

STEWART COUNTY NEEDS ASSESSMENT

FY 2010



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SECTION 1

Demographic Information and Projections

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 (5) years.

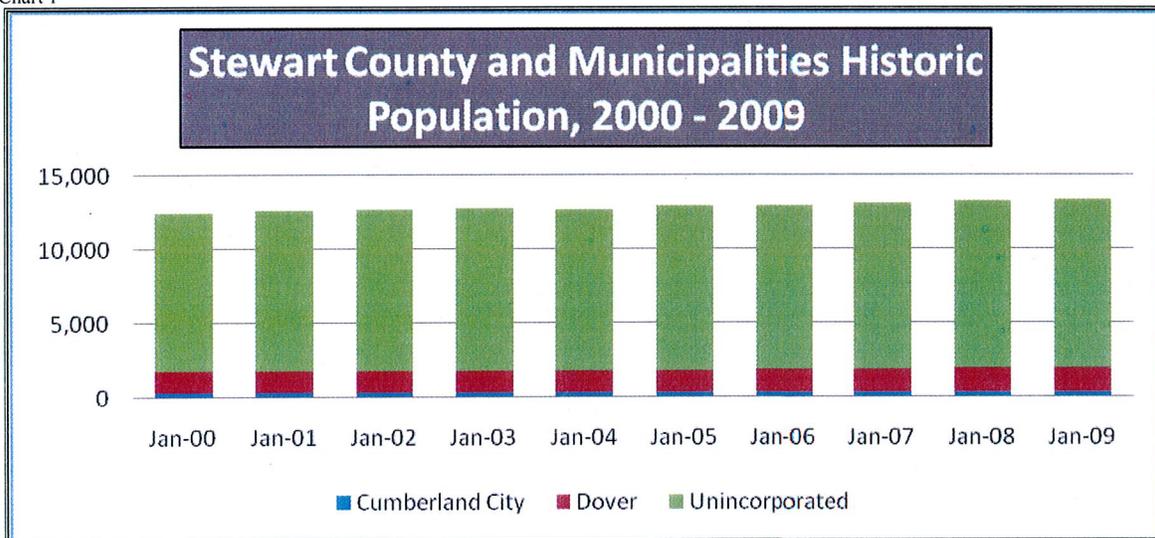
Historic Population - Stewart County is one of the smaller counties in Tennessee based on population (81 of 95 counties). The historic population has changed by a little over 7% from 2000-2009, an addition of 893 people. The towns of Cumberland City and Dover have also grown slightly, with Cumberland City adding 13 people (4%) and Dover adding 185 people (12.8%) over the 9-year period.

See Table 1 and Chart 1 below for depictions of historic population growth in Stewart County and its municipalities.

TABLE 1: STEWART COUNTY HISTORIC POPULATION 2000-2009										
	Jul-09	Jul-08	Jul-07	Jul-06	Jul-05	Jul-04	Jul-03	Jul-02	Jul-01	Jul-00
Cumberland City	329	329	325	319	319	316	319	320	319	316
Dover	1,627	1,602	1,558	1,517	1,478	1,447	1,455	1,454	1,447	1,442
Unincorporated	11,384	11,326	11,154	11,050	11,073	10,906	10,943	10,905	10,789	10,689
STEWART COUNTY TOTAL	13,340	13,257	13,037	12,886	12,870	12,669	12,717	12,679	12,555	12,447

Source: Population Division, U.S. Census Bureau, June 22, 2010

Chart 1



Population Projections - Population projections are estimates based on past trends, and do not always capture short-term influences on growth, such as the recent national economic downturn. Still, projections demonstrate trends, and the trend in Stewart County is for nominal growth over the next 5 years. The University of Tennessee projects an approximate 4% growth in population between 2010 and 2015.

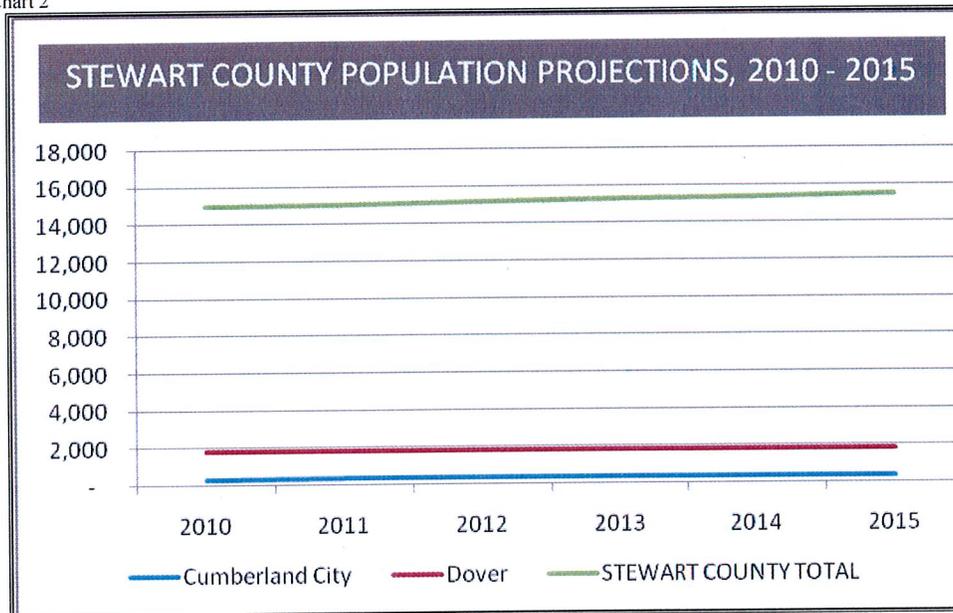
The University of Tennessee, Center for Business and Economic Research prepares population projections for all Tennessee municipalities and counties. (see Table 2 and Chart 2 below).

