

HARDIN COUNTY, TENNESSEE, MUNICIPAL SOLID WASTE 2012 NEEDS ASSESSMENT



Hardin County Courthouse, Savannah

Prepared by the
SOUTHWEST TENNESSEE DEVELOPMENT DISTRICT
102 East College Street
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for the
STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF SOLID WASTE MANAGEMENT
401 Church Street, 8th Floor
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as required by the
SOLID WASTE MANAGEMENT ACT OF 1991
(T.C.A. 68-211-801 through 68-211-874)

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Preface - Municipal Solid Waste Needs Assessments

The State of Tennessee Department of Environment and Conservation (TDEC) has contracted with the Southwest Tennessee Development District (SWTDD) to prepare a municipal solid waste needs assessment for Hardin County, Tennessee, one part of the four-county Shiloh Municipal Solid Waste Planning Region. The planning window for the needs assessment is five years. The needs assessment was prepared in Fall 2012 and Winter 2013, and thus, its period of applicability will be 2013 through 2017.

Various sources were consulted to compile demographic and economic statistics for Hardin County and its municipalities, i.e., the U.S. Census Bureau, the Tennessee Advisory Commission on Intergovernmental Relations (TACIR), the University of Tennessee Center for Business and Economic Research, the Tennessee Department of Economic and Community Development (TECD), the 2007- 2011 Annual Progress Reports (APRs) of the Hardin County Municipal Solid Waste Region, the Hardin County Chamber of Commerce, and other similar sources. Some estimates and projections in this document may differ from one another based on the source of the information, the type of methodology used to develop the numbers, and/or the year the estimate or projection was made. However, every effort was made to select and use the most reliable information available.

The Hardin County, Tennessee, Municipal Solid Waste 2012 Needs Assessment was prepared by Jeff Reece, Environmental Programs Coordinator with SWTDD, under the direction of Matt Maynard, Manager of the Planning, Reporting and Waste Reduction Section, with TDEC's Division of Solid Waste Management Solid Waste Assistance Program. The document "Guidelines for Preparing Solid Waste Needs Assessments," updated by TDEC in September 2012, was used to establish the format of this needs assessment.

The assessment was reviewed by Randy Etheridge, Hardin County Solid Waste Director.

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Introduction - Community Profile

Hardin County is located in the southeastern portion of West Tennessee. Hardin County is bordered by Henderson County, Tennessee, and Decatur County, Tennessee, on the north; Alcorn County, Mississippi, Tishomingo County, Mississippi, and Lauderdale County, Alabama, on the south; Wayne County, Tennessee, on the east; and McNairy County, Tennessee, and Chester County, Tennessee, on the west. (See Map 1.)

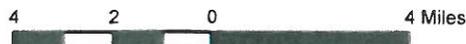
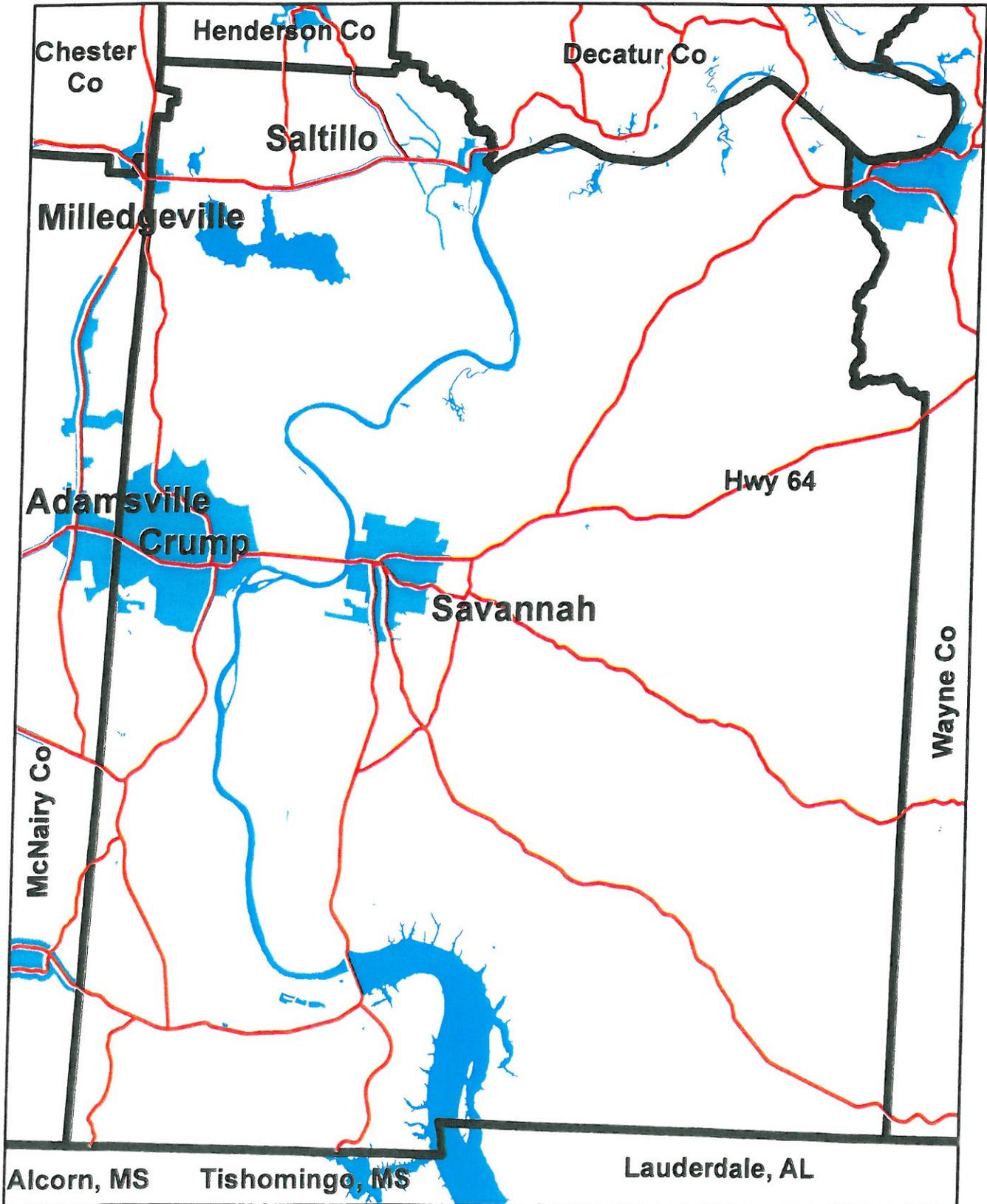
Hardin County is part of the Shiloh Municipal Solid Waste Planning Region which consists of four counties: Chester, McNairy, Hardin, and Wayne. (See Map 2.)

