

Putnam County, Tennessee Solid Waste Planning Region



Solid Waste Needs Assessment

**Prepared by:
The Upper Cumberland County Development District
March 2012**

as required by The Solid Waste Management Act (T.C.A. §68-211-811).

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
401 Church Street, 8th Floor
Nashville, TN 37243-1533

INTRODUCTION

The Solid Waste Management Act of 1991 requires that local governments comprehensively plan to manage their solid waste through modern, integrated, efficient systems. In order to assure that such planning is carried out on the solid waste foundation of relevant and objective knowledge of local conditions, the Act requires that staff of the Development District coordinate, conduct and maintain a Needs Assessment of each municipal solid waste planning region. This assessment shall be revised every five years [T.C.A. 68-211-811].

The categories of information required are:

- Demographic information and projections;
- An analysis of economic activity within the Region;
- Characterization of the waste stream;
- Projection of solid waste generation;
- Evaluation of the collection systems for every municipality & county with the region;
- Evaluation of existing, new or expanded solid waste capacity and management facilities within the region;
- A statement of goals that are consistent with the state plan;
- An analysis of existing or potential waste flows within the region and between adjacent regions;
- A comparison of projected demands from waste generation & importation of waste with available and projected capacity and an identification of potential shortfalls in capacity; a
- Any additional information as the commissioner may require.

In order that the regional planning effort is implemented on a solid foundation of relevant and objective knowledge of local conditions, the Act requires the Development Districts to coordinate, conduct and maintain a Needs Assessment for each solid waste region. This Assessment shall be revised every five (5) years.

SECTION 1:

DEMOGRAPHIC INFORMATION AND PROJECTION

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.

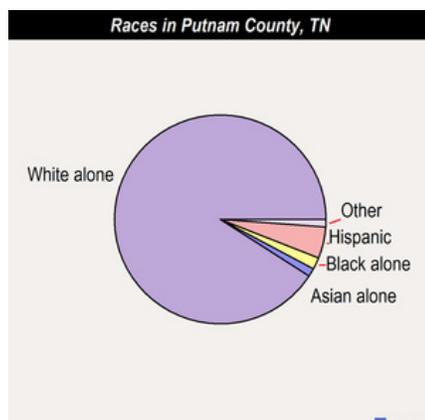
Putnam County, Demographics, Statistics and General Information:

According to the 2010 U.S. Census Bureau, the population of Putnam County is about 72,321. The land area in Putnam County is approximately 401 square miles, and 1.5 square miles of water area.

In January of 2011 the cost of living index in Putnam County was 84.9, which is less than the U.S. average of 100. Industries providing employment in Putnam County include: Manufacturing (23.1%), Educational/health and social services (21.2%), Retail trade (11.7%). The type of workers include: Private wage or salary: 73%, Government: 18%, Self-employed, not incorporated: 8%, and Unpaid family work: 0%.

Races in Putnam County, Tennessee include: White Non-Hispanic Alone (90.8%), Hispanic or Latino (5.0%), Black Non-Hispanic alone (1.8%), Asian Alone (1.1%) and Two or more races

(1.0%). The median resident age is: 34.4 years with approximately 30,913 males (49.6%), and approximately 31,402 females (50.4%) living in Putnam County, Tennessee



Putnam County is located in a very scenic area, and it is located 79 miles east of Nashville, 101 miles west of Knoxville, and 95 miles from Chattanooga at the intersection of I-40 and Highway 111 in the Upper Cumberland region of Middle Tennessee. Putnam County is the hub of the 14-county Upper Cumberland Region and serves as a regional center for retail, employment.

Putnam County’s population growth has been fairly rapid for some time. This is primarily due to in moving retirees, growth in health care jobs, continuing growth in other service areas, and growth at Tennessee Technological University. Another key population variable that impacts solid waste generation is age distribution.

Most every projection that has been done for the county shows that the percentage of population from the age 18 or younger will decline, while the percentage of the population age 65 or older will increase during the planning period. This is a significant trend since older citizens are likely to produce less waste than the younger age groups, and the types of waste generated may also change as well.

TABLE 1.1 Putnam County Historic and Projected Population Trends (2000 thru 2016

Year	Total	Algood	Baxter	Cookeville	Monterey	Unincorporated
2000	62,315	2,942	1,279	23,923	2,717	31,454
2001	63,209	2,997	1,288	26,156	2,730	30,038
2002	64,161	3,052	1,297	27,001	2,743	30,068
2003	64,960	3,107	1,306	27,162	2,756	30,629
2004	65,941	3,162	1,315	27,735	2,769	30,960
2005	67,000	3,217	1,324	28,008	2,782	31,669
2006	68,631	3,272	1,333	28,585	2,795	32,646
2007	69,758	3,327	1,342	28,901	2,808	33,380
2008	71,160	3,382	1,351	29,451	2,821	34,155
2009	71,847	3,437	1,373	30,936	2,863	34,286

2010	73,321	3,495	1,365	30,435	2,850	34,176
2011	73,008	3,550	1,373	30,936	2,876	34,286
2012	73,695	3,605	1,381	31,437	2,876	34,396
2013	75,059	3,660	1,389	31,938	2,889	35,183
2014	76,423	3,715	1,397	32,439	2,902	35,970
2015	78,000	3,770	1,405	32,940	2,915	36,970
2016	79,577	3,825	1,413	33,413	2,928	37,970

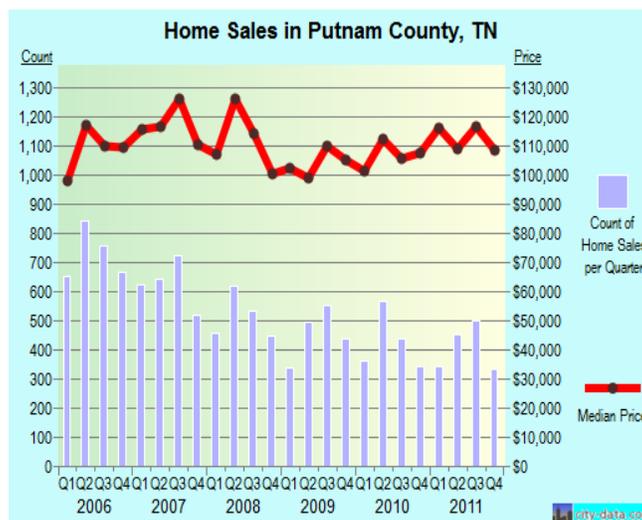
Sources: Historic data are from the U.S. Census Bureau. Projections are based on data from the University of Tennessee CBER. Data compiled by the Upper Cumberland Development District.

Economic Impact of Increasing Retiree Population

Cookeville-Putnam County continues to be rated at one of America’s Most Affordable communities to live in. Low cost of living, low property taxes, and a wide variety of activities create the ideal environment, offering something for everyone.

The average household size for Putnam County is 2.4 people. This is slightly higher than the Tennessee average household size of 2 people. The estimated median household income in 2009 for Putnam County was \$30,983 which is much less than the Tennessee household income of \$41,725 per year. In 2009 data showed that the percentage of residents living in poverty in Putnam County, Tennessee was 24.4% which was above the state average of 17.1%.

The following table indicates home sales in Putnam County over the past six years, and how the trend shows a steady decline in home sales since 2008/



Tourism Industry in Putnam County

Tourism initiatives in the Cookeville area include the Walton Road Scenic Byway and the Tennessee Central Heritage Trail rail/trail project.

The Walton Road Scenic Byway, which is currently under development, will follow the route of U.S. Highway 70 North from Kingston, Roane County, to Carthage, Smith County, traversing the entire width of Putnam County, and traveling through the center of Cookeville. This is the route of the Walton Road, and early pioneer road built by Revolutionary War veteran, Captain William Walton. The road was opened in 1800 and provided settlers a way over the rugged Cumberland Plateau to the Cumberland settlements around Nashville. The Corridor Management Plan for the Walton Road Scenic Byway is scheduled for completion in early 2013.

The Tennessee Central Heritage Trail is an eighteen-mile-long rail/trail project linking Cookeville and Monterey. The trail follows the route of the historic Tennessee Central Railroad, now the short-line Nashville and Eastern, up the Eastern Highland Rim and onto the Cumberland Plateau. Upon completion, the trail will provide a physically varied, and scenic bicycling and hiking trail between Cookeville and Monterey. The trail will link the historic Cookeville Depot with the newly constructed replica of the Monterey Depot. Sections of the original Walton Road will be visible along the trail and interpretive signage and kiosks will be constructed along the route.

Cookeville offers thirteen parks, and 2 city lakes. There is an abundance of recreational events and activities. Cookeville is within minutes of 3 of the most beautiful lakes in Tennessee: Dale Hollow, Center Hill and Cordell Hull.

In addition, Putnam County offers 100-plus restaurants, specialty, and brand-name shopping centers, excursion trains, special events, and more than a dozen golf courses within 30 minutes of Cookeville. Other recreational activities include hunting, fishing, and hiking.

Cookeville offers contemporary and traditional crafts at the South's premier retailer of fine crafts. In addition, Cookeville has a History and Depot Museum which provide access to view historical architecture and memorabilia. Other recreational activities include hunting, fishing, and hiking.

In-Migration of Retirees and the Impact on Putnam County's Public Infrastructure

It is perhaps not surprising that the overwhelming number of immigrants over the past decade and a half have located in a small number of counties. More than three of every four immigrants moved to just one of 10 counties in the state with Putnam County showing 1.50 % and 1,671 of total immigration.