Table 2

TABLE 2: STEWART COUNTY POPULATION PROJECTIONS, 2010 - 2015						
	2010	2011	2012	2013	2014	2015
Cumberland City	320	323	326	328	331	334
Dover	1,464	1,466	1,468	1,470	1,472	1474
STEWART COUNTY TOTAL	13,168	13,275	13,382	13,488	13,595	13,702

Source: UT, CBER, 2010.

Chart 2



The best use of these numbers for solid waste planning may be in their ability to project the number of **households** in future years. By dividing the projected population by the average household size (2.37, as determined by the U.S. Census), we can project the number of new households that could be added and will contribute to the waste stream. The number of potential new households in Stewart County is shown below in Table 3.

Table 3

2009 Estimated Population (U.S. Census)	2015 Projected Population	Population Increase 2010-2015	Average Household Size	Potential New Households, 2015
13,340	13,702	362	2.37	153

The implications for solid waste planning are to the potential waste stream volume, convenience center numbers and locations, and transportation costs. The slight increases in potential households will have the dual effect of adding relatively small amounts of residential waste, but also providing less opportunity for revenue from new developments. The overall effect will be minimal and will not require any changes to the solid waste system now in place.

SECTION 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 breakdown of each economic sector
- County or municipal budgeting information
- Other commonly accepted economic indicators

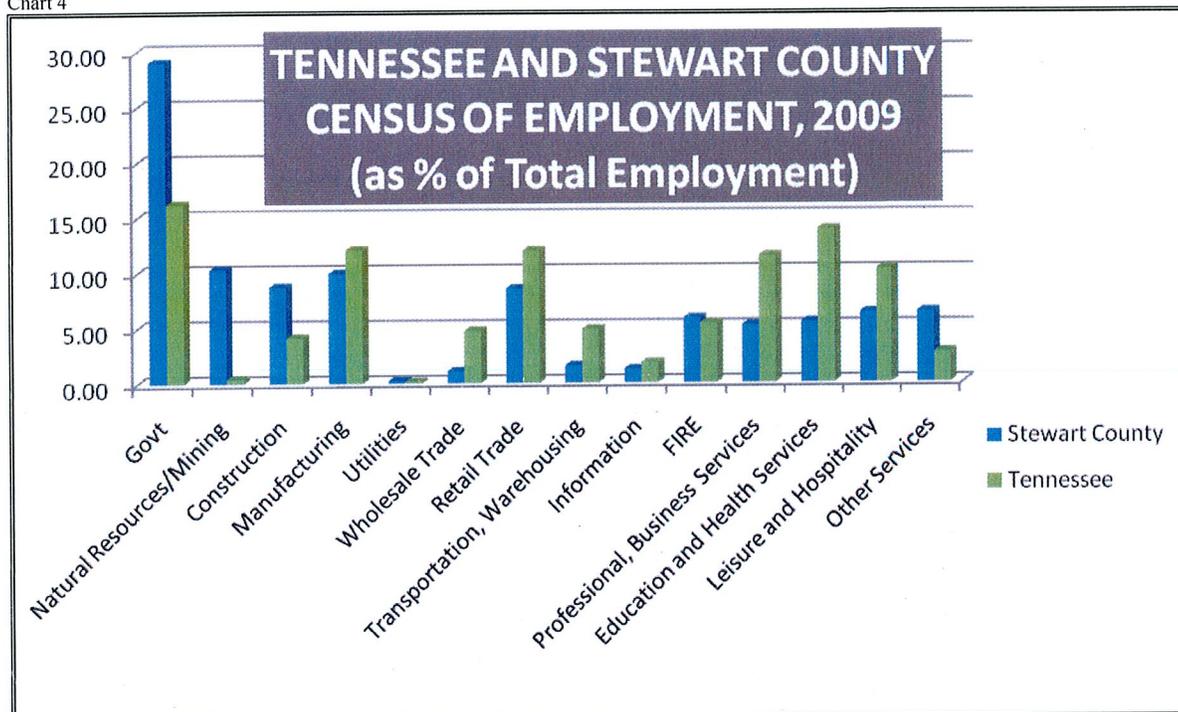
Table 4

STEWART COUNTY, TENNESSEE SELECTED ECONOMIC DATA, HISTORIC AND PROJECTED, 2000 - 2015						
YEAR	LABOR FORCE	UNEMPLOYMENT	UNEMPLOYMENT RATE	PER CAPITA INCOME	PROPERTY TAX	RETAIL SALES
2000	5,540	270	4.9	\$19,412		\$63,840,000
2001	5,610	310	5.5	\$20,389	\$3,261,143	\$63,319,000
2002	5,740	370	6.5	\$20,552	\$3,325,231	\$62,971,000
2003	5,810	400	6.8	\$21,634	\$3,392,997	\$64,008,000
2004	5,860	390	6.7	\$22,707	\$4,141,734	\$65,510,000
2005	5,940	440	7.4	\$24,381	\$4,476,032	\$67,932,000
2006	6,260	480	7.6	\$25,593	\$4,611,516	\$68,851,000
2007	5,820	370	6.4	\$26,729		\$69,351,000
2008	5,920	510	8.7	\$27,392		\$67,092,000
2009	5,940	690	11.6	\$27,239	\$2,704,022	\$62,373,000
2010	6,097	726	11.9	\$27,481	\$2,714,323	\$65,541,000
2011	6,143	720	11.7	\$28,555	\$3,116,137	\$68,321,000
2012	6,189	697	11.3	\$29,739	\$3,256,942	\$69,213,000
2013	6,236	559	9.0	\$30,999	\$3,463,000	\$70,123,000
2014	6,282	519	8.3	\$32,331	\$3,669,057	\$71,047,000
2015	6,328	509	8.0	\$33,740	\$3,875,115	\$71,992,000

