Analysis, ETSU Bureau of Economic Research, Tennessee Comptroller of the Treasury, Tennessee Department of Labor, First Tennessee Development District staff.

Item #3

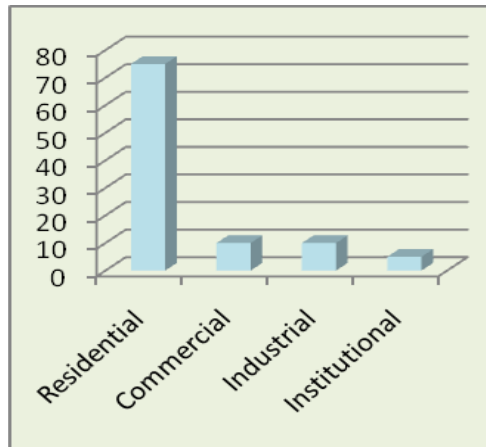
Elaborate on the entire region’s solid waste stream. Compare today’s waste stream with anticipated waste stream over the next five (5) years. How will the total waste stream be handled in the next five (5) years? Include in this discussion how problem wastes like waste tires, used oil, latex paint, electronics 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.

Primarily, Sullivan County’s waste stream is comprised of residential waste and commercial waste. In more recent years the decline of industries and commercial businesses in Sullivan County, Kingsport and Bristol have caused a decline in the generation rate of solid waste from these sectors. Eastman Chemical Company, the County’s largest employer, controls its own waste stream and is therefore not a factor in the County’s waste management system. There are no significant changes planned in the way the County will handle the total waste stream in the next 5 years. Sullivan County is prospecting locations for a new drop-off recycling center in the southwestern section of the county. This will likely be the only significant change in the County’s system over the next few years. The current system for managing residential and commercial waste and recyclables has proved to be a successful program and the Region should continue to implement all aspects of the program as it has the past several years.

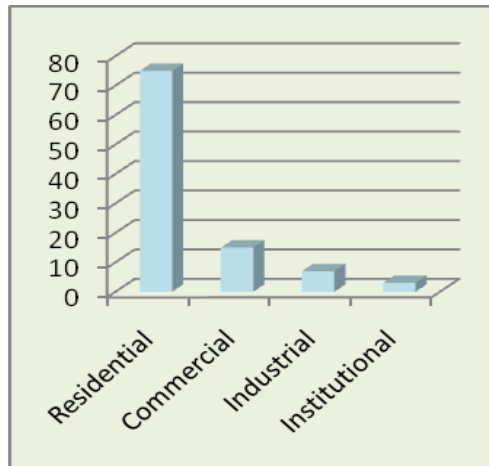
1999 Sullivan County Estimated Waste Stream



2007 Sullivan County Estimated Waste Stream



2012 Projected Sullivan County Waste Stream



Special wastes such as used oil and batteries are collected at each the County's 2 Transfer Stations in Kingsport and Bristol. These items are recycled. Sullivan County also has a program to recycle electronics and divert latex paint from the household hazardous waste stream. Latex paint is mixed with wood chips, solidified, and disposed with regular household wastes. E-waste is collected at each of the 2 Transfer Stations and recycled through Scott Computers in Knoxville.

There are no other wastes, in the Region, that require special handling protocols. Industrial and commercial wastes are collected managed by the private sector, or by each of the two large municipalities for businesses within the respective city limits. All waste from private sources is either disposed in the Bristol or Kingsport Transfer Stations or transported directly to disposal (Class I) at Iris Glen Environmental Center or Carter's Valley Landfill. There are no significant amounts of wastes entering the Region for disposal, however, all of the solid wastes generated in Sullivan County are transported out of the Region for disposal. In the case of Bristol, TN, wastes collected door-to-door by the City are disposed in Bristol, VA.