According to data from Global Commerce for the past fifteen years every county in the state of Tennessee shows at least one in every twenty-five persons is foreign born.

According to the Commerce of Economic Development report in August of 2011, there is an estimated total population of 73,470 individuals living in Putnam County, and 14,775 or 20.1% individuals are over the age of 60.

SECTION 2:

ECONOMIC ACTIVITY WITHIN THE REGION

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

As the data in Item #2 shows, the Putnam County economy has been and remains relatively weak in recent years. The county lost a large number of manufacturing jobs, but growth in health and other service sectors has remained strong. Retail sales and bank deposit growth has been sluggish lately and fiscal capacity growth of area governments has been limited.

Item #2
PUTNAM COUNTY HISTORIC AND PROJECTED ECONOMIC INDICATORS

Year	Labor Force Data			Unemployed Total Rate(%)	Non-farm Wage and Salary Employment								Per Capita Income (\$'s)	Property Tax Collections (\$000's)	Taxable Sales (\$000's)	Total Bank Deposits (\$000's)	
	Total	Emp	Total		Goods Producing				Service Producing								
					Total	Total	Mfg	Other	Total	Trade	Health	Gvt					Other
2000	32,020	30,580	1,440	4.5	31,900	9,920	8,430	1,490	21,980	6,620	2,100	6,430	6,830	23,267	19,383	752,760	865,838
2001	31,700	30,190	1,510	4.8	31,350	9,500	8,030	1,470	21,850	6,390	2,140	6,560	6,760	23,600	21,846	754,527	896,227
2002	32,350	30,570	1,780	5.5	31,610	9,500	8,010	1,490	22,110	6,340	2,150	6,790	6,830	23,988	22,933	781,822	941,153
2003	32,950	31,290	1,660	5.0	32,480	9,350	7,860	1,490	23,120	6,520	2,180	7,080	7,340	24,827	23,820	890,772	996,308
2004	33,860	32,300	1,560	4.6	33,910	9,280	7,850	1,430	24,630	6,990	2,140	7,370	8,130	25,742	25,524	956,042	1,004,316
2005	34,160	32,440	1,720	5.0	34,430	9,170	7,660	1,510	25,260	7,020	2,450	7,700	8,090	26,391	26,318	1,017,742	1,102,797
2006	35,250	33,230	2,020	5.7	34,450	8,590	6,990	1,600	25,860	7,040	2,570	7,770	8,480	27,185	28,586	1,101,141	1,214,594
2007	35,160	33,510	1,650	4.7	34,860	8,090	6,400	1,690	26,770	7,260	2,730	7,890	8,890	28,973	30,763	1,192,969	1,386,364
2008	36,080	33,750	2,330	6.5	34,770	7,570	5,850	1,720	27,200	7,270	2,890	7,960	9,080	29,890	32,465	1,204,355	1,370,998
2009	36,000	32,530	3,470	9.6	33,330	6,850	5,330	1,520	26,490	6,940	2,950	8,090	8,510	29,739	35,484	1,093,292	1,422,263
2010	36,300	33,030	3,270	9.0	33,260	6,510	5,070	1,440	26,750	6,830	2,980	8,160	8,780	30,858	35,645	1,104,351	1,475,063
2011	36,600	33,300	3,300	9.0	34,910	6,500	5,000	1,500	26,400	6,800	2,950	8,300	8,350	31,675	37,419	1,230,826	1,557,640
2012	36,950	33,650	3,300	8.9	35,180	6,600	5,100	1,500	26,550	6,900	3,050	8,400	8,200	32,493	39,068	1,272,853	1,625,187
2013	37,200	34,000	3,200	8.6	35,450	6,700	5,200	1,500	26,700	7,000	3,150	8,500	8,050	33,311	40,717	1,314,881	1,692,734
2014	37,450	34,350	3,100	8.3	35,720	6,800	5,300	1,500	26,850	7,100	3,250	8,600	7,900	34,129	42,367	1,356,909	1,760,281
2015	37,700	34,700	3,000	8.0	35,990	6,900	5,400	1,500	27,000	7,200	3,350	8,700	7,750	34,946	44,016	1,398,936	1,827,829
2016	37,950	35,050	2,900	7.6	36,250	7,000	5,500	1,500	27,150	7,300	3,450	8,800	7,600	35,764	45,665	1,440,964	1,895,376

Note: Labor force data are based on county of residence. Non-farm wage and salary data are based on county of employment.

Sources: Historic employment data are from the Tennessee Department of Labor and Workforce Development, per capita income data are from the U. S. Bureau of Economic Analysis, retail data are from Tennessee Department of Revenue, and bank deposits are from the FDIC. All projections are by the UCDD staff.

Taxable sales in Putnam County showed a slight increase from \$1.147000 billion in FY 10 to \$1.190,00 billion in FY 11. This slight increase is probably related to the fact that a major shopping area is on the west side of Knoxville some 101 miles east of Cookeville. Additionally, there are two shopping malls in Lebanon and Mount Juliet Tennessee, which are approximately 50 to 60 miles west of Cookeville.

Total payroll employment in the county has been growing over the past ten years increasing from 30,5800 in 2000 to 33,030 in 2010. However, the unemployment rate showed an increase from 1,430 in 2000 (4.5%) to 3,270 (9.0%) in 2010. Major growth areas were Education and Health Services, which were 2,980 in 2010 compared to 2,100 in 2000. Trade, transportation and utilities also showed a slight increase at 2,830 in 2010 compared to 6,620 in 2000. One area of employment that showed a significant decline in Putnam County over the past ten years was manufacturing. Over the past ten years manufacturing jobs have shown a steady decline from 8,430 in 2000 to 5,070 in 2010. This decline is part of a nationwide trend for fewer manufacturing jobs. Some evidence indicates this trend may be reversing slightly, however, it is yet to be reflected in Putnam County’s available data.

Retail sales and bank deposit growth have been sluggish lately and fiscal capacity growth of area governments has been limited.

General Social and Economic Data

Population		Percent	Personal Income		
Total -2010 Census	72,321	100.0	2009 Census (5 year average)		
White	66,536	92.0	Median Family (2009 \$'s)	\$45,078	
Black	1,455	2.0	Median Household (2009 \$'s)	\$34,705	
Other	4,330	6.0	Per Capita (2009 \$'s)	\$18,892	
Hispanic	3,858	5.3	Individual Poverty Rate (%)	21.7	
Age 0-4	4,332	6.0	Family Poverty Rate (%)	13.8	
5-17	11,235	15.5			
18-64	46,189	63.9	2009 Bureau of Economic Analysis		
65+	10,565	14.6	Total (000's)	\$2,153,993	
Median Age	35.9	-----	Per Capita	\$29,739	
2011 Estimated Total	71,160	-----			
2000 Census Total	62,315	-----	Miscellaneous		
Land Area (sq. miles)	401.0	-----	2011 Bank Deposits (000's)	\$1,432,323	
			2009 Businesses with Payroll (000's)	1,686	
Employment Labor Force	2010 Aug.	08/11	2007 Farm Sales (000's)	\$11,549	
Labor Force-Total	36,300	36,830	2005-2009 Adult (Age 25+) Education		
Employment	33,030	33,420	Percent College Graduates	21.7	
Unemployment	3,270	3,400	Percent H.S. Graduates	79.0	
Rate (%)	9.0	9.2			
Available Labor	3,670	3,760	Property Tax Rate -2010		
Work-Force Total	33,260	32,760	Per \$100 Assessment	\$2.75	
Manufacturing	5,070	4,980	Effective	\$2.52	
Non-Manufacturing	28,190	27,780			
2007 Wages	Total	Mfg.	State Sales Tax Rate (%)	7.00	
Average Weekly	\$619	\$791	Local Sales Tax Rate (%)	2.75	
Retail Sales	\$1,260,979	\$1,178,756			
			2010		
Municipal Data	Population		Property Tax Rate		2009 Census
	-----		-----		Median Household
	2010	2000	Nominal	Effective	Income
Algood	3,495	2,942	\$0.53	\$0.49	\$32,037
Baxter	1,495	1,379	\$1.65	\$1.41	\$29,125
Cookeville	30,435	23,923	\$0.87	\$0.80	\$29,789
Monterey	2,850	2,717	\$0.94	\$0.86	\$24,974

NOTE: Hispanic population may be of any race. Workforce data exclude self-employed and farm workers and are based on place of employment. Wage data include part-time workers. Effective tax sales estimates the rates required to raise similar revenues under current property appraisals.

PROPERTY TAX GENERATED/ESTIMATED

2000	\$19,382,921.13	2008	\$32,464,588.19
2001	\$21,845,720.93	2009	\$33,905,000.00
2002	\$22,933,161.72	2010	\$35,567,000.00
2003	\$23,819,999.42	2011	\$37,889,000.00
2004	\$25,524,000.00	2012	\$38,889,000.00
2005	26,318,000.00	2013	\$40,550,000.00
2006	28,586,000.00	2014	\$41,550,000.00
2007	30,763,000.00	2015	\$42,550,000.00

Source: Putnam County, Trustees Office.