Sources: Woods and Poole, 2011 TN State Profile; TN Department of ECD; Projections by Woods & Poole, GNRC Staff

Stewart County has maintained a consistent labor force since 2000, with slight increases projected for the next 5 years that follow the modest population projections. Unemployment has run slightly higher than the State of Tennessee as a whole, with projections for 2010 through 2015 following the projected decreases called for by the University of Tennessee, Center for Business and Economic Research in their *January 2010: An Economic Report to the Governor of the State of Tennessee*, where UT projects a decrease in unemployment over time, with Stewart County running higher than the State average. Per capita income, as compiled by Woods and Poole in 2010, has increased each year, but is still behind the State averages. By 2015, Stewart County's PCI will be approximately 80% of the State projection PCI. Property taxes have been sluggish, and reported numbers are inconsistent. Retail sales had a slight dip in 2008 through 2009, following the national recession, but projections call for a rebound for the next 5 years.

Chart 4



Source: State of TN, Dept. of Labor and Workforce Development

Stewart County's sector employment does not follow State of Tennessee trends, as shown in the single-year comparison above. Stewart County has far more people employed by government (State, Federal, and local) than the Tennessee average. Stewart County is also more dependent on manufacturing and construction employment than the State as a whole, both volatile industry sectors of late. Stewart County lags behind the State averages for employment in all other sectors. The State of Tennessee Department of Labor and Workforce Development includes Stewart County in its Labor and Workforce Investment Area (LWIA) #8 (which also includes Cheatham, Dickson, Houston, Humphreys, Montgomery, Robertson, Sumner, and Williamson Counties), and in its *Job Forecast News, Hot Jobs to 2016* Report, predicts that the High-Growth industries for this LWIA will be **Professional, Scientific, and Technical Services; Administrative and Support Services; Ambulatory Health Care Services; Food Services and Drinking Places; and Educational Services**. The Tennessee Department of Labor and Workforce Development projects that government jobs in general will have a very modest .5% gain through 2018. This slight gain may well cover future employment needs of the projected .4% gain in population through 2015, however.

The charts and graphs below depict yearly totals in employment by sector for Stewart County, and offer comparisons with the yearly totals and projections for the State of Tennessee, per *Woods and Poole 2011 State Profile*. As demonstrated by the single-year comparison above, Stewart County has been heavily dependent on government employment, followed by farming, fishing, mining and related activities, then manufacturing employment, construction, and retail trade, with little change projected for the next 5 years. The State of Tennessee has seen its manufacturing employment decrease steadily, with a rise in education and health services, and future employment relying on a mix of manufacturing, education and health services, business and professional services, retail, and leisure and hospitality services.

Table 5

STEWART COUNTY, TENNESSEE EMPLOYMENT BY SECTOR 2000 - 2015																
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Government	1097	1146	1137	1146	1148	1208	1209	1190	1171	1179	1176	1194	1193	1192	1192	1193
Farming, Fishing, Mining, Related	507	483	453	448	432	438	423	419	420	419	419	426	428	429	431	432
Construction	304	302	270	308	356	390	351	373	400	354	338	346	350	353	357	360
Manufacturing	505	539	585	567	522	445	393	432	438	403	429	436	436	437	438	438
Utilities	6	6	7	7	7	8	8	8	8	9	8	8	8	8	8	9
Wholesale Trade	29	31	34	37	40	43	39	46	47	43	41	42	43	43	44	44
Retail Trade	353	346	353	353	337	350	354	324	345	346	374	382	386	389	393	396
Transportation, Warehousing	47	49	61	56	73	77	67	67	68	63	63	65	66	66	67	68
Information	56	61	63	51	59	53	45	49	52	50	48	49	49	50	50	50
Finance, Insurance, Real Estate	235	232	229	215	199	213	221	227	247	237	232	240	245	250	255	260
Professional, Business Services	131	140	200	182	208	196	193	197	212	211	224	231	236	240	244	249
Education, Health Services	187	206	212	211	216	214	198	190	203	223	243	251	256	260	265	270
Leisure, Hospitality	212	226	238	245	208	238	266	262	268	257	258	264	266	269	270	273
Other	171	185	214	244	242	240	248	270	269	259	256	265	270	275	280	285
TOTAL	3840	3952	4056	4070	4047	4113	4015	4054	4148	4053	4109	4199	4232	4261	4294	4327