Hardin County was established in 1819. It has an area of approximately 596 square miles. The population of Hardin County in 2010, according to the U.S. Census, was 26,026 with an estimated population of 26,147 in 2012.

The City of Savannah (2010 population 7,168) is the county seat and largest municipality in Hardin County. Savannah is located in the central portion of the county on the banks of the Tennessee River approximately 115 miles east of Memphis and 140 miles southwest of Nashville. Other incorporated municipalities in the county are Adamsville and Crump in the western portion and Milledgeville and Saltillo in the northern portion. (See Map 3.) The Town of Adamsville lies in both Hardin County and McNairy County and the Town of Milledgeville lies in Hardin, McNairy, and Chester counties.

Hardin County is governed by a county mayor and 20 county commissioners. Kevin Davis is mayor of Hardin County.

Hardin County Location



Data Sources: Tennessee Spatial Data Server (2012)
USGS NHD (National Hydrography Dataset - 2012)

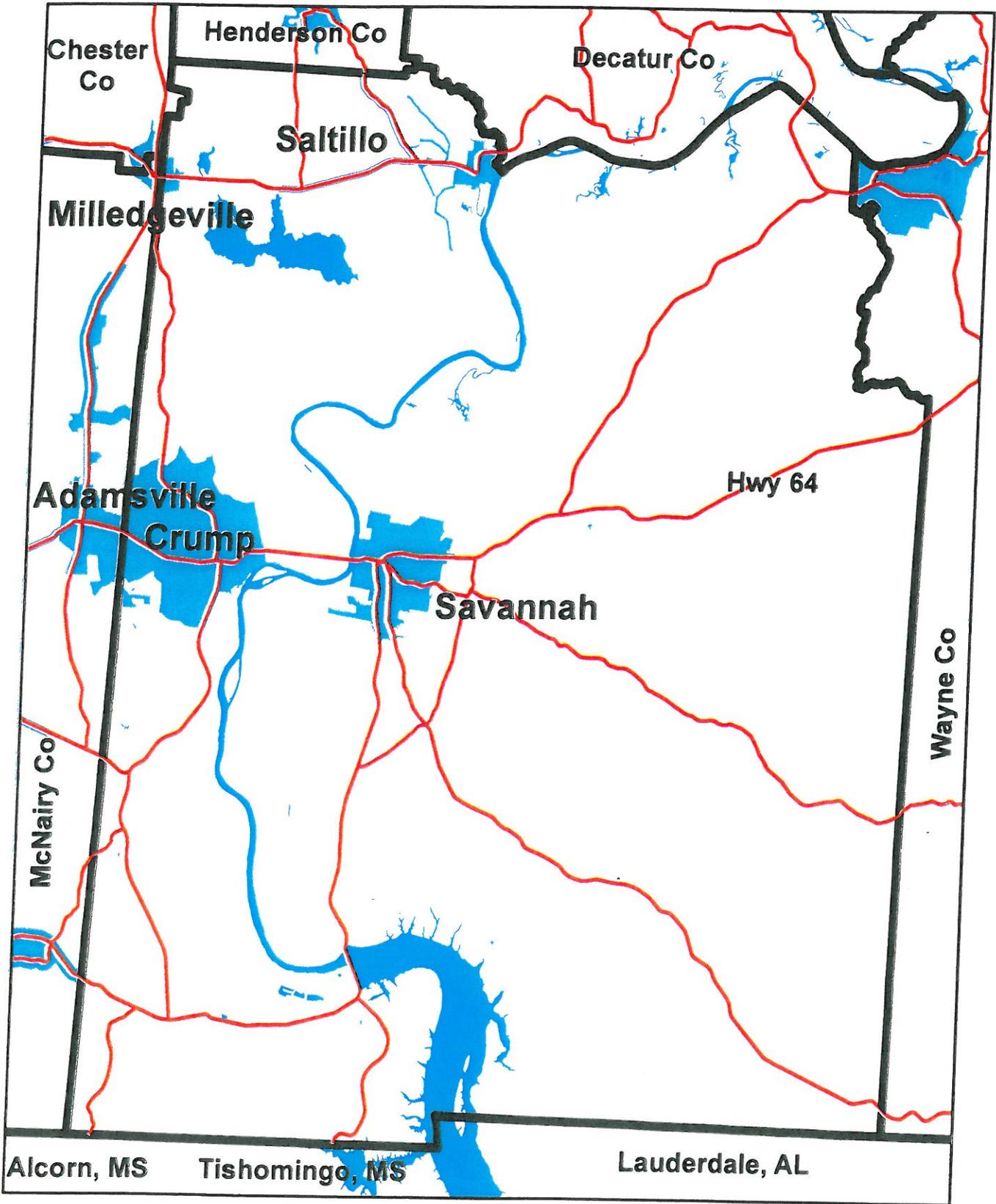


Map 1

Shiloh Municipal Solid Waste Region



Hardin County Municipalities



Data Sources: Tennessee Spatial Data Server (2012)
USGS NHD (National Hydrography Dataset - 2012)



Map 3

Item 1 - Demographic Information and Projections

The estimated population of Hardin County in 2012 is 26,147. The county has shown slow population growth over the past ten years—mostly due to the desirability of the area as a retirement community. Much of the growth in recent years has been in Savannah, the county seat; and in the unincorporated communities of Counce and Pickwick Village in the far southern part of the county near Pickwick Dam and Pickwick Landing State Resort Park.

The population of Hardin County is projected to be 26,496 by 2017, an increase of around 350 persons. Tables 1 through 6 show population estimates and projections for Hardin County and its five municipalities.

Because population growth in Hardin County is expected to remain slow, population growth will have little effect on solid waste management infrastructure needs in the county for the next five years.

TABLE 1
POPULATION ESTIMATES AND PROJECTIONS
HARDIN COUNTY, TENNESSEE

Year	Population
2002	25,672
2003	25,719
2004	25,766
2005	25,810
2006	25,839
2007	25,868
2008	25,897
2009	25,926
2010	25,953
2011	26,050
2012	26,147
2013	26,244
2014	26,341
2015	26,440
2016	26,468
2017	26,496

NOTE: Estimates and projections are taken from Population Projections for the State of Tennessee, 2010-2030, by the Tennessee Advisory Commission on Intergovernmental Relations and the University of Tennessee Center for Business and Economic Research.