Putnam County Fiscal Budget
 Solid Waste/Sanitation
 Statement of Proposed Operations
 For the fiscal year ending June 30, 2011

Budgetary

Account No:	Description	Basis 2009-2010	Estimated 2010-2011	Proposed 2011-2012
Estimated/Actual Revenues				
40000	LOCAL TAXES			
40100	COUNTY PROPERTY TAXES			
40110	CURRENT PROPERTY TAXES	2,444,967.00	2,470,925.00	2,465,060.00
40120	TRUSTEE'S COLLECTION -PRIOR	74,718	78,018.00	72,000.00
40130	CIR CLK/CLK & MASTER COLLECTION	39,814.00	57,024.00	32,000.00
40140	INTEREST AND PENALTY	14,057.00	12,424.00	8,000.00
40161	PAYMENT IN LIEU OF TAXES – T	101.00	78.00	0
40163	PAYMENT IN LIEU OF TAXES-OT	498.00	0	0
TOTAL COUNTY PROPERTY TAXES		2,574,155.00	2,618,469.00	2,577,060.00
40300	STATUTORY LOCAL TAXES			
40320	BANK EXCISE TAXES	16,112.00	9,812.00	16,000.00
		0	0	0
	TOTAL STATUTORY TAXES	16,112.00	9,812.00	16,000.00
	TOTAL EXCISE/LOCAL TAXES	2,590,267.00	2,628,279.00	2,593,060.00
43000	CHARGES FOR CURRENT SERVICES			
43100	GENERAL SERVICE CHARGES			
43110	TIPPING FEES	770,370.00	859,336.00	775,000.00
43114	SOLID WASTE DISPOSAL FEE	40,000.00	40,000.00	40,000.00
		0	0	0
	TOTAL GENERAL SERVICE CHARGES	810,523.00	899,336.00	815,000.00
	TOTAL CHARGES FOR CURRENT SERVICE	810,523.00	899,336.00	815,000.00

44000	OTHER LOCAL REVENUES			
44100	RECURRING ITEMS			
44145	SALE OF RECYCLED MATERIALS	291,846.00	338,186.00	260,000.00
44170	MISCELLANEOUS REFUNDS	0	0	
		0	0	0
	TOTAL RECURRING ITEMS	291,846.00	338,186.00	260,000.00
44990	OTHER LOCAL REVENUES	0	0	
		0	0	0
	TOTAL OTHER LOCAL REVENUES	414,417.00	340,000.00	
44560	DAMAGES RECOVERED FROM INDIVID		158	
Total	NON RECURRING ITEMS		158	
TOTAL	OTHER LOCAL REVENUES	291,846.00	339,266.00	260,000.00
46000	STATE OF TENNESSEE			
46100	GENERAL GOVERNMENT GRANTS			
46170	SOLID WASTE GRANTS	22,383.00	21,963.00	23,000.00
		0	0	0
	TOTAL GENERAL GOVERNMENT GRANTS	22,383.00	21,963.00	23,000.00
	TOTAL STATE OF TENNESSEE	22,383.00	21,963.00	23,000.00
	TOTAL ESTIMATED REVENUES	3,715,019.00	3,888,844.00	3,691,060.00
	TOTAL OTHER SOURCES (NON-REVENUE)			
46000	STATE OF TENNESSEE			
46100	GENERAL GOVERNMENT GRANTS			
	TOTAL REVENUE AND OTHER SOURCES	3,715,019.00	3,888,844.00	3,691,060.00
APPROPRIATED/ACTUAL EXPENDITURES/ENCUMBRANCE				
50000	GENERAL COUNTY OPERATIONS			
55000	PUBLIC HEALTH AND WELFARE			
55710	SANITATION MANAGEMENT			
105	SUPERVISOR/DIRECTOR	46,797.00	49,950.00	52,000.00
164	ATTENDANTS	192,738.00	184,472.00	212,000.00
169	PART-TIME PERSONNEL	35,215.00	37,332.00	40,000.00
187	OVERTIME-PAY	26,121.00	35,000.00	35,000.00
189	OTHER SALARIES & WAGES	428,942.00	439,756.00	426,750.00
299	OTHER FRINGE BENEFITS	175,710.00	190,465.00	205,000.00
307	COMMUNICATION	17,949.00	16,658.00	18,000.00
321	ENGINEERING SERVICES	2,544.00	3,879.00	8,360.00
331	LEGAL SERVICES	4,989.00	5,934.00	5,000.00
335	MAINTENANCE AND REPAIR SERVICE	28,512.00	26,748.00	35,000.00
336	MAINTENANCE AND REPAIR SERVICE	96,762.00	98,331.00	100,000.00
338	MAINTENANCE AND REPAIR SERVICE	93,516.00	83,941.00	100,000.00
355	TRAVEL	1,981.00	3,974.00	4,000.00
359	DISPOSAL FEES	1,463,007.00	1,553,215.00	1,600,600.00
361	PERMITS	150.00	0	400.00
399	OTHER CONTRACTED SERVICES	48,158.00	49,571.00	55,000.00
409	CRUSHED STONE	11,108.00	22,793.00	25,000.00

425	GASOLINE	72,005.00	86,029.00	95,000.00
435	OFFICE SUPPLIES	3,230.00	4,475.00	4,500.00
451	UNIFORMS	7,134.00	9,085.00	8,000.00
452	UTILITIES	43,916.00	46,052.00	50,000.00
599	OTHER CHARGES	5,814.00	18,115.00	18,000.00
707	BUILDING IMPROVEMENTS	17,618.00	0	0
718	MOTOR VEHICLES	6,874.00	9,632.00	10,000.00
719	OFFICE EQUIPMENT	125.00	1,861.00	2,000.00
733	SOLID WASTE EQUIPMENT	0	0	0
791	OTHER CONSTRUCTION	0	0	0
	TOTAL SANITATION MANAGEMENT	2,825,915.00	2,977,268.00	3,109,610.00
55754	LANDFILL OPERATION AND MAINTEN			
321	ENGINEERING SERVICES	7,089.00	7,279.00	32,600.00
599	OTHER CHARGES	1,125.00	38.00	5,000.00
791	OTHER CONSTRUCTION	70,600.00	71,000.00	71,000.00
	TOTAL LANDFILL OPERATION & MAINT.	78,814.00	78,317.00	108,600.00
55759	OTHER WASTE DISPOSAL			
321	ENGINEERING SERVICES	65,585.00	52,282.00	66,450.00
363	CONTRACTS FOR LANDFILL FACILITY	63,900.00	63,900.00	63,900.00
399	OTHER CONTRACTED SERVICES	231,429.00	233,981.00	242,311.00
409	CRUSHED STONE	0	0	20,000.00
455	WOOD PRODUCTS	0	0	30,000.00
706	BUILDING CONSTRUCTION	42,942.00	0	0
791	OTHER CONSTRUCTION	91,000.00	91,000.00	91,000.00
	TOTAL OTHER WASTE DISPOSAL	494,856.00	442,163.00	513,661.00
55770	POSTCLOSURE CARE COSTS			
321	ENGINEERING SERVICES	28,812.00	13,400.00	31,750.00
399	OTHER CONTRACTED SERVICES	30,000.00	30,000.00	30,000.00
499	OTHER SUPPLIES AND MATERIALS	13,000.00	0	13,000.00
791	OTHER CONSTRUCTION	79,300.00	79,300.00	79,300.00
	TOTAL POSTCLOSURE CARE COSTS	151,112.00	122,720.00	154,050.00
	TOTAL PUBLIC HEALTH AND WELFARE	3,550,697.00	3,620,468.00	3,885,921.00
	APPROPRIATED/ACTUAL EXPENDITURES/ENCUMBRANCE			
50000	GENERAL COUNTY OPERATIONS			
58000	OTHER OPERATIONS			
58900	MISCELLANEOUS			
510	TRUSTEE'S COMMISSION	59,496.00	60,749.00	63,500.00
	TOTAL MISCELLANEOUS	59,496.00	60,749.00	63,500.00
	TOTAL OTHER OPERATIONS	59,496.00	60,749.00	63,500.00

	TOTAL GENERAL COUNTY OPERATIONS	3,610,193.00	3,681,217.00	3,949,421.00
	TOTAL EXPENDITURES	3,610,193.00	3,681,217.00	3,949,421.00
	TOTAL OTHER USES			
	TOTAL EXPEND/ENCUMB & OTHER USES	3,610,193.00	3,681,217.00	3,949,421.00
	Excess of Estimated Revenue and Other Sources Over (Under) Estimated Expend. and Other Uses	104,826.00	207,627.00	258,361-
	Estimated Beg Fund Bal July 01	1,466,413.00	1,571,239.00	1,778,866.00
	Undersigned Fund Balance	1,466,413.00		
	RESERVES	0		
	LESIGNATED FUND BAL.	0		
	BEGINNING FUND BALANCE	1,466,413.00		
	EXCESS (DIFF.) IN REV/EXP.	104,826.00		
	UNADJUST FUND BALANCE	1,571,239.00		
	ADJUSTMENT	0		
	TOTAL ENDING BALANCE	1,571,239.00		
	ADJUSTMENT	0		
	ESTIMATED END FUND BALANCE JUNE 30	1,571,239.00	1,778,866.00	1,520,505.00

SECTION 3:**WASTE STREAM CHARACTERIZATION**

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.

Regional Solid Waste Stream

Presently the county is recycling 41.00% of their waste stream. The healthy economy and residential growth projected for the region will result in the potential generation of more solid waste from the region. According to the TDEC Annual Progress Report for Solid Waste in Putnam County, there were nearly 73,000 people who live in the county with a disposal per capita ratio of 0.7% and an MSW% reduction population ratio of 64.8. In 2011 the amount of solid waste that was placed into landfills from Putnam County residents was 63,239.0 tons. Over the past few years this amount reflects a slight decrease of materials that are going into the landfills.