Item #4

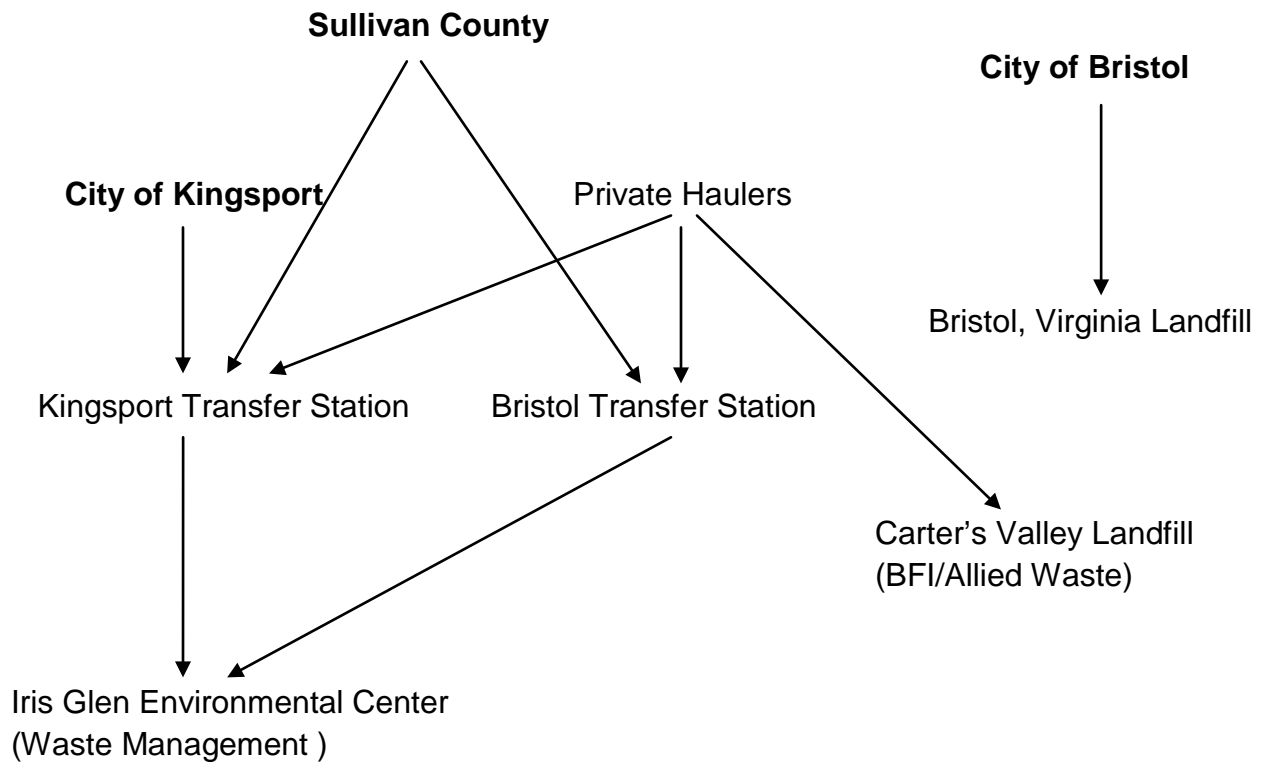
Describe in detail the waste collection system of the region and every county and municipality. Provide a narrative of the life cycle of solid waste from the moment it becomes waste (loses value) until it ceases to be a waste by becoming a useful product, residual landfill material or an emission to 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.

There are 3 municipalities in Sullivan County. These are Kingsport, Bristol and Bluff city. Kingsport and Bristol provide door-to-door collection of solid wastes for all residents inside these city limits. Bluff City provides door-to-door collection through a contract with a private collection and hauling company. Solid waste collected by the City of Bristol is disposed on in the Bristol, VA landfill. Solid waste collected by the City of Kingsport and Bluff City is transported to the Sullivan County transfer stations in either Kingsport or Bristol. Sullivan County operates two transfer stations/convenience centers in the County for residential waste collection. These stations are used by residents as well as many private collectors/haulers. All waste collected at the County's two transfer stations is ultimately disposed of in the Iris Glen Environmental Center, a Waste Management facility, in Johnson City. Some waste collected by private companies is likely disposed in the Carter's Valley Landfill, a BFI facility, in Hawkins County.