Source: Woods and Poole, 2011 TN State Profile

Chart 5

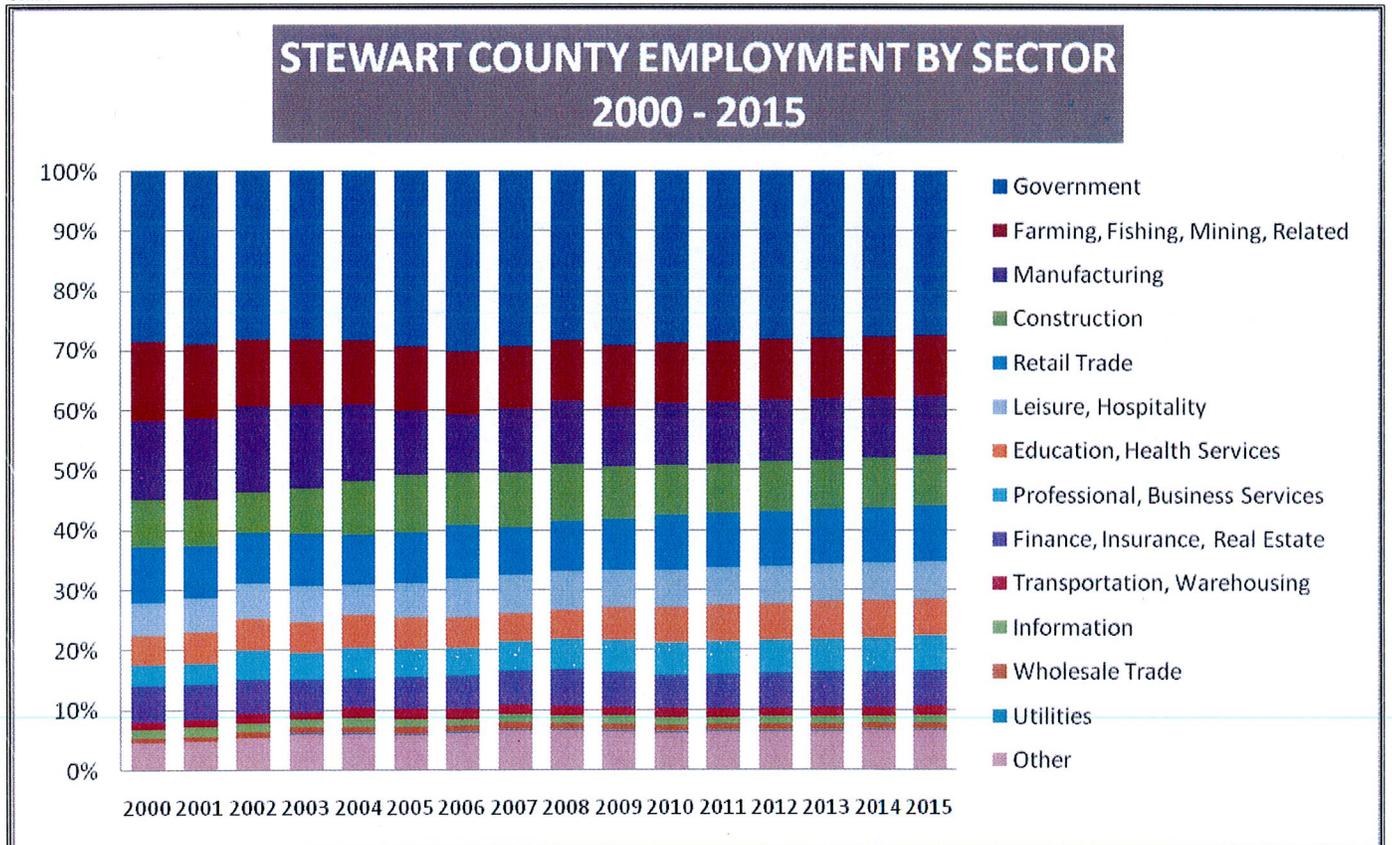
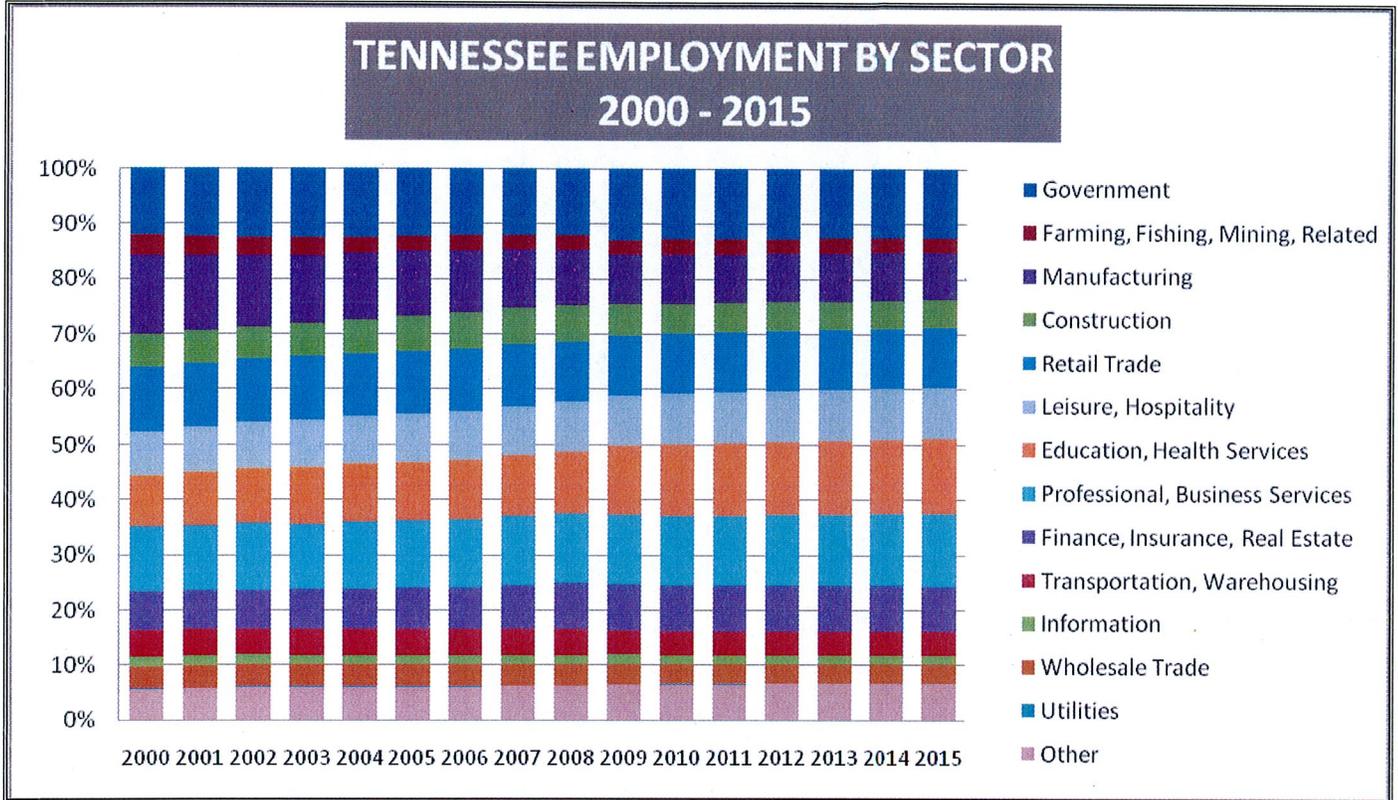