Many citizens in Putnam County wish to recycle and keep trash out of the landfills. Existing opportunities for waste reduction and recycling for the industrial, commercial, and residential sectors will offset some of this growth as will future innovations and market advantages in waste

reduction. The extent of the growth in the waste stream and in waste reduction opportunities will depend on the future health of the economy of the region.

Plastics- The only plastics that are recycled in Putnam County are plastics #1 and #2. This includes plastic beverage containers, and jugs with necks, such as plastic milk containers. To recycle them, the containers must be clean. Oil bottles or bottles containing pesticides, although recyclable plastic, are often taken to the landfill rather than recycled because they contain semi-hazardous waste that the plastic has absorbed which will taint other clean recyclables. Although plastic grocery bags have the #2 printed on them, these can only be recycled by taking them to the grocery or department stores where they were originally used, such as the lobby of Wal-Mart or Kroger stores.

Many plastics have the recycle symbol, but have numbers other than 1 or 2 on them. These cannot be recycled in Putnam County. These plastics are sorted from the #1 and #2 plastics, and then discarded in the landfill. Frequently, residents put all kinds of plastics into the bins, causing the bins to overflow, causing unsightly plastic to litter the communities.

Glass- The Putnam County Solid Waste Department has bins for recycling three colors of glass: Clear, brown, and green. Glass should be rinsed and cleaned. Corks or tops should be removed, and then placed in the bins that are marked glass only.

Aluminum and Steel Cans- The Putnam County Solid Waste Department recycles aluminum cans and steel cans. Cans must be clean, or they will be sorted out of the recycling and discarded. 100% of aluminum can be recycled without waste, so it is one of the department's best marketable recyclables to date. Recycling existing aluminum is much less toxic to the environment than manufacturing aluminum.

Used Motor Oil and Auto Fluids – These fluids are being collected at all Putnam County Convenience Centers and are being recycled. No difficulties have been encountered.

Gasoline Tanks – These items are not being collected due to the absence of a reliable market, however, for used or tainted gasoline, individuals can call (931)-498-6506 to make an appointment to dispose of old gasoline. It costs 80 cents per gallon to dispose of the gas for transporting and recycling expenses. The region is anticipating a future reliable market for these items.

Tires – Used tires are being collected and recycled. No difficulties have been encountered other than the under-reimbursement rate that is regulated by the State to the local manifested tire management program.

Paint- Surplus paint is being collected and recycled at the Dacco Convenience Center on Tuesdays and Saturdays. Additionally, small quantities of latex paint can be dried and put in residential garbage for disposal in the landfill. No difficulties have been encountered.

Household Hazardous Waste-

The mobile Household Hazardous Waste Collection, which is only for residents, was held September 2011. Approximately 281 households participated in this event and surrendered a total of 13,793 pounds of Hazardous Waste. Of that weight 8,740 was household paint and 2,014 was e-waste. Now that the county is handling e-waste and paint, our numbers for the HHW collection has been reduced.

E-Waste- E-Waste means electronics that can no longer be used. E-Waste is anything that plugs in and that can be recycled. The Solid Waste Department to include all convenience center sites accepts the electronics. A company out of Knoxville collects all electronics from Putnam County to recycle and restore them.

Batteries- Recycling containers are made available at all convenience center sites for different types of batteries. In addition, Lowes of Cookeville recycles batteries and fluorescent bulbs.

The Putnam County Clean Commission group is working to establish location in the county to collect expired or unused medications. They are also working hard to keep hazardous waste out the landfill sites.

Projection of the Solid Waste Stream Analysis over the Next 5 Years

The commercial, industrial, and institutional sectors play an important role in the source reduction component of Putnam County’s waste reduction effort. Notable contributors to this effort are Cummins Filtration who reduced a total of 2,820.37 tons, Tutco who reduced approximately 780.4 tons, PSC Metals who reduced 5332 tons, Wal-Mart of Cookeville who reduced 911.11 and Wal-Mart of Algood who reduced 698.07 of solid waste materials.

Future monitoring costs include groundwater monitoring at the closed Class I Landfill site, and operation costs for the Class III/IV landfill and at the Putnam County Landfill Superfund Site. Landfill gas monitoring is also a reoccurring cost at the Class III/IV landfill.

The Table below summarizes how the region’s total waste stream is managed. Putnam County and local businesses are listed separately to describe management methods and programs available for each sector.

<u>Date</u>	<u>County</u>	<u>Material</u>	<u>Note</u>	<u>Destination</u>	<u>Class</u>
2011-01-01	County of Putnam	-Residential Solid Waste Tons	7.81 Inside Tennessee	Middle-Point Landfill	Class I
2011-01-01	County of Putnam	-Residential Solid Waste: Tons	20.85 Inside Tennessee	Chestnut Ridge Sanitary Landfill	Class I

2011-01-01	County of Putnam	Residential Waste:	Solid	1,313.69 Tons	Inside Tennessee	Smith County Landfill	Class I
2011-01-01	County of Putnam	-Residential Waste:	Solid	118.14 Tons	Exported out of TN.	Kentucky	Exported Class I

2011-01-01	County of Putnam	Residential Waste:	Solid	11.57 Tons	Inside Tennessee	Smith County Landfill	Class III
2011-01-01	County of Putnam	Residential Waste:	Solid	632.68 Tons	Inside Tennessee	Meadow Branch Landfill	Class I
2011-01-01	County of Putnam	Residential Waste:	Solid	530.09 Tons	Inside Tennessee	Putnam County Demolition Landfill	Class III/IV
2011-01-01	County of Putnam	Residential Waste:	Solid	9,979.20 Tons	Inside Tennessee	Putnam County Demolition Landfill	Class III/IV
2011-01-01	County of Putnam	Residential Waste:	Solid	50,624.93 Tons	Inside Tennessee	Rhea County Landfill	Class I

Total Tons: 63,238.96

SECTION 4:

REGIONAL COLLECTION SYSTEMS

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 and Recycling Collection Services

The Putnam County Chapter grew out of the Putnam County Recycling Partners, a local group which worked for ten (10) years to get the Putnam County Recycling Center established by the Putnam County Board of Commissioners. Putnam County currently operates (8) convenience centers in the county. The convenience centers are operated by the county and trash is taken daily to the transfer station and shipped to the Rhea County Landfill site in Dayton Tennessee. Any recyclables are taken to the recycling center at South Jefferson in Cookeville. Anything demolition is taken to the landfill, Putnam County, Class III/IV landfill, which is located at 11089 Cookeville Boat Dock Road, Cookeville, Tennessee.

Year Round residents can take their recyclables and computer E-Waste to the Putnam County Solid Waste Department at 1846 South Jefferson Avenue. The recycling facility is open six days a week from 8 a.m. to 4 p.m.

The Putnam County Solid Waste Department accepts paint at its convenience center at 3000 Dacco Quarry Road only on Tuesday and Saturday from 10:30 a.m. to 6:30 p.m. If convenient, individuals are provided the opportunity to dry latex paint products to a solid at home, and then dispose of in their household garbage.

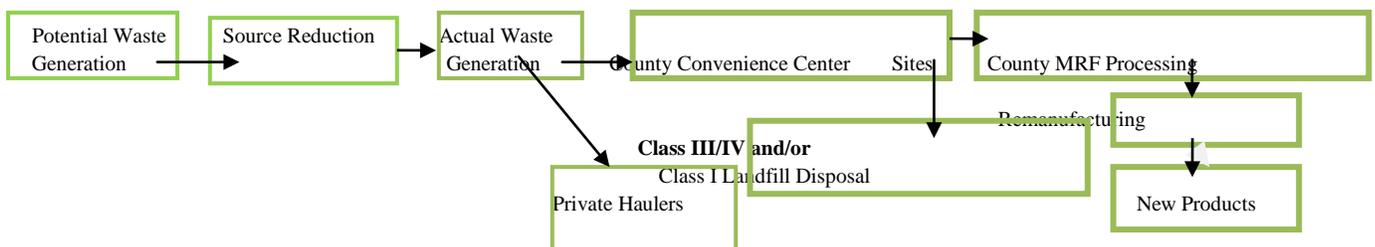
The amount and type of recyclable materials grow with each day of operations. The staff is dedicated and enthusiastic about waste reduction and the prospect of researching all potential end-use options and markets for any waste material generated. The energy amassed of this program has been inspiring to anyone fortunate to tour the facilities, interview staff members, and privileged to work with local leader’s soliciting input on any new options, technologies, etc.

The used oil storage tanks and a waste oil heater is used ongoing at the Transfer Station. The Putnam County Solid Waste Department provides a comprehensive approach for handling all used oil wastes and other automobile fluids.

Putnam County Regional Solid Waste Life-Cycle

Theoretically, the life-cycle of Waste Generation in the Region follows the management options illustrated below. Potential waste generation can be reduced at the source through measures, such as residents reusing materials of remaining value. Manufacturers can also reduce residual waste by modifying internal operations to efficiently manage feedstock used for producing commodities. What remains is the Actual Waste Generation collected at the County Convenience Center Sites and/or collected by any private haulers.