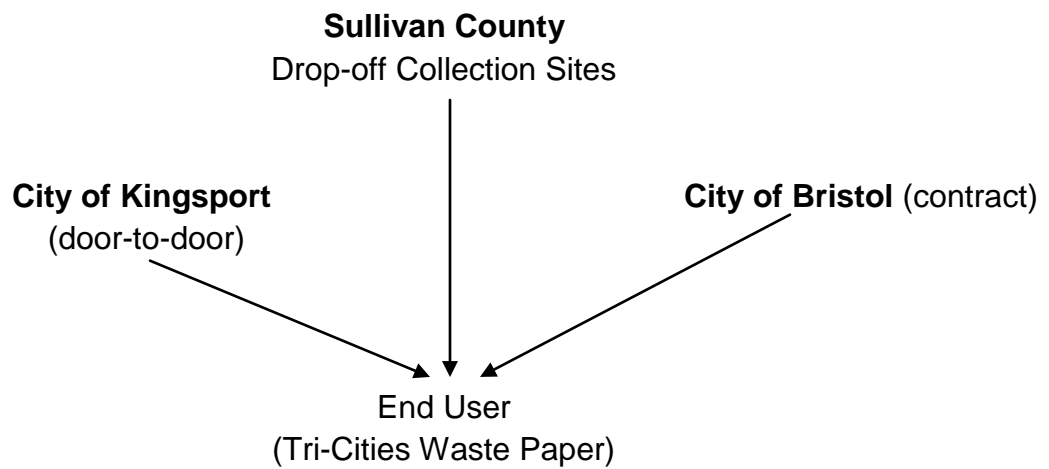
There are multiple opportunities for residents of Sullivan County to participate in recycling efforts. The City of Kingsport operates a door-to-door collection program for recyclables for city residents. Sullivan County has one of the most extensive drop-off recycling programs in the State. There are 12 drop-off recycling sites throughout the County that provide convenient opportunity for all residents to participate. Many of the sites are located at public locations, i.e. schools, grocery stores, civic complexes, etc. Sullivan County is constantly exploring ways to improve its recycling program to provide better facilities and opportunities for recycling. In 2007, the County constructed a new site to meet the public demand for a drop-off center in the Colonial Heights area of the County. Nearly all recyclables collected in Sullivan County, paper, plastic and cardboard are processed through a private materials processing facility in Kingsport. E-waste, used oil, batteries and tires are recycled through specific end-users for each item.

The following is a flow diagram indicating the flow of solid waste from the point of generation to the point of disposal. At no time during this process does the solid waste become a useful product. Recyclables become a marketable commodity once they are collected and processed.