Chart 6



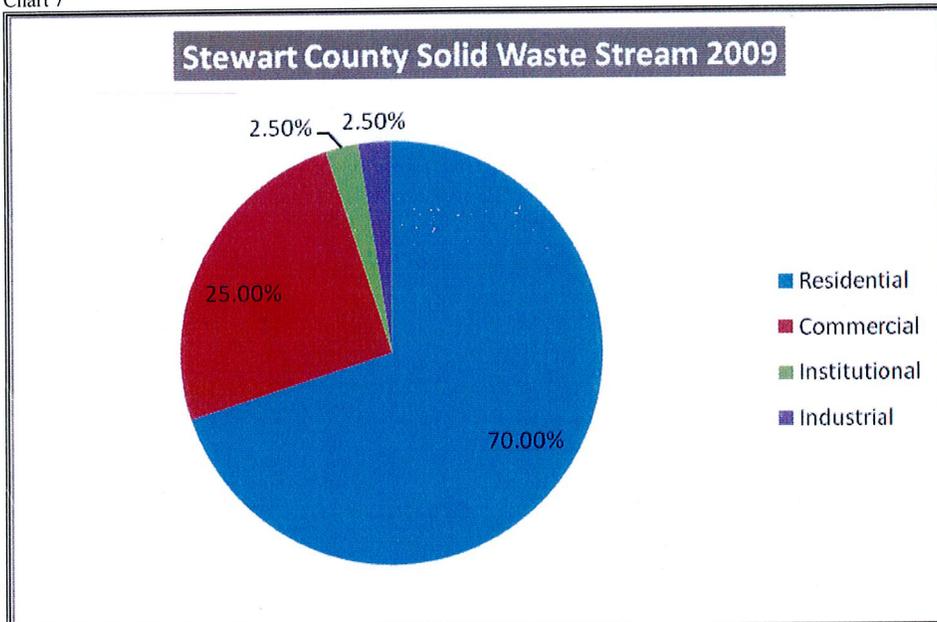
It should be noted that Stewart County, as part of the Bi-County Solid Waste Authority, does not operate any solid waste facilities or services. Therefore, the County has no obligation or responsibility to fund such activities.

SECTION 3

Solid Waste Stream

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.

Chart 7

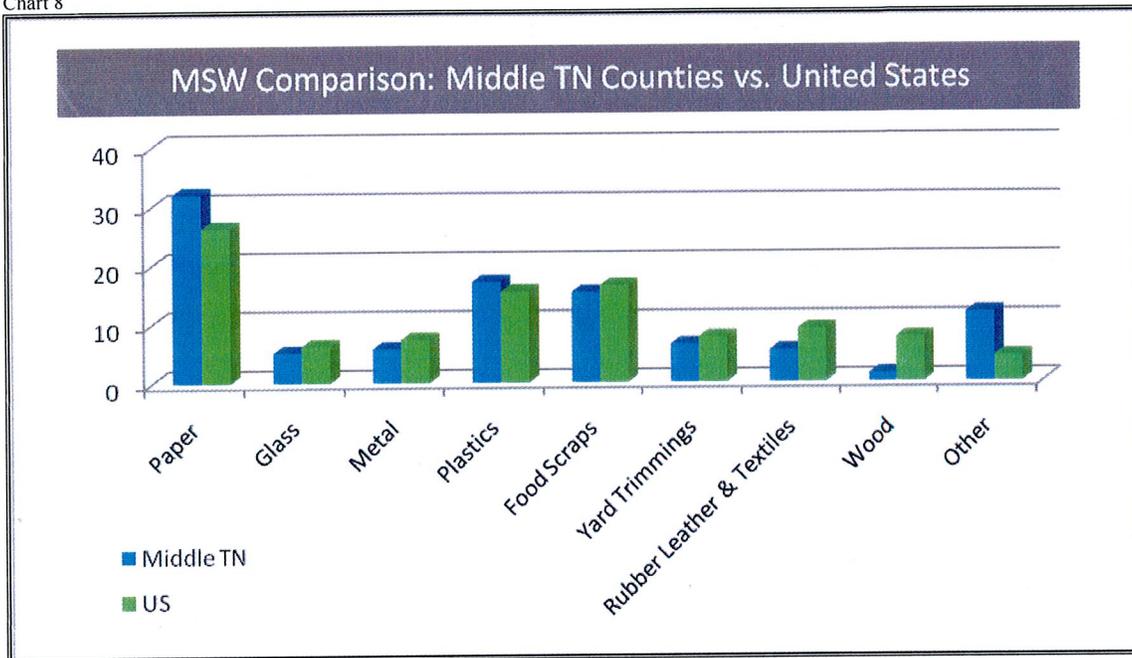


Source: 2009 Annual Progress Report

Stewart County's waste stream is 70% residential, 25% commercial, 2.5% institutional, and 2.5% industrial.