At the County Convenience Center sites, solid and demolition waste is collected in separate containers for disposal in the respective landfills. The County also provides recycling containers for recyclable material that will be processed, marketed and remanufactured into new products. The value of recyclables is expressed in marketing sales paid to the County. Lastly, brokers and markets sell recyclable products to manufacturers producing new products.



Cookeville and Putnam County

The City of Cookeville has four (4) locations for recycling in Putnam County and serving the surrounding communities which include Algood, Baxter, Monterey and other unincorporated

areas. Putnam County currently operates a total of 8 convenience center sites, a transfer station, and a Class III/IV Landfill site.

Convenience Center sites and Landfill site

- Commercial waste goes to transfer station
- General public waste goes to Convenience Sites
- Construction and Demolition wastes go to the landfill

Recycling Centers(cardboard, newspaper, office paper, number 1 and 2 plastic, glass, aluminum cans, light goods, any various metals)



Transfer Center

152 tons of garbage a day

1846 S. Jefferson Avenue
 Cookeville, TN 38506 (931) 528-3884
 Hours Mon-Sat 8:00 a.m. to 4:00 p.m. closed
 Sundays and Thursdays

Collection Sites

Bangham Convenience Center Site

5759 Hilham Rd.
 Cookeville, TN. 38501
 (931)-528-5693
 Hours: Mon. Tue. Wed. Fri. Sat.
 6:30 a.m. to 6:30 p.m.
 Closed Thur. and Sun.



Bloomington Springs

6670 Martin Creek Rd.
Cookeville, TN 38544
(931)-858-3271

Hours: Mon. Tue. Wed. Fri. Sat.
6:30 a.m. to 6:30 p.m.
Closed Thur. and Sun.



Brotherton Collection Site

7200 Brotherton Rd.
Algood, TN 38506
(931)-537-3811

Hours: Mon. Tue. Wed. Fri. Sat.
6:30 a.m. to 6:30 p.m.
Closed Thur. and Sun.



Buffalo Valley Convenience Center

3340 Medley Amonette Road
Silver Point, TN. 38544
(931)-858-3547

Hours: Mon. Wed. Sat.
6:30 a.m. to 6:30 p.m.
Closed: Tue. Fri. and Sun.



Dacco Convenience Site

3000 Dacco Quarry Rd
 Cookeville, TN. 38501
 (931)-528-9094
 Hours: Mon. Tue. Wed. Fri. Sat.
 6:30 a.m. to 6:30 p.m.
 Closed Thur. and Sun.



Gentry Collection Site

14228 Nashville Hwy.
 Baxter, TN 38544
 (931)-858-5842
 Hours: Mon. Tue. Wed. Fri. Sat.
 6:30 a.m. to 6:30 p.m.
 Closed Thur. and Sun.



Silver Point

130 Center Hill Dam Rd.
 Silver Point, TN 38544
 (931)-858-6449
 Hours: Mon. Tue. Wed. Fri. Sat.
 6:30 a.m. to 6:30 p.m.
 Closed Thur. and Sun.



Monterey

2730 Old Walton Rd.
 Monterey, TN 38574
 (931)-839-3482
 Hours: Mon. Tue. Wed. Fri. Sat.
 6:30 a.m. to 6:30 p.m.
 Closed Thur. and Sun.



Burgess Falls Convenience Center

6007 Burgess Falls Rd
 Cookeville, TN 38506
 (931)-432-4246.
 Hours: Mon. Tue. Wed. Fri. Sat.
 6:30 a.m. to 6:30 p.m.
 Closed Thur. and Sun.



Putnam County Landfill

10081 Cookeville Boatdock Rd.
 Cookeville, TN 38501
 931(931)-858-4071
 Hours: Mon. Tue. Wed. Thur. Fri. Sat.
 7:00 a.m. to 3:30 p.m.
 Closed Sun



No Roadside Dumps Reported.

SECTION 5:

REGIONAL SOLID WASTE REDUCTION GOAL

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.

TABLE 5.1 Measurement of Regional Waste Reduction Goal

County	Waste Reduction Goal Calculation Method			
	Compared to Base Year	Population Ratio	Economic-Population Ratio	Qualitative- Real Time
Putnam	64.8%	64.8%	62.2%	41.0%
25% Waste Reduction Goal Achieved	Yes	Yes	Yes	Yes

Source: TDEC, Division of Solid Waste Management, Division of Solid Waste Assistance Program, 4-30-12.

Variables Affecting Successful Regional Waste Reduction Efforts in Putnam County

No significant setbacks have occurred. The County continues to encourage local businesses to participate in waste reduction activities and report figures to the Department. Annual outreach and encouragement directly with appropriate business contacts is initiated by the Department. Landfill operations and management costs are increasing. In 1995 the county's Class I Landfill was closed, however, the county continues to absorb the cost of the post-closure fees for that site. The Class III/IV Landfill remains open with a life expectancy of approximately eight years.

Many of the region's successes can be attributed to the public education programs on appropriate waste reduction, management, and disposal supplied by the Clean Commission and the Putnam County Solid Waste Department. The educational programs that are offered not only encourages positive waste management habits by the public, but also builds a constituency that is willing to fund a more sound waste management.

Future Regional Waste Reduction Program in Putnam County

The fundamentals of public works infrastructure to supply water, sewer, electricity and natural gas are necessary utilities, for instance, public works must be incorporated into the foundation of collecting waste generated from the source, be it residential or business.

Transportation, disposal and management costs to support other facets of the waste utility industry are legitimate comparisons with the cost of providing other utilities to a modern society. Water, sewer, gas, etc, are considered necessary creature comforts for human beings. Trash management, and even environmental protection, such as water pollution control, is not considered an immediate personal comfort when the freedom to eliminate the waste can be easily and creatively practiced in the form of illegal dumping, burning or throwing trash in your own backyard without consequence.

The connection of properly containerizing waste, revering the long-term benefits of self-preservation and safeguarding necessary environmental resources for the continued existence of oneself have not been successfully internalized to produce significant behavioral changes. Conserving any resource, whether it be water, electricity or landfill space, is not practiced concurrently. However, Putnam County will continue to encourage waste reduction behavior for both resident and businesses.

SECTION 6:

SOLID WASTE DISPOSAL CAPACITY

Provide a chart indicating current collection and disposal capacity by facility site and the maximum capacity the current infrastructure can handle at maximum throughput. 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.

Table A: 10-year Regional Disposal Assurance in Putnam County in 2011

Site Name(s)	Annual Tons Disposed by Putnam County Region	Current Landfill Capacity (daily throughput)	Maximum Capacity	Projected Life of Facility
Middlepoint Landfill Class I Tennessee SNL750000219	7.81		Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Meadow Branch Landfill Class I Tennessee SNL 540000174	632.68		Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Rhea County Landfill Class I Tennessee SNL 720000269	50,624.93		Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Chestnut Ridge Class I Tennessee SNL010000160	20.85		Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Kentucky Class I Landfill N/A	118.14		Depends on compaction rate, and Landfill Design and Operations Plan	Not available at this time.
Smith County Class I SNL800000227	1,313.69		Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Smith County Class III SNL750000219	11.57		Depends on compaction rate, and Landfill Design and Operations Plan.	Not available at this time.
Putnam County Class III/IV SNL	10,509.29		Depends on compaction rate, and Landfill Design and Operations Plan	Not available at this time.
Total Tonnage	63,238.96			

Sources: SW County of Origin Report Remaining Life Survey, Class III Landfill Sites in Tennessee, TDEC, Division of Solid Waste Management, April 2012.

TABLE B: Total Tons Generated, County of Putnam, 2000 to 2011

Year	Residential Solid Waste (Tons)	Residential Recycling (Tons)	Residential Hazardous Waste (Tons)	Commercial Recycling (Tons)	TOTAL (Tons)
2000	44,112.00	0	0	0	44,112.00
2001	34,684.00	0	0	0	34,684.00
2002	48,194.00	0	0	0	48,194.00
2003	42,877.00	12,830.30	0	2,838.46	58,545.76
2004	58,633.00	10,623.00	16.92	2,354.02	71,626.94
2005	58,232.68	10,964.39	27.33	3,230.18	72,454.58
2006	66,408.00	14,868.00	24.07	3,224.00	84,524.07
2007	69,243.84	14,073.43	18.24	0	83,335.51
2008	72,473.35	14,204.12	6.90	0	86,684.37
2009	65,384.39	13,576.62	12.98	28.08	79,002.07
2010	63,782.60	13,717.44	0	42.16	77,542.20
2011	63,238.96	10,628.14	1.42	8,989.55	82,858.07

TABLE C: Individual Material Tonnage as a Percentage of Total vs. Year, County of Putnam, Industrial Recycling, 2011

Materials	2011 (%)
Metal	
Ferrous	69.1
Non-Ferrous	0.1
Mixed Metals	0.1
TOTAL METAL	69.2
Paper	
Corrugated	11.1
Office Paper	0.1
Miscellaneous Paper	0.1
TOTAL PAPER	11.3
Plastic	
#2 HDPE	0.0

Mixed #1 and #2	0.0
TOTAL PLASTIC	0.1
Other Recyclables	
Electronics	0.0
Other Organic Recyclables	
Mulch	17.5
Batteries	
Lead-Acid	0.0
Dry Cell	0.0
TOTAL BATTERIES	0.0
Automotive Fluid	
Used Oil	0.0
Miscellaneous	
Other (1)	1.8
TOTAL PERCENTAGE	100.0

TABLE D:
Summary Tonnage by Destination, County of Putnam, 2011

Destination	Tons	Percentage (%)
Middle Point Landfill	7.81	.0001
Chestnut Ridge Sanitary Landfill	20.85	.0003
Kentucky	118.14	.02
Meadow Branch Landfill	632.68	1.0
Putnam County Demolition Landfill	10,509.20	17.0
Rhea County Landfill	50,624.93	80.0
Smith County Class III Landfill	11.57	.0002
Smith County Landfill Class I	1,313.69	2.1
Total	63,239.00	100.0

Putnam County transfers solid waste generated from convenience center sites to the Landfill sites. Reported figures from the TDEC SW County of APR FY 2011 show 63,239.00 tons of solid waste generated in Putnam 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.