TABLE 2

POPULATION ESTIMATES AND PROJECTIONS

CITY OF SAVANNAH, TENNESSEE

Year	Population
2002	7,015
2003	7,064
2004	7,113
2005	7,163
2006	7,164
2007	7,165
2008	7,166
2009	7,167
2010	7,168
2011	7,194
2012	7,220
2013	7,246
2014	7,272
2015	7,296
2016	7,310
2017	7,324

NOTE: Estimates and projections are taken from Population Projections for the State of Tennessee, 2010-2030, by the Tennessee Advisory Commission on Intergovernmental Relations and the University of Tennessee Center for Business and Economic Research.

TABLE 3
POPULATION ESTIMATES AND PROJECTIONS
TOWN OF ADAMSVILLE, TENNESSEE

Year	Population
2002	2,009
2003	2,022
2004	2,035
2005	2,048
2006	2,048
2007	2,048
2008	2,048
2009	2,048
2010	2,048
2011	2,053
2012	2,058
2013	2,063
2014	2,068
2015	2,073
2016	2,077
2017	2,081

NOTE: Estimates and projections are taken from Population Projections for the State of Tennessee, 2010-2030, by the Tennessee Advisory Commission on Intergovernmental Relations and the University of Tennessee Center for Business and Economic Research.

TABLE 4
POPULATION ESTIMATES AND PROJECTIONS
CITY OF CRUMP, TENNESSEE

Year	Population
2002	1,487
2003	1,470
2004	1,453
2005	1,437
2006	1,436
2007	1,435
2008	1,434
2009	1,433
2010	1,432
2011	1,435
2012	1,438
2013	1,441
2014	1,444
2015	1,448
2016	1,448
2017	1,447

NOTE: Estimates and projections are taken from Population Projections for the State of Tennessee, 2010-2030, by the Tennessee Advisory Commission on Intergovernmental Relations and the University of Tennessee Center for Business and Economic Research.

TABLE 5
POPULATION ESTIMATES AND PROJECTIONS
TOWN OF SALTILLO, TENNESSEE

Year	Population
2002	350
2003	354
2004	358
2005	361
2006	360
2007	359
2008	358
2009	357
2010	355
2011	356
2012	357
2013	358
2014	359
2015	359
2016	360
2017	361

NOTE: Estimates and projections are taken from Population Projections for the State of Tennessee, 2010-2030, by the Tennessee Advisory Commission on Intergovernmental Relations and the University of Tennessee Center for Business and Economic Research.

TABLE 6
POPULATION ESTIMATES AND PROJECTIONS
TOWN OF MILLEDGEVILLE, TENNESSEE

Year	Population
2002	307
2003	317
2004	328
2005	338
2006	336
2007	334
2008	332
2009	329
2010	326
2011	326
2012	326
2013	325
2014	325
2015	324
2016	323
2017	322

NOTE: Estimates and projections are taken from Population Projections for the State of Tennessee, 2010-2030, by the Tennessee Advisory Commission on Intergovernmental Relations and the University of Tennessee Center for Business and Economic Research.

Item 2 - Analysis of Economic Activity within the Region

The Consumer Price Index (CPI) of Hardin County for 2011 was 224.90. The CPI has shown a steady rise in the last ten years (See Table 7) and is expected to maintain its balanced rise over the next five years.

Taxable sales for the county were \$316,442,501 in 2011. Taxable sales have also shown a sizable increase in the last ten years. (See Table 8.) It is predicted that taxable sales for the county will continue to rise at approximately the same rate over the next five years.

The five largest industries by number of employees in Hardin County include Packaging Corporation of America (approximately 600 employees), ISR Group (240), American Food Service Co. (210), Clayton Homes, Inc. (175), and Praxis Co. (159).

Agricultural commodities grown in Hardin County include corn, cotton, soybeans, and other grains. Oak and pine are grown for timber.

Hardin County receives thousands of visitors each year attracted by Pickwick Landing State Resort Park and Pickwick Lake, Tennessee River weekend/retirement communities at Saltillo and Savannah, and the Civil War commemorative battlefield and cemetery at Shiloh National Military Park.

The unemployment rate for Hardin County was 9.4 percent in December 2012. The unemployment rate for Tennessee in December 2012 was 7.6 percent and was 7.6 percent for the U.S. as a whole in December 2012.

Overall, economic activity within the region will be of slow-to-moderate growth. Hardin County appears well-suited to handle any type of growth in economic activity with a well-established economy and progressive government to avoid any unexpected turns for the worse.

TABLE 7
CONSUMER PRICE INDEX
ACTUAL AND PROJECTED
HARDIN COUNTY, TENNESSEE

Year	Consumer Price Index
2002	179.98
2003	184.44
2004	188.90
2005	195.30
2006	201.60
2007	207.30
2008	211.10
2009	214.54
2010	218.10
2011	224.90
2012	229.39
2013	233.88
2014	238.38
2015	242.87
2016	247.36
2017	251.85

Source: Tennessee Department of Environment and Conservation

TABLE 8

TAXABLE SALES

ACTUAL AND PROJECTED

HARDIN COUNTY, TENNESSEE

Year	Taxable Sales (\$)
2002	221,485,973
2003	223,033,411
2004	224,580,849
2005	264,983.188
2006	275,257,211
2007	283,513,047
2008	324,186,055
2009	301,805,263
2010	315,625,948
2011	316,442,501
2012	326,993,226
2013	337,543,951
2014	348,094,676
2015	358,645,401
2016	369,196,126
2017	379,746,851

Source: Tennessee Department of Environment and Conservation

Item 3 - Characterization of the Solid Waste Stream

A - Waste Stream

Virtually all of the municipal solid waste in Hardin County is generated within the county. Table 9 shows the amount of waste disposed of by Hardin County over the past five years.

With the exception of 2007, when 41,634 tons of solid waste were disposed of, the amounts of solid waste disposed of by Hardin County consumers over the past ten years varied from 16,362 tons in 2009 to 24,293 tons in 2004. (The year 2007 was an exceptional year in that more than 22,000 tons of the total 41,000 tons were storm debris in Hardin County in that year.) The totals for other years indicate that Hardin County disposal totals are likely to remain relatively stable for the next five years—given the other stable demographic and economic indicators in Hardin County. It is projected that Hardin County will continue to dispose of approximately 22,000 tons to 25,000 tons of solid waste per year in the coming five years—indicating a steady course for Hardin County’s future disposal needs.