The composition of the waste stream specific to Stewart County has not been measured, however, a report prepared in 2008 by Tennessee State University for the TN Department of Environment and Conservation conducted a municipal solid waste characterization study of waste being handled at two facilities in Tennessee: Cedar Ridge Landfill in Lewisburg (Marshall County), and Bi-County Landfill in Montgomery County. Samples were taken and weighed, and results categorized. The report, *2008 Tennessee Waste Characterization Study*, noted that the two Middle Tennessee landfills surveyed had statistically significant differences in waste stream composition than the United States at large. As shown below, the two studied landfills had larger percentages of paper and plastics, but smaller percentages of food scraps, rubber, leather, textiles, and wood. All county waste streams will vary dependant on the mix of residential and commercial contributors, as well as the level of recycling efforts, however, the results of the TDEC/TSU study can be attributed to Stewart County, as the County sends its waste to the Bi-County Landfill.

Chart 8



No significant changes are expected in the way Stewart County handles its waste stream in the next five years.

Stewart County has been a partner with Montgomery County for the Bi-County Solid Waste Management Authority for over twenty years. The Authority is responsible for the collection and disposal of municipal solid waste and the collection, processing and marketing of recyclables. Problem waste is also managed by the Authority. Latex paint is collected and used as a component of alternate daily cover for the Bi-County Landfill. Tires are collected and transported to a recycler, as is used oil. Gas cans are only accepted when they are empty and have been triple-rinsed. The cans are crushed and sent to a metal recycler. No other auto fluids are accepted. Liquids, ashes, RCRA hazardous wastes and radioactive materials are also not accepted.

Commercial and industrial wastes are collected and disposed of privately, usually under contract with private haulers.

As part of the Bi-County Authority, Stewart County does not manage any of its waste and has no options as to how it is handled. Being part of the Authority has proven to be very beneficial to Stewart County because it provides a professionally managed system that is economical for the citizens of Stewart County. No changes are expected.

SECTION 4

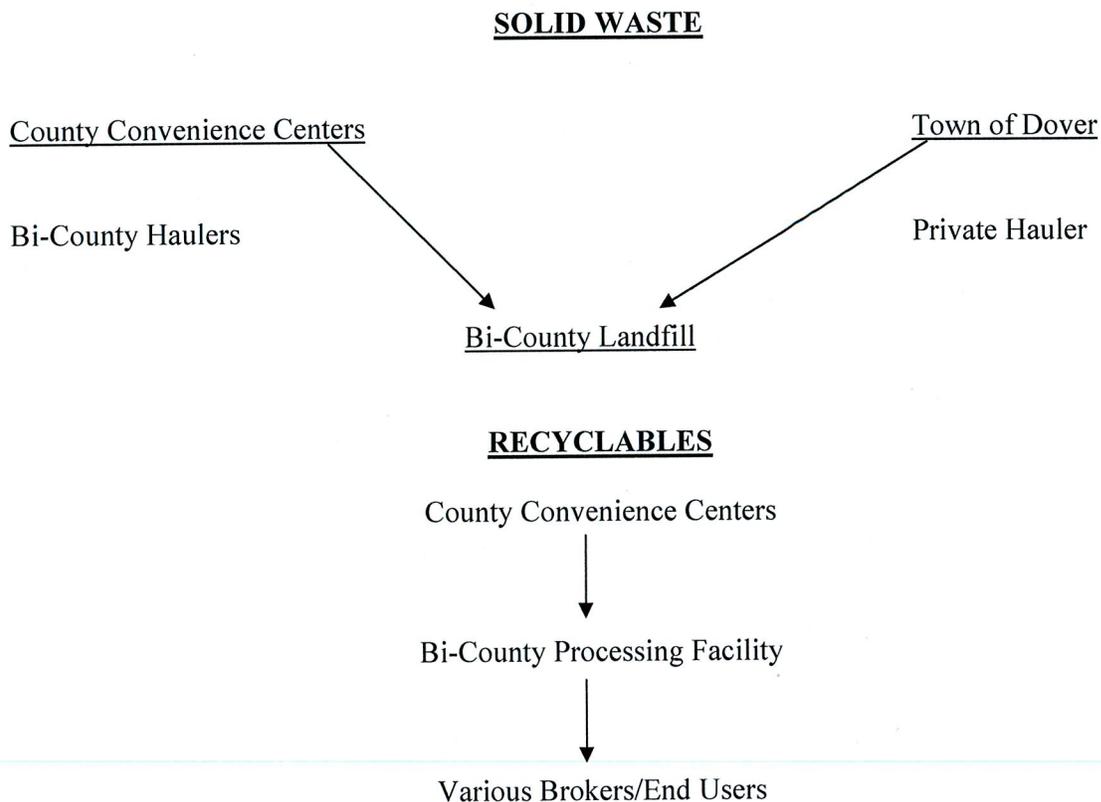
Waste Collection System

The unincorporated portion of the county and the Town of Cumberland City are served by seven convenience centers that are provided and serviced by the Bi-County Solid Waste Authority. The Authority collects the waste and transports it to their landfill in Montgomery County on Highway 79 for disposal.

The recyclable material is also transported to the landfill where it is baled and sold through several brokers. The materials are combined with that of Montgomery County which produces a larger volume that can quality for a higher selling price.

As previously mentioned, collected latex paint is mixed with other material to be used as alternate daily cover for the Bi-County Landfill. The Authority is currently constructing a system to collect gas from the landfill to generate electricity.