TABLE E: Population Served for City and County Convenience Center Site, Provider, Service Area, Population Service, Tons Collected

Year	Putnam Co.	Cookeville	Algood	Baxter	Monterey
2011	71,160	29,389	3,366	1,376	2,924
Provider of Service	Private Haulers* Solid Waste Department Convenience Centers	Private Haulers* Solid Waste Department Convenience Centers	Private Haulers* Solid Waste Department Convenience Centers	Private Haulers* Solid Waste Department Convenience Centers	Private Haulers* Solid Waste Department Convenience Centers
Service Area	City and County- Wide Service	City Service-Transfer Station-CCC sites- Class III/IV Landfill site	(County CCC Sites- Class III/IV	(County CCC Sites- Class III/IV)	(County CCC Sites- Class III/IV)
Estimated Annual Tons Collected	63,239.00	15,809.75	15,809.75	15,809.75	15,809.75
Frequency of Service (Weekly, Bi-weekly, on call, etc.)	5 days per week and Once weekly for some	6 days per week	5 days per week and Once weekly for some	5 days per week and Once weekly for some	5 days per week and Once weekly for some
Type Service (Curbside, Convenience Center, Green Box) or Door to Door	County CCC Sites-Class III/IV Landfill Some Door-to- Door-Private Haulers	City Service-Transfer Station-CCC sites- Class III/IV Landfill site Some Door-to-Door- Private Haulers	City Service- Transfer Station- CCC sites-Class III/IV Landfill site Some Door-to-Door- Private Haulers	County CCC Sites- Class III/IV Landfill site Some Door-to-Door Private Haulers	County CCC Sites- Class III/IV Landfill site Some Door-to-Door Private Haulers

*Several private haulers operate waste collection service for residents and businesses in Cumberland County. Information on customers and areas served and tonnages collected is not available and considered confidential by the private sector.

SECTION 7:

SOLID WASTE MANAGEMENT INFRASTRUCTURE

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.

TABLE F:				
PUTNAM COUNTY EQUIPMENT				
	Tennessee	Putnam County	County Rank	Percent of State
Estimated Costs, (In Thousands)				
Transportation	18,308,244	175,898	27 th	1.0%
Existing School Construction	1,943,172	40,693	12 th	2.1%
Non K-12 Education	4,016,123	130,466	9 th	1.8%

K-12 New School Construction	1,661,472	52,400	8 th	3.2%
Recreation	1,137,239	2,220	57 th	0.2%
Water & Wastewater	4,162,819	22,970	38 th	0.6%
Law Enforcement	1,980,570	23,300	17 th	1.2%
Public Health Facilities	342,065	19,300	4 th	2.4%
Business District Development	810,315	8,300	8 th	2.2%
Libraries , Museums and Historic Sites	358,552	500	32 nd	0.1%
Public Buildings	605,264	3,680	23 rd	0.6%
Industrial Sites and Parks	239,818	0	67 th	0.0%
Housing	70,463	1,650	5 th	2.3%
Other Utilities	591,584	600	26 th	0.1%
Public Health Facilities	342,065	8,400	8 th	2.5%
Fire Protection	202,913	250	45 th	0.1%
Libraries, Museums, Historic Sites	285,785	500	36 th	0.2%
Fire Protection	220,725	250	46 th	0.1%
Storm Water	339,666	50	36 th	0.0%
Community Development	342,400	0	54 th	0.0%
School System-Wide Need	104,659	0	15 th	0.0%
Solid Waste	50,547	0	28 th	0.0%
Other Facilities	38,372	0	9 th	0.0%
Telecommunications	30,241	0	6 th	0.0%
Property Acquisition	6,303	0	10 th	0.0%
GRAND TOTAL	\$37,332,800	\$482,376	16th	1.3%

This analysis does not include indirect or depreciation costs or future annual costs associated with additional employees, salary increases, facility operations, landfill monitoring costs, etc. Indirect costs are usually calculated based on the support services for solid waste management within local government departments, such as the offices of the executive, budget director, trustee, etc. Depreciation is a method of allocating the costs of capital outlays over the useful

life of the resource purchased, such as equipment or facility development. Local governments should recognize annually the cost of support services and depreciation for all assets until they are fully depreciated when utilizing full-cost accounting to plan for future revenue sources.

However, for purposes of this Needs Assessment, to project the future costs of equipment and facilities, Future Outlays of equipment and facility expansions to support potential program growth over the next five (5) years, will be calculated to anticipate expenditures of cash in the future by amortizing annual costs.

Putnam County will evaluate alternative revenue sources, such as user fees and waste management services expand to meet the growing needs of residents and additional state and federal regulations. Performing a full-cost accounting study, Putnam County can:

- Determine the cost of solid waste management services;
- Adopt a more business-like approach to solid waste management;
- Improve methods of evaluating privatization initiatives;
- Determine an appropriate mix of solid waste management services for the future;
- Establish rates and user charges to fund services for the future.

In an effort to manage and reduce the amount and types of waste generated in an industrialized, “throw- away society,” local governments plan to develop programs and construct collection and disposal facilities incrementally over time. The annual budget and the 4-year re-election process limit long-term planning to construct facilities to grow into and not out of over a longer time period than public officials are willing to risk.

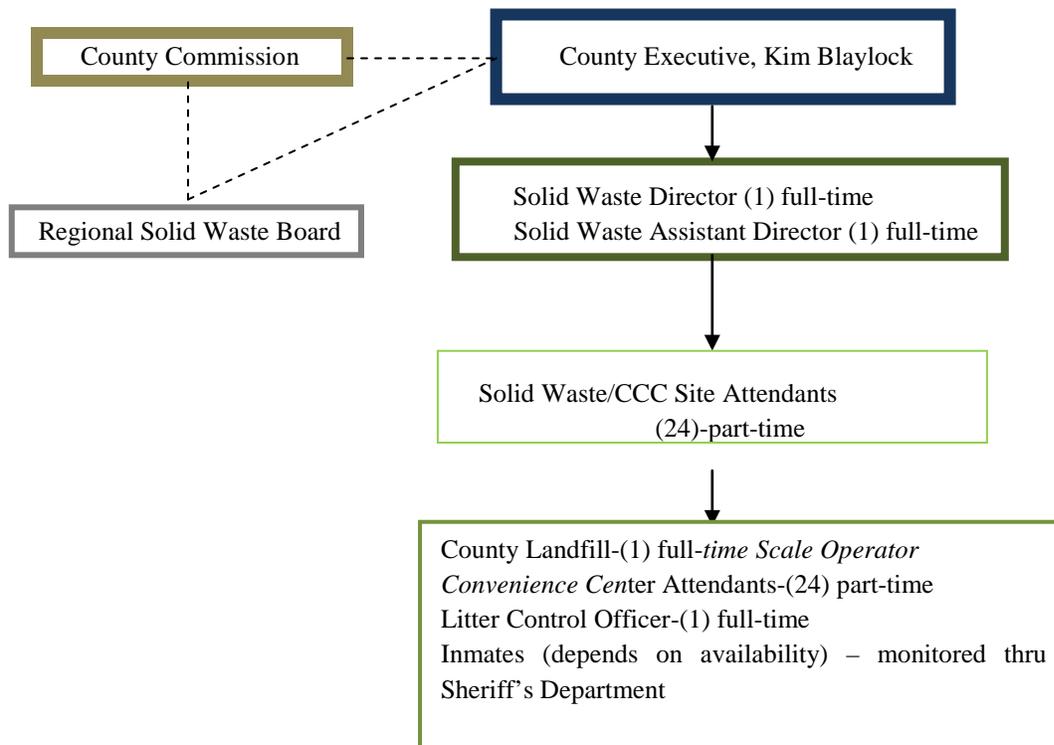
SECTION 8:

PUBLIC PARTICIPATION

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.

The Solid Waste Manager is responsible for all solid waste and recycling daily operations in the County and answers directly to the Putnam County Executive. The solid waste board, County Commission and the Putnam County Executive evaluate program planning, budgeting and implementation. The County Litter Control Officer supervises inmates during roadside litter pick-up. The Assistant Solid Waste Director helps to oversee the daily operations of the department

Regional Solid Waste Organizational Structure



The map below indicates the Transfer Center as the number (1) site. The Transfer Station accepts cardboard, newspaper, office paper, plastics, glass, aluminum cans, various metals, and used oil and antifreeze. In addition, Commercial Waste goes to the Transfer Station.

The number (2) site is the Bangham Convenience Center site. This site accepts cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil.

The number (3) site is the Bloomington Springs Convenience Center site.

The number (4) site is the Brotherton Convenience Center site. This site collects cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil.

The number (5) site is the Buffalo Valley Convenience Center site. This site collects newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil. They do not accept cardboard.