SOLID WASTE

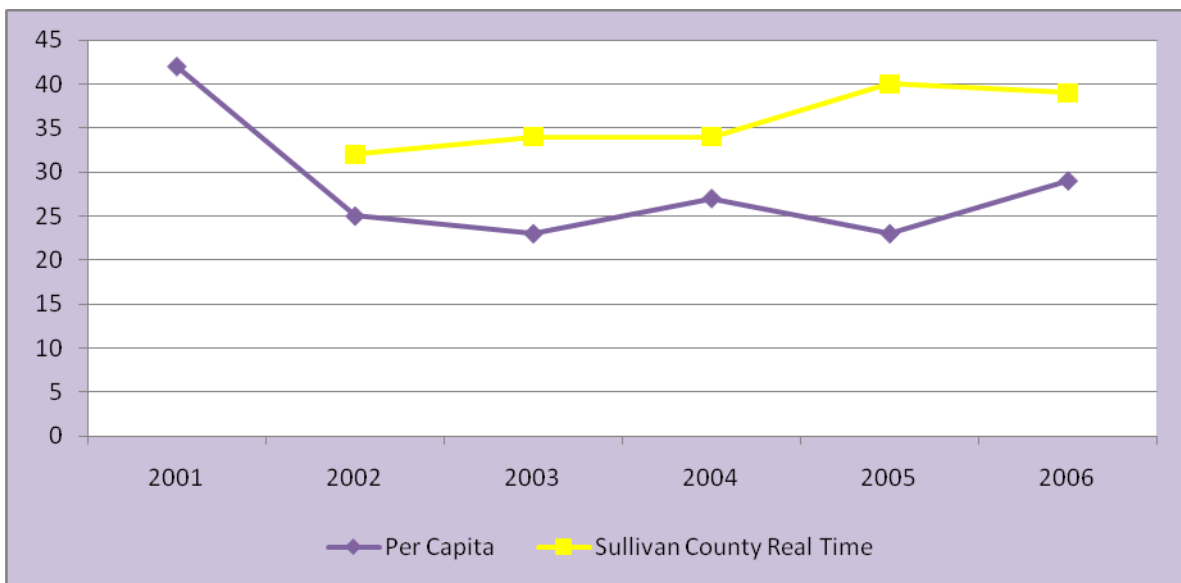


RECYCLABLES



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 met 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.



Sullivan County Per Capita Waste Reduction Rate vs Real Time Comparison 2001 – 2006.

Year	Sullivan County Current Year Disposal	Sullivan County Base Year Disposal	Sullivan County Per Capita Waste Reduction Rate	Sullivan County Real Time Comparison
2001	145,239 tons	242,197 tons	42%	
2002	186,396 tons	242,197 tons	25%	32%
2003	192,292 tons	242,197 tons	23%	34%
2004	181,433 tons	242,197 tons	27%	34%
2005	191,394 tons	242,197 tons	23%	40%
2006	178,168 tons	242,197 tons	29%	39%

Sullivan County has been fortunate to meet or exceed the 25% waste reduction goal by, either the per capita calculation or the “real time” calculation, every year since 2001. Most commonly, the “real time” calculation method has allowed the County to reach the goal. Sullivan County is a single county region and therefore, the responsibility of meeting the 25% waste reduction goal is solely on Sullivan County and its municipalities. Sullivan County’s success in this program is primarily due to the success and participation rate of commercial businesses and industries in the County’s Recycling and Waste Reduction Commercial Business Reporting program.

Historically, across the First Tennessee Development District, county’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. Sullivan County has been implementing a business and industry waste reduction and recycling reporting program through the First Tennessee Development District the past few years. This is voluntary program started by the Development District in 2001-2002. Nearly 150 businesses and industries in Sullivan County are surveyed each year by the Development District. The efforts of the Sullivan County Recycling Coordinator to encourage businesses and industries are to be commended. Without one-on-one communication between the Recycling Coordinator and business owners/managers, participation in the Sullivan County program would be considerable low. State mandated participation in this type of reporting program, by businesses and industries, would greatly demonstrate the true amount of recycling and waste reduction that is occurring in each County but is not reported.

The primary infrastructure needs of Sullivan County over the next 5 years are to replace old, outdated and dilapidated equipment. Collection and disposal equipment are the primary pieces of equipment in need of replacing. The Solid Waste Director is implementing a capital improvement plan to replace some equipment each year, but financial concerns in the County’s budget may create difficulties in fully implementing this program. Sullivan County will also be constructing a new recycling drop-off site in the Piney flats area of the County to replace an existing site that will be closed in the next few months. A preliminary location has been determined and construction of the new site should be completed by mid 2010. An extensive network of recycling drop-off sites is important to Sullivan County success in reaching and maintaining the State mandated 25% waste reduction goal.

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>
Sullivan County/Kingsport Transfer Station	130 tons/day	1,000 tons/day	25 years
Sullivan County/Bristol Transfer Station	25 tons/day	1,000 tons/day	25 years
Kingsport Class III/IV Landfill			
Bristol Class III/IV Landfill			
Carter's Valley Landfill (Allied Waste)	1,500 tons/day	Depends on expansion plans and customer levels.	15 years
Iris Glen Env. Center (Waste Management)	1,400 tons/day	Depends on expansion plans and customer levels.	16 years

There appears to be no shortfalls in the ability of Sullivan County to manage the current waste stream or the projected waste stream over the next 5 years. The design of the County's 2 transfer stations is such that a significant amount more solid waste could be managed at this facility. Additional tonnage would only 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. Transportation from the transfer stations to disposal facilities is currently done by Sullivan County.