B - Waste Flow

The Hardin County Solid Waste Department estimates that 70 percent of its waste is residential in origin, 15 percent commercial, 10 percent industrial, and 5 percent institutional.

C - Problem Wastes

Problem wastes, such as waste tires, used oil, latex paint, electronics and other types are currently handled in a variety of ways.

- Waste tires: Hardin County operates a used tire program in cooperation with Liberty Tire Recyclers. Three hundred twelve (312) tons were collected in 2011.
- Used oil: The County accepts used oil for recycling at eight of its 13 convenience centers and operates two oil burners at the Hardin County Solid Waste Department's Shop Facility and the Hardin County Highway Department's Shop Facility. Thirty-eight tons were collected in 2011.
- Latex paint: Hardin County accepts latex paint for recycling at eight convenience centers and re-uses latex paint that is still liquid. Three tons were collected in 2011.
- Electronic wastes: The County accepts e-scrap for recycling at eight of its convenience centers in cooperation with Creative Recycling. Two tons were collected in 2011.
- Other problem wastes: Hardin County does not accept automotive/propane gas tanks, antifreeze, nor automobile batteries—although some local businesses do.

D - Other Wastes

Other recyclables collected by Hardin County Government in 2011, not considered problem wastes, include 343 tons of corrugated paper, 246 tons of mixed metals, and 47 tons of used clothing.

E - Future Plans

Hardin County plans to continue its present solid waste management program for the next five years in a similar fashion as it has for the past ten years.

One recent initiative that will have an effect on future recycling programs is the agreement between Hardin County and the West Tennessee Regional Recycling Hub near Henderson, Tennessee, operated by the Chester County Department of Solid Waste and Recycling. Hardin County now has an agreement with the Regional Recycling Hub to accept cardboard from Hardin County. It is possible that the Regional Recycling Hub may expand its programs and perhaps accept other recyclables from Hardin County in the future. Although this cooperative program has been successful in its first year, Hardin County would like to develop its own recycling center/transfer station in Savannah. The County has no such center at present and this is the main priority for new or expanded solid waste facilities in the county.

Other items the public frequently inquires about recycling, according to the Hardin County Solid Waste Director, are plastics and glass.

F - Commercial Wastes

In 2011, Hardin County commercial businesses recycled approximately 896 tons of goods. Nine commercial businesses in Hardin County provided recycling figures to the Solid Waste Department. These included four groceries (Foodland, Big Star, Save-A-Lot, and Piggly Wiggly); three general merchandise stores (WalMart, Dollar General Store, and Fred's); one home improvement store (Lowe's); and one farm supply store (Tractor Supply). By far the largest of these commercial businesses was Walmart with 596 tons of recyclables, approximately 67 percent of the total, for all commercial firms. By far the greatest commodity collected by

commercial firms was corrugated cardboard, approximately 838 tons of the total 896 tons.

G - Industrial Wastes

In 2011, Hardin County industries recycled approximately 22,657 tons of goods. Three industries in Hardin County provided recycling figures to the Solid Waste Department. By far the largest of the industrial firms reporting figures was Packaging Corporation of America with 22,060 tons of recyclables. By far the greatest commodity collected by industrial firms in Hardin County was "Other Plastics and Mixed Plastics," approximately 20,000 tons of the total 22,657 tons.

H - Wastes Entering and Leaving the County

Virtually all of the wastes the Hardin County Solid Waste Department disposes of are generated within Hardin County.

Hardin County has no active landfills, Class I nor Class III/IV. All Hardin County wastes are landfilled elsewhere. Approximately 47 percent of wastes were landfilled at the Decatur Landfill, a Class I facility in neighboring Decatur County. Approximately 43 percent of all wastes were landfilled at the Northeast Mississippi Regional Landfill, a Class I facility located outside the City of Walnut in Tippah County, Mississippi. The remaining 10 percent of wastes were landfilled at the McNairy County Demolition Landfill near Selmer in McNairy County, a Class III/IV facility. Thus approximately 57 percent of all wastes generated in Hardin County are landfilled instate while the remainder is exported out of state.

TABLE 9

**MUNICIPAL SOLID WASTE DISPOSED OF BY HARDIN COUNTY
WITHIN THE PAST FIVE YEARS (2007 – 2011)
AND PROJECTED FOR THE NEXT FIVE YEARS (2012 – 2017)**

YEAR	TONS DISPOSED OF
2002	22,866
2003	22,354
2004	24,293
2005	23,846
2006	24,668
2007	41,634
2008	21,790
2009	16,362
2010	19,995
2011	21,949
2012	22,108
2013	22,267
2014	22,426
2015	22,585
2016	22,744
2017	22,903

Source: Hardin County Solid Waste Department

Item 4 - Solid Waste Collection Systems

There are four major solid waste collection entities operating within Hardin County: (1) the county-owned Hardin County Solid Waste Department, (2) Waste Connections which contracts with the City of Savannah to provide solid waste collection services within Savannah's city limits, (3) Waste Services, and (4) Waste Management. Waste Connections, Waste Services, and Waste Management are all privately owned companies. Waste Connections collects from both residential and commercial customers while Waste Services and Waste Management collect commercial accounts only.

The Hardin County Solid Waste Department headquarters is located at 465 Main Street in Savannah. The department operates a solid waste shop at 720 Industrial Road south of Savannah.

Residents outside the City of Savannah transport their municipal wastes to one of 13 convenience centers located throughout the county. These are listed in Table 10.

Solid wastes are transported to one of three landfills: the Decatur Landfill in Decatur County, Tennessee; the Northeast Mississippi Regional Landfill in Tippah County, Mississippi; or the McNairy County Demolition Landfill in McNairy County, Tennessee.

Recyclables are taken to the Hardin County Solid Waste Shop for processing. Cardboard is taken to the West Tennessee Regional Recycling Hub in Henderson in Chester County for processing.