The number (6) is the Dacco Convenience Center site. This site accepts cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil. In addition this site collects paint.

The number (7) is the Gentry Convenience Center site. This site collects cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil.

The number (8) is the Silver Point Convenience Center site. This site collects cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil.

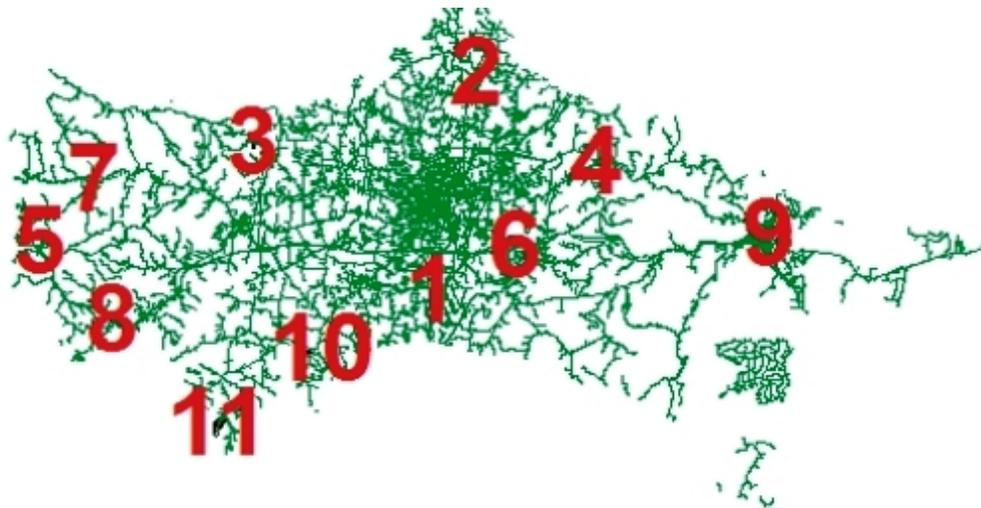
The number (9) is the Monterey Convenience Center site. This site collects cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil. In addition, this site collects carpet.

The number (10) is the Burgess Falls Convenience Center site. This site collects cardboard, newspaper, office paper, plastics, aluminum cans, various metals, furniture, and used oil

The number (11) is the Putnam County Landfill site. This is a Class III/IV Landfill which collects all demolition materials. This site has a waste-tire drop-off. In addition, this site has a trash compactor which enables the solid waste department to accept household trash from residents.

When discussing the needs of each Convenience Center site with the Solid Waste Department Director it became clear that some of the sites need additional container and compactor boxes. Additionally, equipment is needed at the Transfer station and the Landfill site for future operations. The Solid Waste Planner observed that the nine Convenience Center sites are in need of signs that clearly identify the names of each site. The Solid Waste Planner observed that the nine Convenience Center sites are in need of signs that clearly identify the names of each site.

Map Source: UCDD Director of Research 2012



SECTION 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.

Revenues

Local Taxes	\$ 17,091.00
County Property Taxes	\$ 2,556,264.00
Tipping Fees	\$ 849,384.00
Sale of Recyclable Materials	\$ 414,417.00
Solid Waste Grants	<u>\$ 42,269.00</u>
TOTAL	\$3,879,425.00

The Solid Waste Program of Putnam County developed a 10-Year Plan for short and long-term solid waste services, as required by The Solid Waste Management of 1991. The Table below summarizes the existing programs, the 5-Year Update Program Plan, and the Tennessee Solid Waste Management Plan as required by the Act of 1991.

Vendors

- Plastics: Southern Pride Recycling, New Tazwell, Tennessee;
- Newspaper and Magazines: Rock-Tenn NorCross, Georgia;
- Office Paper: Southern Pride Recycling, New Tazwell, TN;
- Cardboard: Paperstock, Knoxville, TN;
- Metals: Phillips Metals Services-Cookeville, TN;
- Glass: Fibrous International-College Park, GA;
- Tires: Liberty Tire Company, Knoxville, TN;
- Antifreeze/Oil: Enterprise Waste Oil-Knoxville, TN

Equipment

The table below provides a list of the potential equipment for continued and expanded operations of an integrated solid waste management program provided by Putnam County for the Region over the next five (5) years. Equipment is not listed in priority of need. Equipment costs are estimates only and should only be considered a baseline for future planning.

TABLE 9.1 Future Waste Management Equipment Needs

PUTNAM COUNTY			
Equipment	Operational Use	Estimated Cost (2012)	Potential Revenue Source
(1) Roll-Off-Truck	Material containerization.	\$170,000	Grants/General Fund Appropriation
(1) Forklift	Material containerization	\$70,000	Grants/General Fund Appropriation
(3) Compactor Boxes	Material containerization.	\$60,000	Grants/General Fund Appropriation
(1) Waste Transfer Station Recyclable Storage Area Construction	Material Collection.	\$90,000	Grants/General Fund Appropriation

(1) Knuckle Boom Truck	Material Collection.	\$130,000	Grants/General Fund Appropriation
(1) Truck Weigh Scales / Software	Material Management.	\$100,000	Grants/General Fund Appropriation
Paint / Repair / Replace Collection Container	Material containerization	\$4,500	Grants/General Fund Appropriation
(3) Recycling Containers	Material containerization	\$17,700	Grants/General Fund Appropriation
(1) Backhoe	Material Collection.	\$100,000	Grants/General Fund Appropriation
Total		\$742,200	

Putnam County Equipment Needs Continued:

- Currently the Putnam County Solid Waste Department owns (2) 1989-1990 series Mac Roll-Off Trucks, and (2) late 1990's series Mac Roll-Off Trucks that are all currently operational, but are all four antiquated, and are showing a lot of wear, and require frequent maintenance and parts replaced. They all have possibly 2 to 3 years of service life remaining. The need for a new Roll-Off Truck will be imperative for future operations at the Solid Waste Department. The price of \$170,000 was quoted recently for a new truck.
- The County currently owns and operates (1) Clark Forklift which is estimated to be more than twenty years old. The County also owns (1) Cat Forklift which is also aged with an estimate of more than twelve years old. Both Forklifts requires frequent maintenance, and often expensive parts have to be replaced in order to keep the equipment operable. The estimated cost to purchase a new Forklift would be \$70,000.
- The County needs (3) Compactor Boxes at the Convenience Center Sites. Three of the older boxes that have rusted could be replaced with the new ones. The estimated cost for three new Compactor Boxes would be \$60,000.
- (1) Waste Transfer Storage Area is needed for storage of recyclable materials. Currently space is limited, and with the anticipated increased volume of recyclable materials for Putnam County it is imperative that construction take place for the additional space to be built for the Transfer Center. An estimated cost of \$90,000 is anticipated for this project.
- The County Solid Waste Department currently owns (1) 1980 Mack Knuckle Boom Truck which is used to pick up brush and wire at the Convenience Center Sites. This truck is showing a lot of wear and frequent repairs are done to keep it operational. It is estimated that a new knuckle boom truck would cost around \$130,000.
- The Solid Waste Department has (1) Truck Weigh Scales at the Transfer Station. These scales are old and require frequent costly repairs, an estimated cost for a new set of weigh scales would be around \$100,000.
- Currently the County owns a 30 yard Container at the Dacco Site for the purpose of dumping paint into. The attendants have difficulty dumping the paint, due the height of this container, and need to replace it with (1) 20 yard Container. The estimated cost for a 20 yard Container is \$4,500.

- The County needs (3) additional Recycling Containers in order to have an adequate number to be used when swapping out the existing boxes at the sites. Currently, the amount of Solid Waste being placed in the CCC site boxes has increased, and the number of trips that the drivers make daily to the Convenience Sites have also increased. This creates a hardship on the three drivers because the county is so large that it makes it difficult to cover the entire county in one day. With the additional Containers the drivers could decrease the daily trips to all sites to possibly every-other day to at least three of the sites. This would help with the wear and tear on the trucks, and it would allow the drivers to be more effective in their job. The estimated cost for three new Recycling Containers would cost approximately \$60,000.
- Currently, the County owns (1) Backhoe which was purchased in 2000. This Backhoe is used at the Transfer Station to compact trash in trailers, which is then transferred to a Landfill site. The County also owns a Backhoe that was purchased in 1989 which is utilized to pack tires into a trailer at the Landfill site. Both Backhoes are antiquated and require costly repairs for parts and labor. A new Backhoe is needed for future daily operations, and is estimated to cost around \$100,000.

Facilities

Some examples of planned improvements and expansions to the solid waste management systems over the next (5) years include: Recycling Center asphalt paving, interior push-walls, glass cullet and material storage bays, building retrofits, indoor/outdoor security system.

Depending upon the future development of water and sewer services in the southern section of Putnam County in the next five (5) years, there may be potential to construct convenience center sites.

A Multi-Purpose Waste Management Facility may be constructed within the next five (5) to service equipment and collection vehicles and provide storage for non-hazardous problem wastes, such as latex paint and electronic waste.

The table on the following page provides a minimum list of the facilities for planned constructed and expanded, in no particular order. Cost estimates are only to be used as a baseline for planning purposes.