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>
Sullivan County	County-wide	82,000	Anytime during hours of operation	250,000 tons/year	Transfer Station
Kingsport	City Limits	44,130	Weekly	N/A	Curbside
Bristol	City Limits	24,994	Weekly	N/A	Curbside
Bluff City	City Limits	1,602	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.

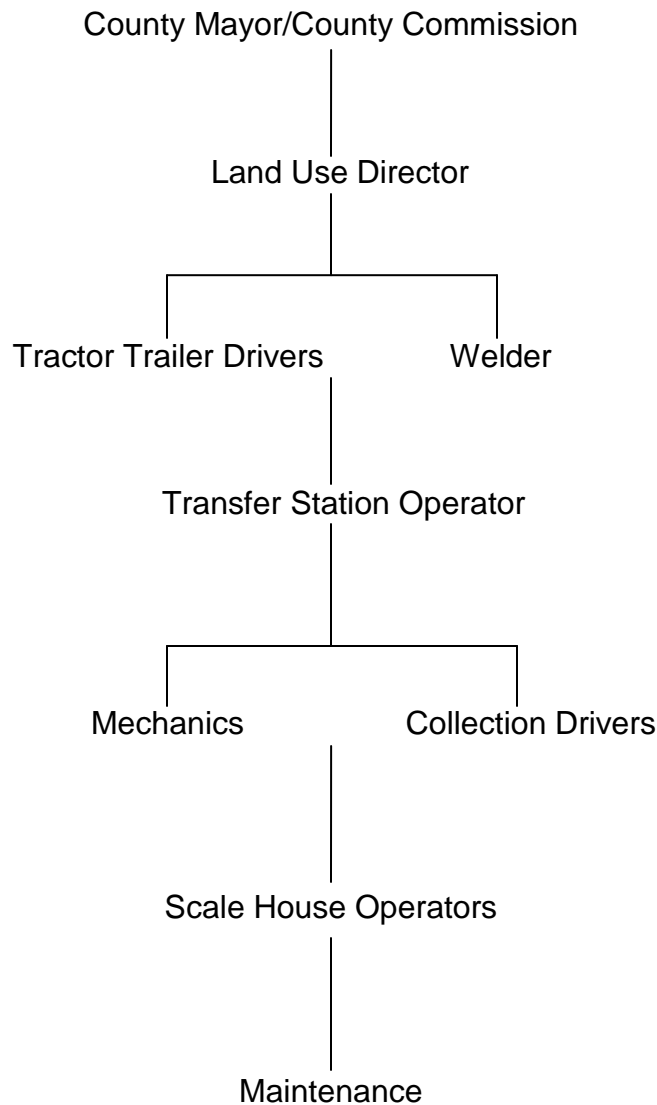
Expenditures			
<i>Description</i>	<i>Present Need \$/year</i>	<i>Unmet Needs \$/year</i>	<i>Total Needs (Present + Unmet) \$/year</i>
Salary and Benefits	\$836,495		\$836,495
Transportation/hauling	\$314,614		\$314,614
Collection and Disposal Systems			
Equipment		\$707,000	\$707,000
Sites			
Convenience Center			
Transfer Station	\$911,335		\$911,335
Recycling Center			
MRF			
Landfills			
Site			
Operation			
Closure			
Post Closure Care			
Administration (supplies, comm. costs, etc.)			
Education			
Public	\$35,500		\$35,500
Continuing Ed.			
Capital Projects	\$140,000		\$140,000
Revenue			
Host agreement fee			
Tipping fees	\$1,250,000		\$1,250,000
Property taxes	\$834,176		\$834,176
Sales tax			
Surcharges			
Disposal Fees			
Collection charges			
Industrial or Commercial charges			
Residential charges			
Convenience Centers charges			
Transfer Station charges			
Grants	\$21,500		\$21,500
Sale of Recyclables	\$50,000		\$50,000

The only unmet financial needs appear to be adequate and consistent funding to replace deteriorating solid waste/recycling collection and disposal equipment.