The Town of Dover provides weekly, curbside residential collection through a contract with a private hauler, Clarksville Disposal. The waste collected is taken to Bi-County Landfill for disposal. Dover charges a monthly fee to citizens and churches which is included in their monthly water bills. Businesses contract with private haulers for their service.



Stewart County Convenience and Recycling Centers

Open 7:00 a.m. to 6:00 p.m.

Bumpus Mills – Open Wednesday and Saturday

Located on Tobacco Port Road. Take TN 120 through Bumpus Mills toward Cadiz, KY and turn left on Tobacco Port Road. It is a quarter of a mile on the right.

Phone: 931-232-6931

CCC-81-102-0293

Indian Mound – Open Wednesday and Saturday

Located off TN 46 south of Indian Mound, Moore Hollow Lane is near Victory Tabernacle Church.

CCC-81-102-0377

Robertson Hill – Open Wednesday and Saturday

Bumpus Mills Road, just north of Robertson Hill Road in the gravel pit.

CCC-81-102-0376

Cumberland City - Open Monday, Wednesday and Saturday

Located on Highway 149 just past the Cumberland City TVA Steam Plant.

CCC-81-102-0294

Leatherwood - Open Tuesday, Friday, Saturday and Sunday

CCC-81-102-0116

North Stewart - Open Monday, Wednesday, Friday, Saturday and Sunday

Located on Highway 79 and Old State Route 76. It is just South of U.S. 79 at North Stewart on the right.

CCC-81-102-0115

Onion Hill - Open Monday, Wednesday, Friday, Saturday and Sunday

Located on Highway 76 West and Onion Hill. Turn left off of U.S. 79 at the LBL Church of Christ, go one-half mile on Old State Route 76 to the Westvaco chert pit on the right.

CCC-81-102-0292

SECTION 5

Waste Reduction

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.

Real Time Diversion, Stewart County

Year	Disposed	Diverted	Total Generated	% Change
2005	7,926	1,788	9,714	18.4%
2006	7,689	2,431	10,120	24.0%
2007	7,507	13,142	20,649	63.6%
2008	7,571	2,989	10,560	28.3%
2009	7,851	2,231	10,081	22.1%

2009 Real Time Diversion, SMR Region

County	Disposed	Diverted	Total Generated	% Change
Stewart	7,851	2,231	10,082	22.1%
Montgomery	122,926	126,986	249,912	50.8%
Robertson	44,547	36,519	81,070	45.0%
REGION TOTAL	175,324	165,736	341,064	48.5%

As seen in the above tables, Stewart County has been close to or above the mandated 25% reduction rate for the last five years. The SMR Region, however, consistently exceeds that amount with a Regional reduction rate of 48.5% in 2009. The other counties that join Stewart in the SMR Region are Montgomery and Robertson. Both counties are much larger in population than Stewart and, therefore, have a much higher volume of waste. The high diversion rates of Montgomery (50.8%) and Robertson (45.0%) are sufficient to insure a very strong Region diversion rate well above the 25% goal.

SECTION 6

Collection & Disposal Capacities/Collection Service Providers

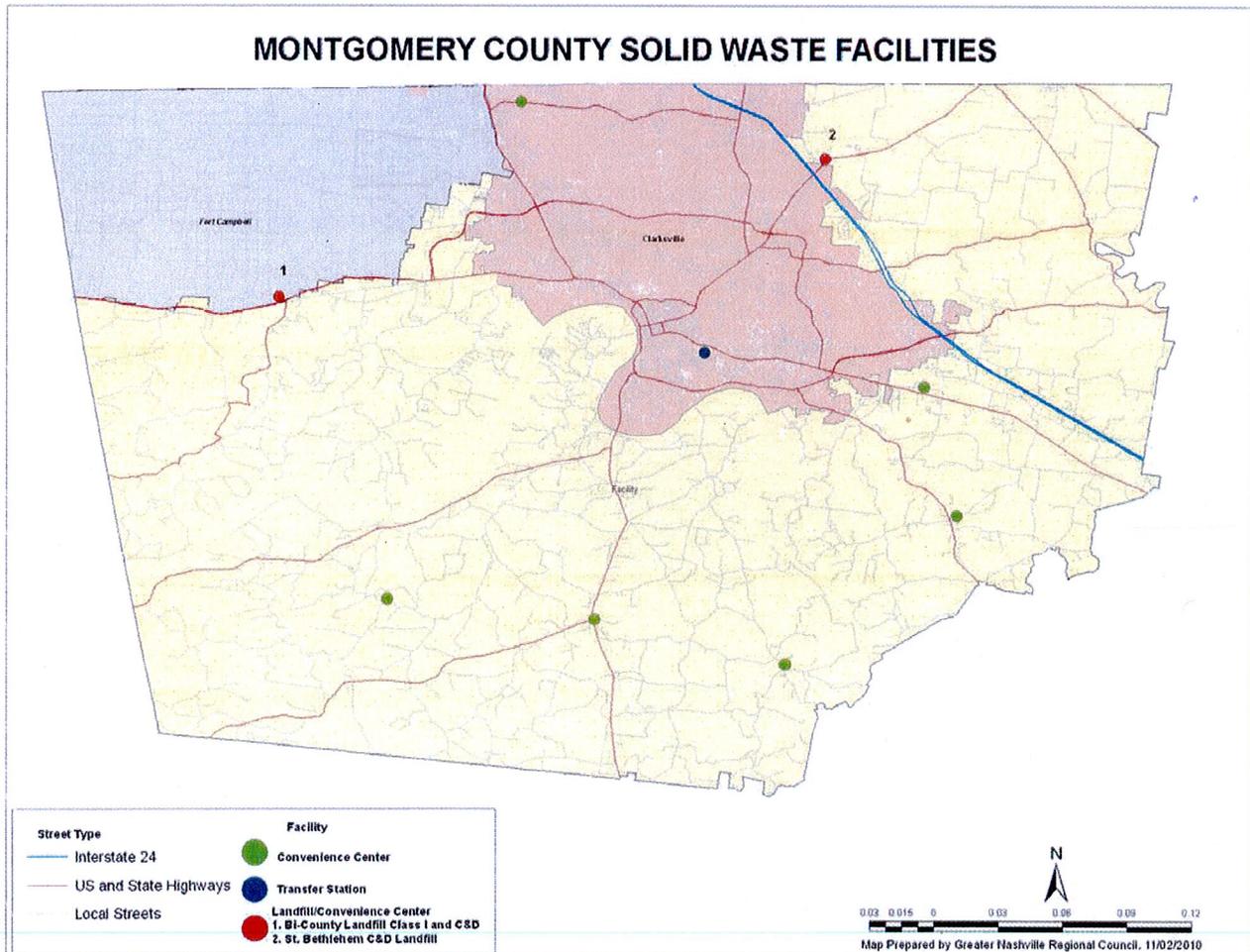
- A. Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum through put. Provide this for both Class I and Class III/IV disposal and recycled materials. Identify and discuss any potential shortfalls in materials management capacity whether these are at the collection or processor level.