TABLE 10

HARDIN COUNTY CONVENIENCE CENTERS

NO.	CENTER	ADDRESS
1	Fairgrounds	540 Harlem Street
2	Pickwick/Counce	7885 Highway 57
3	Saltillo	40 Handy Corner Road
4	Drive-in	1950 Highway 69 South
5	Walnut Grove	275 Morris Road
6	Cerro Gordo	215 Smoky Road
7	Nixon	5040 Highway 128
8	Morris Chapel	370 Northfork Road
9	Mount Herman	685 Moore Road
10	Southside	5810 Highway 142
11	Airport	1210 Morgan Ross Road
12	Burnt Church	95 Choate Creek Road
13	Crump	9450 Highway 22

Source: Hardin County Solid Waste Department

Item 5 - Analysis of Existing or Potential Solid Waste Flows within the Region and Between Adjacent Regions

A - Hardin County Solid Waste Staffing, Facilities, and Equipment

Table 11 shows an organizational chart for Hardin County solid waste department. No additional solid waste staff is needed at the present time according to the county's solid waste director. The director believes that current staffing is adequate to maintain the current level of services expected by local citizens. The Hardin County Solid Waste Department typically receives only 100 or so complaints during the course of a year—the majority of which relates to litter or illegal dumps along county roads. Very rarely are complaints received concerning the solid waste services provided by the Hardin County Solid Waste Department. The Hardin County director believes this is evidence that current staffing levels are adequate to handle the current level of solid waste services in a professional manner in Hardin County.

According to the 2011 Hardin County Solid Waste Annual Progress Report, the County is most in need of a new recycling center/transfer station. The county's solid waste department operates out of its main office at 465 Main Street in Savannah and a solid waste shop facility at 720 Industrial Road outside Savannah. The Hardin County solid waste director sees a need for a state-of-the-art recycling facility/transfer station in the county similar to what other counties in West Tennessee, such as Chester County or Haywood County, maintain to better address local recycling needs. While Hardin County is committed to working with the new West Tennessee Regional Recycling Hub in Henderson for the collection of cardboard for the next five years, the county would like to add other items to its list of recyclables—such as plastics, glass, office paper, aluminum cans, other metals, etc. The solid waste director believes the best way to handle an expansion of the local recycling program is for Hardin County to develop its own recycling center/transfer station—

rather than continue to rely on the West Tennessee Regional Recycling Hub in Henderson.

Equipment most needed, according to the 2011 APR, includes 20 six-yard containers, 8 thirty-yard sectionalized recycling containers, a vertical baler, a horizontal baler with conveyor system, a paper shredder with conveyor system, an aluminum can baler, an oil-burning heater, a skid steer, 50 eight-yard plastic recycling containers, and 8 forklift-type recycling containers.

B - Solid Waste Facilities

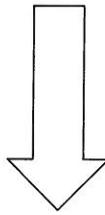
Map 4 shows the location of all solid waste facilities in Hardin County.

C - Waste Flow

Waste flow into, within, and out of Hardin County is relatively simple. Since Hardin County has no active landfills, virtually no waste is brought into the county from other regions. Having no landfills, of course, necessitates that waste generated in Hardin County is processed elsewhere. Waste flows out of Hardin County into Decatur County; Tippah County, Mississippi; and McNairy County. Waste also flows out of Hardin County in the form of recyclables collected by the Hardin County Solid Waste Department. Recyclables