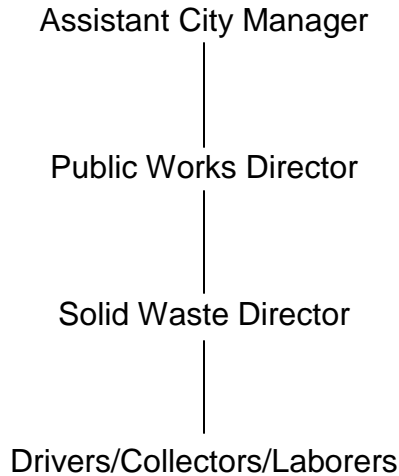
Item #8

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.

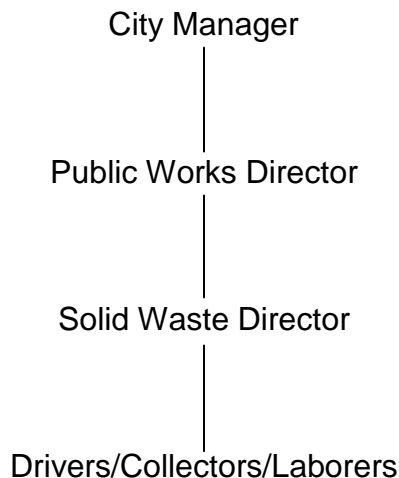
***Sullivan County
Solid Waste Department Organizational Chart***



City of Bristol
Solid Waste Department Organizational Chart



City of Kingsport
Solid Waste Department Organization Chart



There are currently no identified needs in staffing or facilities to provide a full level of service. Sullivan 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 in both of the entities over the next 5 years, especially Sullivan County. However, no additional equipment is needed to increase the level of solid waste collection and disposal services. A map showing all of the solid waste management facilities in the Region is attached. There are no significant shortages in the solid waste systems of Sullivan County or any of the municipalities. Sullivan 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. It is likely that no other County in the State of comparable size can compare to the programs offered in Sullivan County, Kingsport and Bristol.

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.

Community	Current Revenue Source
Sullivan County	General Fund
	Tipping Fees
	Grants
	Sale of Recyclables
Kingsport	Class III/IV Tipping Fees
	General Fund
	Sale of Recyclables
Bristol	Class III/IV Tipping Fees
	Collection Fees
Bluff City	General Fund

Future Solid Waste Management Needs (5 year projection)

Community	Equipment	Estimated Costs	Potential Revenue Source
Sullivan County	(6) Compactor Trailers	\$55,000 ea.	Tipping Fees, General Fund
	(2) Road Tractors	\$90,000 ea.	Tipping Fees, General Fund
	Front-End Loader	\$165,000	Tipping Fees, General Fund
	(8) Roll-off Containers	\$4,000 ea.	Tipping Fees, General Fund

Sullivan 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. Sullivan County receives about 2% of its annual operating solid waste budget from the general fund. This amount is not enough to fund equipment needs over the next five years.

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?

Sullivan County enjoys above average support from the local community for its recycling and waste reduction programs. One reason for this support is the efforts of the County's Recycling Coordinator. The County has been very supportive of the educational programs developed and implemented by the Recycling Coordinator in the cities and county. 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 Sullivan County Commercial/Industrial Waste Reduction/Recycling Reporting Program is evidence of the Sullivan County waste reduction educational efforts. The door-to-door program in Kingsport is also successful due to the commitment of city officials and staff. Promotion of the program in the community is the primary reason for its success.

Other counties across the State would do well to emulate the educational programs and capital investments made in Sullivan County and its municipalities concerning recycling and waste reduction efforts. The County is committed to providing services to all residents regardless of their location and are constantly looking for ways to improved the overall service level of the recycling 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.

Sullivan County's plans for managing the solid waste management system over the next 5 years will remain very similar to the current operations. Lack of sufficient funding to make significant changes to the program and replace or add new equipment will basically result in the status quo for the next several years. Sullivan 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" calculation method. Sullivan County should be proud of the solid waste management, recycling and waste reduction programs that have been developed and implemented over the last several years. The County continues to lead the State in providing a comprehensive solid waste management system for its residents.

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 Sullivan County Solid Waste District Needs Assessment Update

2001-2007 Sullivan County Annual Solid Waste Progress Report

Sullivan County Operating Budget document