Chart 9

Site Name(s)	Current Capacity	Maximum Capacity	Project Life of Facility
Bi-County Landfill	655 tons/day	900	100 years
Bi-County Demolition	1390 tons/day	2,000	30 years

Show Mapped locations

Disposal location for Stewart County's solid waste is located in Montgomery County (below). Recycling and convenience centers in Stewart County are shown in Section 8.



B. Provide a chart of 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.

Chart 10

Provider of Service	Service Area	Population Total Under This Service	Frequency of Service (Weekly, Bi-weekly, on call, etc.)	Tonnage Capacity	Type Service (Curbside, Convenience Center, Green Box)
Bi-County Authority	Unincorporated	11,384	Hours of Operation	204 month	Convenience Centers
Town of Dover	City limits	1,627	Weekly	54 month	Curbside

Source: Bi-County Solid Waste Authority, Town of Dover

Bi-County Solid Waste recently finalized a land swap with Fort Campbell for enough land to provide around one hundred years of landfill capacity. There is sufficient land to expand the demolition landfill to last many years also. The Authority raises its own revenue to fund its operations and maintains a capital budget to fund any needed equipment or facility expenditures. Both the Town of Dover and Stewart County benefit from Bi-County solid waste facilities and expect no problems with collection and disposal of their waste in the foreseeable future.

Bi-County, with assistance from the Department of Environment and Conservation, would also like to open a permanent Household Hazardous Waste facility to serve the region.

SECTION 7

Financial Needs

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

Chart 11

As a member of the Bi-County Solid Waste Management Authority, Stewart County has no solid waste program. The Authority manages all aspects of the program including the generation of sufficient revenue to adequately fund the program, including capital expenditures. The only solid waste related activity in Stewart County is their Litter Program that is funded by State Litter Grants.

SECTION 8

Organization & Facility Locations

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.



Stewart County is not involved in any solid waste activity and, therefore, has no staff or budget for those activities. The Bi-County Solid Waste Authority operates the program and manages all staffing, facility and equipment needs.

The only facilities in Stewart County are the seven (7) convenience centers, operated and managed by Bi-County.

SECTION 9

Revenue Sources/Needs

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.

The County does not operate any solid waste facilities or services. The Litter Program is funded by the State Litter Grant.

The Town of Dover charges a monthly fee for all residential and church waste pick-up service. All businesses contract with private haulers for service.

SECTION 10

Community Attitudes

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?

Attitudes continue to improve with citizens. Education is provided at the convenience centers, local government locations, schools and for businesses. The Bi-County Authority provides a video presentation for schools and the general public. They also provide a traveling dress-up skit, "Dimple Dumpster", to educate citizens as to what can and can't be recycled. To assist with recycling, an Adopt-A-School program was established at one county school in 2009.

Education will continue to be a priority, especially in the schools. Potential new solid waste education programs will be reviewed and implemented in the schools when appropriate.

SECTION 11

Five-Year Plan

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 (5) years. Show how the region's plan supports the Statewide Solid Waste Management Plan.

The SMR Region will continue to implement its Five-Year Plan that meets all requirements of the State as established in the Solid Waste Management Action of 1991. These requirements include:

1. Countywide waste collection and transportation systems
2. Adequate countywide disposal assurance
3. Problem waste disposal assurance
4. Twenty-five percent (25%) diversion of waste from Class I landfill.
5. Recyclable collection assurance
6. Solid waste education program
7. Full financial disclosure and accountability
8. Mandated planning and reporting.

Stewart County and the SMR Region meet these requirements and will continue to do so. Although the Bi-County Authority will take advantage of any opportunity to improve all aspects of solid waste management, the following actions will be the focus of the Five-Year Plan.

1. Purchase additional boxes for commercial, institutional and industrial recycling.
2. Promote Adopt-A-School for more schools.
3. Continue to research for a more economical and effective means of managing tires.
4. Expand the landfill as needed.
5. Develop a gas collection system to produce electricity.
6. Develop a leachate treatment facility.
7. With assistance from the State, open a permanent household hazardous waste facility.
8. Continue solid waste education program for schools, businesses, and the general public.