TABLE 11
HARDIN COUNTY SOLID WASTE DEPARTMENT
ORGANIZATIONAL CHART

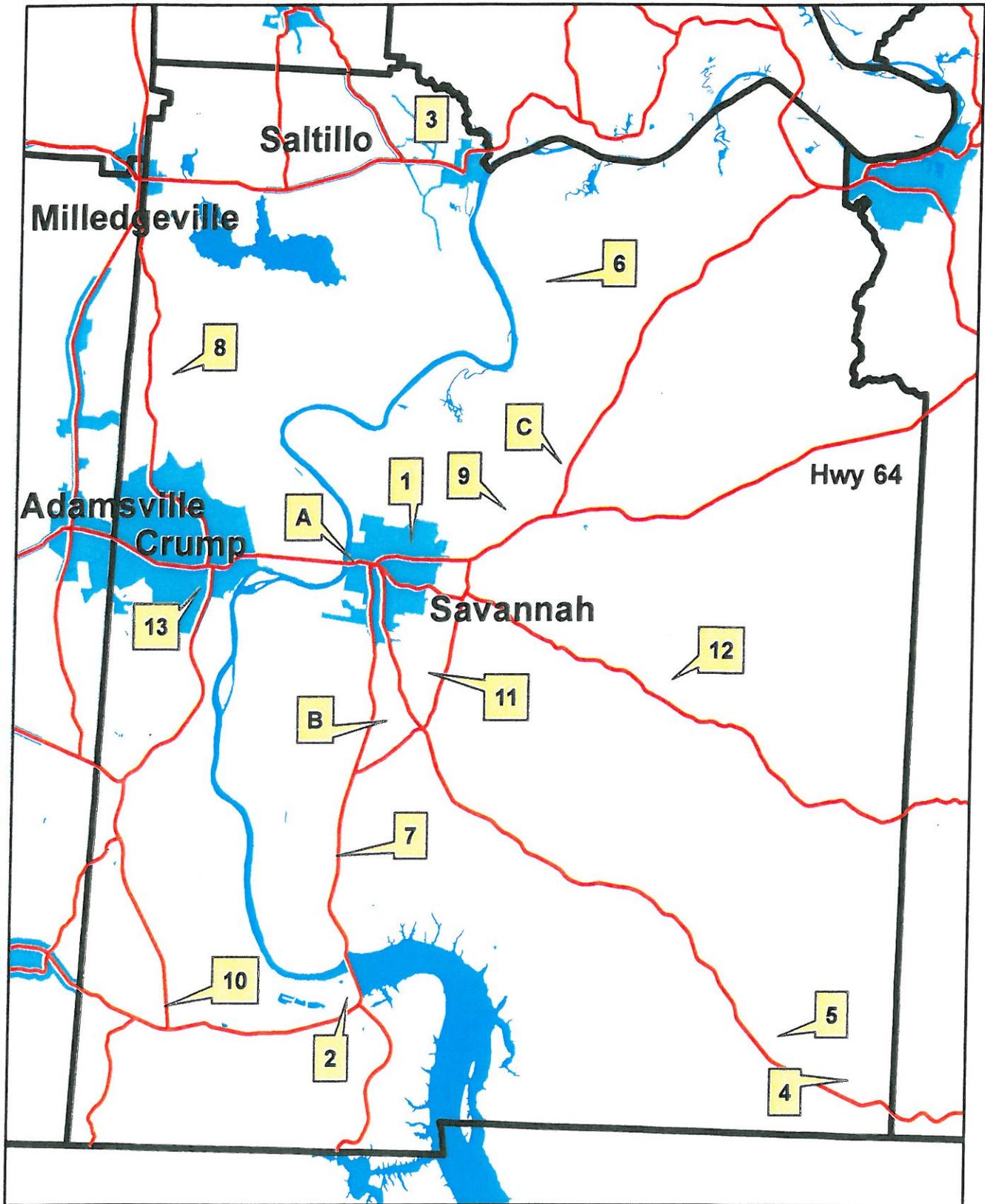
Solid Waste Director



Solid Waste Assistant

Source: Hardin County Solid Waste Department

Hardin County Solid Waste Facilities



Map 4 Key

HARDIN COUNTY SOLID WASTE FACILITIES

SOLID WASTE CONVENIENCE CENTERS

KEY	NAME	ADDRESS
1	Fairgrounds	540 Harlem Street
2	Pickwick/Counce	7885 Highway 57
3	Saltillo	40 Handy Corner Road
4	Drive-in	1950 Highway 69 South
5	Walnut Grove	275 Morris Road
6	Cerro Gordo	215 Smoky Road
7	Nixon	5040 Highway 128
8	Morris Chapel	370 Northfork Road
9	Mount Herman	685 Moore Road
10	Southside	5810 Highway 142
11	Airport	1210 Morgan Ross Road
12	Burnt Church	95 Choate Creek Road
13	Crump	9450 Highway 22

OTHER SOLID WASTE FACILITIES

KEY	FACILITY	ADDRESS
A	Hardin County Solid Waste Department	465 Main Street
B	Hardin County Solid Waste Shop	720 Industrial Road
C	Old Hardin County Landfill (Closed)	Landfill Road

Source: Hardin County Solid Waste Department

may be sent to a number of different processors. Cardboard is sent to the West Tennessee Regional Recycling Hub in Chester County, as of 2012.

Item 6 - Attitudes of Region Towards Waste Management in General and Needed Changes and/or Educational Measures

The citizens of Hardin County have a progressive attitude towards solid waste management and recycling in general. Judged by the number of complaints the Solid Waste Department receives (normally no more than 100 each year), most residents of Hardin County approve of the way the department operates.

Most of the complaints involve (1) roadside litter and (2) illegal dumps—which is not unusual in predominately rural counties. Other complaints center on (3) adding items to the list of recyclables—in particular, the recycling of plastics and glass. A lack of funding prevents the County from implementing any additional recycling programs although the solid waste department is always looking for opportunities to increase recycling services for county residents—such as the cooperative program with Chester County recycling cardboard.

In 2011, the Hardin County APR reported that citizens in Hardin County recycled 246 tons of mixed metals, 343 tons of corrugated paper, three tons of latex paint, 312 tons of used tires, seven tons of used electronics, 38 tons of used oil, and 47 tons of used clothing for a total of 996 tons of recyclables being diverted from landfills. This figure compares to 841 tons recycled by the public in 2010.

The 2011 figure (a combined county/commercial/industrial figure of 24,549 tons) represents a per capita recycling rate of .0926 tons per person.

Additional funding would allow the county to upgrade existing convenience centers, add or improve recycling programs, and increase education efforts county-wide to increase participation in recycling.

Item 7 - Evaluation of the Waste Reduction Systems for Counties and Municipalities in Region

Hardin County has always met and exceeded its 25 percent reduction goal—on its own and as part of the Shiloh Municipal Solid Waste Region. Table 12 shows Real Time Comparison percentages for Hardin County for the past five years.

Much of the waste reduction success in Hardin County can be attributed to recycling programs of local industries. In 2011, Hardin County industries recycled approximately 22,657 tons of goods. By far the largest of the industrial firms reporting figures was Packaging Corporation of America with 22,060 tons of recyclables. Most of this total was mixed plastics.

In 2011, the Hardin County APR reported that citizens in Hardin County recycled a total of 996 tons—246 tons of mixed metals, 343 tons of corrugated paper, three tons of latex paint, 312 tons of used tires, seven tons of used electronics, 38 tons of used oil, and 47 tons of used clothing.

TABLE 12
HARDIN COUNTY WASTE REDUCTION
2007 - 2011

YEAR	REAL TIME COMPARISON RATE (PERCENT)
2007	69
2008	85
2009	73
2010	68
2011	66

Source: Tennessee Department of Environment and Conservation

Item 8 - Collection/Disposal Capacity and Projected Life of Solid Waste Sites

A - Landfills

Hardin County has no active landfills, neither Class I or Class III/IV. Therefore, such issues as current capacity, maximum capacity, or projected life of facility are not applicable.

The County does maintain a closed Class I landfill, the Hardin County Landfill, on Highway 128 North northeast of Savannah.

B - Recycling Facilities

Hardin County has no designated recycling facility as such. The Hardin County Solid Waste Shop, where recyclables are stored temporarily, was not designed to be a recycling facility and is not considered by the County to be a recycling center. Hardin County anticipates constructing a new recycling center some day that will address the county's future needs.

C - Convenience Centers

Convenience centers normally are not considered facilities that have capacities or maximum capacities, nor do they normally have "projected lives". However, it should be noted that several of Hardin County's convenience centers are in need of upgrades to maintain and improve the quality of service that County now provides.

Suggested upgrades include new paving (concrete), better signage, and enlargement of physical plants.

Item 9 - Unmet Financial Needs and Cost Summary

Table 13 presents actual 2010-2011 and estimated 2011-2012 and 2012-2013 revenues and expenditures for the Hardin County Solid Waste Department as provided by the department.

There are no urgent unmet financial needs for the Hardin County Solid Waste Department. However, improvements to solid waste management systems are always welcome. Item 11 in this document lists current deficiencies and recommendations for the Hardin County system.