TABLE 9.2 Future Waste Management Facility Construction and Upgrades

PUTNAM COUNTY			
Facility	Facility Betterments	Estimated Cost (2007)	Potential Revenue Source
Convenience Center Collection Site Development			

Planned Convenience Center Collection Site Construction	Site preparation, paving, fencing, gates, attendant sundries, utilities, equipment pads, signage etc.	\$50,000	Grants/General Fund Appropriation
Recycling and Existing Convenience Center Sites			
Recycling and CCC Site Upgrades	Asphalt paving, push-walls, cullet and storage bays, indoor/outdoor security system, building retrofits.	\$50,000	Grants/General Fund Appropriation
Multi-Purpose Waste Management Facility: repairs/maintenance, problem waste storage, etc.	Facility construction for waste management material handling: collection vehicles, heavy equipment, repair tools, repair parts inventory.	\$30,000	Grants/General Fund Appropriation
Total		\$130,000	

TABLE 9.3 Planned Solid Waste Management System 2011 – 2016

Solid Waste Program	Existing Regional Solid Waste Programs	Future Regional Solid Waste Programs	Tennessee Mandated Plan
Residential Solid Waste Collection	<p>Putnam County provides residential collection of solid waste at eight (8) CCC sites.</p> <p>Private haulers provide collection/disposal services for local residents and businesses.</p>	<p>Continue County residential drop-off service.</p> <p>Maintain efficient collection equipment and facilities.</p> <p>Continue private hauling services.</p>	<p>County to provide CCCs for residents according to population or service area, maintain required design and operational standards.</p>
Recycling	<p>Cardboard, newsprint, aluminum and steel cans, mixed paper, magazines, phonebooks, electronics, latex paint, used oil, scrap metal, plastic drink containers, waste tires, glass bottles, and batteries.</p> <p>As a means of waste diversion, Class III/IV waste collected separately at each center and transported to the County Class III/IV Landfill for</p>	<p>Increase business and school recyclables collection.</p> <p>Expand types and amounts of materials collected at drop-off sites.</p> <p>Expand Recycling operations to collect, manage, and process additional materials types and amounts.</p>	<p>County to provide eight (8) CCCs and one (1) transfer station</p>

	disposal.	Continue material processing maximizing available market prices.	
Waste Reduction	<ul style="list-style-type: none"> Putnam County collects recyclables from public and private sector, tracks business waste diversion activities. As a means of waste diversion, Class III waste collected separately at each center and transported to the County Class III Landfill sites for disposal. Exceeded 25% Regional Waste Reduction Goal. 	Continue collecting recyclables from public and private sector, tracking business waste diversion activities to achieve 25% Regional Waste Reduction Goal. Continue waste disposal of Class III local County Landfill.	Continue achieving 25% waste reduction goal.
Problem Waste Management	<p>Putnam County provides collection at Convenience Center Sites for used oil and scrap metal.</p> <p>The County Recycling Center collects used oil, used oil filters, automobile fluids, e-waste, latex paint, waste tires.</p> <p>HHW TDEC mobile collection events to be scheduled.</p> <p>Tires are collected at the Class III/IV Putnam County Landfill site.</p>	<p>Continue problem waste collection and expand service as needed.</p> <p>HHW TDEC mobile collection events to be scheduled.</p>	County has restrictions related to disposal of tires, paint cans, refrigerators, freezer, fluids, and batteries. County to provide HHW collection events, when state scheduling is provided.
Public Education & Information	Putnam County provides education activities targeting government, business, media, public, schools, and civic groups.	Increase educational activities to target government, business, media, public, schools, and civic groups.	Region to develop and implement solid waste management action plan for adults and children.
Disposal	Putnam County transports waste collected at County convenience centers to the County Landfill for disposal in its Class III Landfill.	Continue to competitively negotiate long-term disposal contract.	Region to assure 10-year disposal capacity.
Planning	Monthly meetings with Regional	Continue monthly meetings, and	Region to

	Planning Board, County Executive, Sanitation Department and County Commission to maintain plan updates, annual reports, etc.	reporting requirements. Forge partnerships between government, business, media, civic, and public.	provide Annual Progress Reports, 5-Year Plan Updates, other reporting requirements as needed.
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Sustainability of the Solid Waste Plan must include, at the minimum:

- Regional Planning Board Involvement;
- Expansions and Upgrades of Residential Collection Services and Facilities;
- Pursuing all Grant Funds for Equipment and Facilities;
- Utilize Technical Assistance Providers;
- Research Technologies and Other Program Options;
- Promote Other Waste Reduction Efforts;
- Expand Recycling Material Types and Amounts Collected;
- Garner Competitive Market Prices for Recyclable Materials;
- Provide Employee Work and Equipment Safety Training;
- Maintain Flexible Problem Waste Collection;
- Continue Aggressive Public Outreach, Education Program; and
- Expand Business and School Recycling Collection Program.

This list is neither conclusive nor listed in priority. Sustainability will depend on public, governmental and business sector response to produce desired outcomes for improving the infrastructure, as well as the health and welfare of all citizens in Putnam County, including Monterey, Algood, Baxter, and the City of Cookeville. The list is meant to be a work in progress that is sensitive and flexible to an unpredictable future of local needs, changing environmental regulations, the means to continue encouraging enthusiastic efforts of the Sanitation Department staff, and expand local participation when possible. A partnership between the County and City government officials, business owners, community agencies, and residents is necessary to share the investment of a comprehensive community waste reduction program.

SECTION 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?

Current and On-Going Education Measures to Increase Public Participation

Education on recycling in the Putnam County Solid Waste Planning Region is predominantly provided by various agencies. In the forefront is the Clean Commission. This non-profit organization is providing education on litter abatement; waste reduction; recycling; and

beautification. In addition, the Putnam County Solid Waste Department Personnel provides education on solid waste issues such as waste reduction, recycling, appropriate disposal, etc. The Clean Commission personnel and volunteers are supported in their efforts by Putnam County (through litter grants); the City of Cookeville; Kiwanis Club; Rotary Club; and annual fund raising events. This agency provided the following educational activities on recycling during the last calendar year; Litter Free Events Promotion Litter Abatement and Recycling (Cooking on the Square, Cookeville Christmas Parade, Fall Fun Festival, Baxter Street Fair, Depot Rendezvous); Putnam Pride Days (Roadside litter pick-up and recycling promotion, Adopt-a-Street Program and participation in the Great American Clean-up Program); Adopt-a-Street Program (Groups sponsor specific street locations where members donate time and labor in clean-up activities);

Great American Clean-up Program (This is a Putnam County Clean-up Promotion for Putnam County residents to participate in local and neighborhood road-side and property clean-up activities); School education program (K-5) (Recycling Education in the schools); School Program Curriculum Presentations (This program provided teacher training each year during school-in-service training.

SECTION 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.

The State requires that a county provide a minimum level of service of there if less than 90 percent collection coverage provided by the private and public sector. This involves the establishment of convenience centers that are adequate to serve all residents.

The County continues to encourage local businesses to participate in waste reduction activities. Several workshops and presentations are scheduled annually to promote in-house waste reduction, environmental stewardship and support of the County recycling program. Additionally, some businesses are improving their operational costs through recycling income.

Through implementation of this comprehensive, updated solid waste management plan, Putnam County will continue to provide for the efficient and environmentally sound management of solid waste, including waste disposal and waste reduction, for the next five (5) years.

9.4 Future Waste Management Facility Construction and Upgrades

PUTNAM COUNTY			
Facility	Facility Betterments	Estimated Cost (2012)	Potential Revenue Source
Convenience Center Collection Site Development			
Planned Construction/Expansion at Bloomington Springs Convenience Center Site	Site preparation, paving, fencing, gates, attendant sundries, utilities, equipment pads, signage etc.	\$10,000	Grants/General Fund Appropriation
Recycling Center			

Recycling Center Upgrades	Asphalt paving, push-walls, cullet and storage bays, indoor/outdoor security system, building retrofits.	\$50,000	Grants/General Fund Appropriation
Multi-Purpose Waste Management Facility: repairs/maintenance, problem waste storage, etc.	Facility construction for waste management material handling: collection vehicles, heavy equipment, repair tools, repair parts inventory.	\$30,000	Grants/General Fund Appropriation
Total		\$90,000	

The future upgrade costs were estimated by the Solid Waste Director, and may be different at the time of development depending upon the cost of labor, materials, and the amount of work needed.

The Solid Waste Department Director will apply for grants as they become available, and the County will appropriate funding as it is available in the future fiscal year budgets for needed daily operations of the Solid Waste Department of Putnam County.

Below is a list of sources, documents and contacts used in this report:

Section I: Races in Putnam County TN-Putnam Co. detailed Profile/City data.com

Table I: 2010 Census-Historic Data-U.S. Census Bureau UT CBER

Section II: Tenn. Department of Labor and Workforce Development; U.S. Bureau of Workforce Development and FDIC; UCDD

General Social and Economic Data-UCDD

Putnam County Fiscal Budget-Putnam County Trustees Office

Section III: Table: Source-2011 Origin Report-TDEC

Section IV: Pictures: UCDD-Solid Waste Planner

Section V: Table 5: Source-TDEC

Section VI: Table A: TDEC-Origin Report

Table B, C, and D: TDEC-APR Reports

B-Map: ARC

Table E: UCDD

Section VII: Table F: Tn.us/tacir/county Profile Putnam

Section VIII: Map-UCDD-Director of Research 2012

Section IX: Table 9.1, 9.2, and 9.3 source: UCDD-Solid Waste Planner/Solid Waste Director-Putnam County

Section X: N/A

Section XI: Table 9.4 source: UCDD-Solid Waste Planner/Solid Waste Director Putnam County