TABLE 13

HARDIN COUNTY SOLID WASTE DEPARTMENT

REVENUES AND EXPENDITURES

<u>Acct. #</u>	<u>Item #</u>	<u>Description</u>	<u>Actual 2010-2011</u>	<u>Estimated 2011-2012</u>	<u>Estimated 2012-2013</u>
ESTIMATED EXPENDITURES					
55000	PUBLIC HEALTH AND WELFARE				
55710	Sanitation Management				
	105	Supervisor/Director	47,176	47,883	48,601
	161	Secretary(s)	12,478	12,715	12,856
	191	Board & Committee Members Fees	200	250	250
	305	Audit Services	-	2,028	-
	307	Communication	1,885	3,328	3,370
	336	Maintenance & Repair Services - Equipment	318	100	1,000
	355	Travel	1,992	1,800	1,800
	435	Office Supplies	3,034	2,472	2,750
	436	Other Road Materials	110	-	-
	719	Office Equipment	-	2,500	2,000
Total Sanitation Management			67,193	73,076	72,727
55731	Waste Pickup				
	142	Mechanics	32,591	33,168	33,749
	147	Truck Drivers	136,118	130,000	144,108
	336	Maintenance & Repair Services - Equipment	54,915	80,000	58,000
	425	Gasoline	117,752	144,500	146,000
	446	Small Tools	408	1,500	1,500
	450	Tires and Tubes	21,180	24,906	28,000
	499	Other Supplies and Materials	2,501	2,500	2,500
	718	Motor Vehicles	341,000	133,000	-
	733	Solid Waste Equipment	29,500	12,813	16,000
Total Waste Pickup			735,975	562,487	429,857
55732	Convenience Centers				
	149	Laborers	225,791	230,000	236,000
	302	Advertising	245	600	600
	307	Communication	8,418	5,600	6,000
	335	Maintenance & Repair Services - Buildings	10,817	14,000	10,000
	351	Rentals	2,100	2,400	1,600
	452	Utilities	18,569	19,200	20,000
	499	Other Supplies and Materials	8,001	15,452	10,000
	599	Other Charges	571	300	300
	733	Solid Waste Equipment	-	78,522	-
Total Convenience Centers			272,512	366,074	284,500
55754	Landfill Operation and Maintenance				
	359	Disposal Fees	357,473	348,000	348,000
	399	Other Contracted Services	9,575	10,500	10,500
	599	Other Charges	300	-	-
	724	Site Development	-	1,000	1,000
Total Landfill Operation and Maintenance			367,348	359,500	359,500
58000	OTHER OPERATIONS				
58400	Other Charges				

TABLE 13
HARDIN COUNTY SOLID WASTE DEPARTMENT
REVENUES AND EXPENDITURES
(CONTINUED)

<u>Acct. #</u>	<u>Item #</u>	<u>Description</u>	<u>Actual 2010-2011</u>	<u>Estimated 2011-2012</u>	<u>Estimated 2012-2013</u>
		Estimated Revenues			
40000		LOCAL TAXES			
40200		County Local Option Taxes			
40210		Local Option Sales Tax	555,426	572,000	589,100
40300		Statutory Local Taxes			
40330		Wholesale Beer Tax	382,911	378,000	381,780
40350		Interstate Telecommunications Tax	755	750	800
		TOTAL LOCAL TAXES	939,092	950,750	971,680
43000		CHARGES FOR CURRENT SERVICES			
43100		General Service Charges			
43106		Commercial & Industrl. Wst. Collection Chg.	317,984	297,000	300,000
43190		Other General Service Charges	1,061	1,350	1,000
		TOTAL CHGS. FOR CURRENT SERVICES	319,045	298,350	301,000
44000		OTHER LOCAL REVENUES			
44100		Recurring Items			
44145		Sale of Recycled Materials	43,250	34,000	55,000
44170		Miscellaneous Refunds	194	54	-
44500		Nonrecurring Items			
44530		Sale of Equipment	21,300	46,380	-
		TOTAL OTHER LOCAL REVENUES	64,744	80,434	55,000
46000		STATE OF TENNESSEE			
46100		General Government Grants			
46170		Solid Waste Grants	13,797	15,142	17,595
46600		Other State Revenues			
46980		Other State Grants	-	78,522	-
		TOTAL STATE OF TENNESSEE	13,797	93,664	17,595
48000		OTHER GOVMT. & CITIZENS GROUPS			
48100		Other Governments			
48140		Contracted Services	4,923	5,750	5,750
		TOTAL OTHER GVMT. & CITIZENS GRPS.	4,923	5,750	5,750
		Total Estimated Revenues	1,341,601	1,428,948	1,351,025
		TOTAL ESTIMATED REVENUES	1,341,601	1,428,948	1,351,025
		ESTIMATED OTHER SOURCES:			
49200		Notes Issued	291,000	-	-
49700		Insurance Recovery	-	120,586	-
		TOTAL EST. REVENUES & OTHER SOURCES	1,632,601	1,549,534	1,351,025

TABLE 13

HARDIN COUNTY SOLID WASTE DEPARTMENT

REVENUES AND EXPENDITURES

(CONTINUED)

<u>Acct. #</u>	<u>Item #</u>	<u>Description</u>	<u>Actual 2010-2011</u>	<u>Estimated 2011-2012</u>	<u>Estimated 2012-2013</u>
	510	Trustee's Commission	13,180	13,300	14,000
	513	Worker's Compensation Insurance	47,500	48,703	55,000
		Total Other Charges	60,680	62,003	69,000
58600		Employee Benefits			
	201	Social Security	27,182	27,100	29,429
	204	State Retirement	21,417	21,200	23,631
	206	Life Insurance	842	842	900
	207	Medical Insurance	41,625	43,579	47,000
	208	Dental Insurance	1,496	1,487	1,550
	210	Unemployment Compensation	3,363	3,550	4,000
	212	Employer Medicare	6,575	6,525	6,883
		Total Employee Benefits	102,500	104,283	113,393
		TOTAL ESTIMATED EXPENDITURES	1,608,208	1,527,423	1,328,977
		EXCESS (DEFICIENCY) OF ESTIMATED REVENUES & OTHER SOURCES OVER (UNDER) ESTIMATED EXPENDITURES	26,393	22,111	22,048
		ESTIMATED BEGINNING FUND BALANCE - JULY 1	476,648	503,041	525,152
		ESTIMATED ENDING FUND BALANCE - JUNE 30	503,041	525,152	547,200

Item 10 – Comparison of Revenue Sources for the Region’s Current Solid Waste Programs with Projected Future Demands

Although dollars for solid waste programs are often in short supply, the Hardin County Solid Waste Department is on firm financial footing and appears adequately funded for the next five years.

As presented in Table 13, actual revenues for the Hardin County Solid Waste Department for 2010-2011 (the latest year actual figures were available) were \$1,632,601. Local taxes comprised the greatest portion of that amount (58 percent) at \$939,092—mostly local option sales taxes and beer taxes. Charges for services (fees) were \$319,045 (20 percent of the total) and Notes Issued for Insurance Recovery totaled \$291,000 (18 percent) for that year. The remainder of revenues was from smaller categories such as the sale of recycled materials, the sale of equipment, various grants, and various contracted services (totaling four percent).

Although an itemized table of revenues was not available from the City of Savannah, the County’s solid waste director reported that the City’s revenues for solid waste services consisted of (1) local sales taxes and (2) solid waste user fees—as is customary for most city government operating solid waste collection programs.

Item 11 - Sustainable Goals Consistent with the State Plan

A - Deficiencies

This needs assessment has identified the following deficiencies in the Hardin County solid waste management system.

- A new recycling center/transfer station to develop its local recycling program.
- Up-to-date equipment to modernize its solid waste management and recycling programs
- Increased funding for local solid waste programs.
- An expansion of Hardin County’s recycling program to include the collection of plastics and possibly glass.
- An increase in the number of local private firms that recycle and report their figures to the Hardin County Solid Waste Department.
- The development of new recycling programs with local businesses.
- An expansion of recycling education programs in local schools and for the general public.

B - Recommendations

It is recommended that the following actions be taken over the next five years to address the deficiencies noted in the previous section:

- **Build, Buy, or Lease a New Recycling Center/Transfer Station for the County**

Hardin County has the option to build, buy, or lease a new facility for the County’s recycling program. Constructing a new recycling building from the ground up likely would be the most expensive option—yet it would give the Hardin County Solid Waste Department the greatest opportunity to construct a building to best address its needs and specifications.

Hardin County is committed to working with the West Tennessee Regional Recycling Hub in Henderson for the collection of cardboard for the next five years. However, at some point in the future, Hardin County would like to develop its own in-county recycling facility to better address local recycling needs.

- **Acquire Additional and Better Equipment for the Hardin County Solid Waste Management and Recycling Programs**

In the 2011 Annual Progress Report, the Hardin County Solid Waste Department identified several items of equipment needed for the County's solid waste management and recycling programs. These included 20 six-yard containers, 8 thirty-yard sectionalized recycling containers, a vertical baler, a horizontal baler with conveyor system, a paper shredder with conveyor system, an aluminum can baler, an oil-burning heater, a skid steer, 50 eight-yard plastic recycling containers, and 8 forklift-type recycling containers.

Because the solid waste budget for Hardin County is constrained, there are limited local funds for the purchase of such equipment. The County may have to look at opportunities for grants to cover the costs of purchasing any new equipment.

- **Increase Overall Funding for Local Solid Waste Programs**

The key ingredient in operating a modern and efficient solid waste management program in Hardin County—or any county—is adequate funding.

It is anticipated that costs for the Hardin County solid waste program will continue to rise each year—especially in areas such as fuel and other transportation costs, employee salaries, and equipment and maintenance costs.

The County should step forward and provide the funding required to ensure that Hardin County's solid waste collection services will meet the needs of tomorrow's residents and businesses.

The County should continue to apply for solid waste management grants from the State of Tennessee. However, because of the budget problems the State is currently experiencing, future availability of the already limited grant funds from the State cannot be depended on. The County should explore other possible sources of grants funding; such as Federal programs (U.S. Department of Agriculture's Rural Development program, the Delta Regional Authority program, etc.) as well as private, non-profit organizations to supplement grants it receives from the State of Tennessee.

- **Expand and Enhance Public Recycling Programs in the County**

Citizens of Hardin County have asked for additional items to be recycled locally, in particular, plastics and glass. The Hardin County Solid Waste Department should explore ways of adding other recyclables to its current list.

- **Ensure Better and More Complete Reporting by Commercial, Industrial, Institutional, and Other Entities for the Hardin County Solid Waste Annual Progress Report**

In 2011, Hardin County reported that 896 tons of commodities were recycled by nine local commercial firms and that 22,657 tons of commodities were recycled by three local industrial firms in that calendar year.

As many counties across Tennessee, Hardin County often has difficulty in securing the information it needs to provide the State with an accurate accounting of how much solid waste

is being recycled or diverted from Class I landfills by local businesses. Although the State maintains that businesses can be “compelled” to provide such information to the counties, the precise measures authorized to compel local businesses to comply are unclear. It is believed that hundreds, perhaps thousands, of tons of recycled and diverted waste in Hardin County are “lost” (as unreported) each year due to inexact reporting.

- **Develop New Recycling Programs With Local Commercial and Industrial Firms**

Hardin County should work with local firms to develop new, in-house recycling programs. Virtually every commercial and industrial firm in Hardin County could recycle office paper and cardboard and possibly other items—such as aluminum cans, plastics, and glass. And perhaps some by-products of manufacturing processes could be recycled if the company is a manufacturer.

A Business and Industry Recycling Task Force, composed of volunteer representatives, could be appointed by Hardin County Government to work with and encourage recycling with individual firms that have expressed an interest in recycling.

- **Expand Recycling Education Programs in Local Schools and for the General Public**

Although Hardin County has a good record of promoting recycling and environmental education programs in its local schools and for the general public, the solid waste department also should consider utilizing materials from organizations such as the Keep America Beautiful campaign that provides educational resource packets for students and promotes anti-litter and other environment-friendly events.

It is recommended that Hardin County increase the amount of outreach now done during the course of the year by promoting recycling at every opportunity—by enlisting public volunteers to assist the Solid Waste Director, County Mayor, and local city mayors in speaking to local civic clubs, special interest groups, church groups, etc.; and by developing and maintaining educational information displays at local libraries, fairs, festivals, sporting events, etc.

C - Region's Plan and Its Support of the Statewide Solid Waste Management Plan

The recommendations outlined above comply with and support all provisions of the State's Solid Waste Management Plan—ensuring that citizens of Hardin County continue to be provided with solid waste services in an efficient and professional manner.

PHOTOGRAPHS



Hardin County was established in 1819 and is divided into east and west sections by the Tennessee River. The county's population, according to the 2010 U.S. Census, was 26,026.



Savannah, the county seat, had a population of 7,168 in 2010.



Savannah's historic district is one of the largest in West Tennessee.



Hardin County is home to Pickwick Landing State Resort Park.



Pickwick Landing, Pickwick Lake, and nearby Shiloh National Military Park bring thousands of visitors to Hardin County each year.



The Hardin County Solid Waste Department operates 13 convenience centers throughout the county. The Nixon Convenience Center is located south of Savannah on Highway 128.



Most of Hardin County's convenience centers are open seven days a week.



Waste Connections serves as the solid waste management collection contractor for residents of the City of Savannah.



Packaging Corporation of America (PCA) is the largest employer in Hardin County.



PCA is also the county's largest recycler. The company recycled 22,060 tons in 2011, more than 90 percent of all materials recycled in the county.