

TENNESSEE'S TRASH IN THE 1990s

an update



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Executive Summary

In the last several years, solid waste management has been one of the most difficult public policy issues for government officials at all levels. Stringent federal regulations for environmentally protective landfills were finalized in 1991 resulting in increased costs for solid waste disposal and in the subsequent closure of many landfills across the country. Many state legislatures reacted to the federal landfill regulations by passing legislation that emphasizes planning and waste reduction.

The Tennessee General Assembly passed the Solid Waste Management Act, a comprehensive waste management initiative, in 1991. The act strongly emphasizes planning and directs local governments to define their long-term solid waste needs as well as formulate plans to meet those needs. In 1996, the Comptroller of the Treasury's Office of Research published a report on the implementation of the 1991 act. During the ensuing 1996 legislative session, the law was reauthorized and amended.

Generally, the 1996 amendments: revised some existing grant programs to require matching local funds from recipients; reauthorized and reduced the surcharge on waste disposed at Class I landfills; authorized use of the Solid Waste Management Fund for cleaning up unpermitted waste tire sites and authorized continuing grants to local governments for waste tires; limited the use of "green boxes" to those counties that had them in place on January 1, 1996; specified the process for dissolving a solid waste authority; added five representatives to the Solid Waste Advisory Committee; clarified certain provisions and deleted those that had become obsolete. In addition, the General Assembly again requested that the Comptroller's Office evaluate the implementation of the Solid Waste Management Act. The resulting report concludes:

All regions have now submitted 10-year solid waste plans that have been approved by the Department of Environment and Conservation. All regions submitted the required plans by May 1995 and the department approved all plans by June 30, 1997. (See page 8.)

As a whole, the state has not yet achieved the 25 percent waste reduction goal. The Solid Waste Management Act of 1991 established a 25 percent per capita waste reduction goal for regions to achieve by the end of 1995. The Division of Solid Waste Assistance calculated the statewide per capita tonnage reduction for 1996 at 22 percent. The statewide per capita rate for 1995 was 20 percent. Some regions that achieved the goal in 1995 did not repeat their performance in 1996. Reasons included economic growth and closure of some commercial landfills that caused an increase in waste disposed at Class I facilities. (See page 9.)

The regions' waste reduction calculations may not be accurate in all cases. The process used by the Division of Solid Waste to verify data submitted by the regions is subjective. The division has not provided specific guidelines for regions to use in calculating their rates, and some of the sources they use are likely to be inaccurate. In addition, 1989 is used as the base year to determine regions' annual reduction rates. The 1989 data reported by many counties was based largely on estimates since most had not

maintained prior records. Counties that overestimated their 1989 waste may now appear to have achieved a large reduction rate. Those that more accurately estimated their waste would appear to be less successful. (See pages 10-11.)

The department still allows waste diversion from Class I disposal facilities to Class III and IV facilities. Class I facilities must adhere to the most stringent environmental standards, including those related to leachate migration control, waste handling, and groundwater protection and monitoring. Safety standards are less stringent for Class III and IV facilities, which are used for the disposal of farming, construction, demolition, and other special wastes. Although the diversion from Class I to Class III and IV facilities is allowed by department regulations, it is still a matter of concern, particularly among environmentalists. In addition, one of the Solid Waste Management Act's goals is to reduce to the greatest extent possible the amount of solid waste. While diversion of Class I waste to Class III and IV facilities may save Class I disposal space, it does not ultimately reduce the overall amount of disposed waste. (See pages 11-12.)

Some counties still allow waste disposal in "green boxes," a practice that does not further the goals of the Solid Waste Management Act. All counties now have at least a minimum level of waste disposal service, which is a system of convenience centers. The law was amended in 1996 to allow counties that also had green box receptacles in place on January 1, 1996, to retain them. Other counties are prohibited from using them. A report compiled by the Division of Solid Waste Management indicates that in 1996, 25 counties were still using green boxes to some extent. Those counties reported a total of 282 sites comprised of 1,124 receptacles, with the number of reported receptacles per county ranging from one to 167. Regions that continue to rely heavily on the collection of waste in green boxes are not contributing to the overall effort to reduce waste. (See page 12.)

The department has formed a Waste Reduction Task Force to examine alternatives to the 25 percent waste reduction goal. Initially, the task force is considering four options that range from retaining the current goal to replacing it with an EPA proposed recycling goal. The task force is also considering related issues including accounting for economic growth, banning other wastes from Class I facilities, and whether monetary incentives other than grants should be added to state law. The group plans to continue its research and discussion through July 1998, and will report its recommendations to the Solid Waste Advisory Committee. (See pages 12-14.)

The department has begun implementing the tasks and activities set out in the Solid Waste Adult Education Framework adopted by the Municipal Solid Waste Advisory Committee. The Division of Solid Waste Assistance has published a comprehensive guidebook designed to help communities develop solid waste education programs. The division distributed and explained the guidebooks at a series of workshops held across the state during 1997. (See pages 14-15.)

Despite the efforts of the Division of Solid Waste Assistance and the Solid Waste Advisory Committee, some regions appear to be making slow progress toward

developing effective solid waste public education programs. The department discontinued its education grants to regions as of June 30, 1996, because of concern that counties were not using funds effectively for solid waste education. Division staff conducted statewide workshops to train counties in designing programs, but subsequent education plans submitted to the division were disappointing. According to staff, most of the plans reflected activities communities were already undertaking, few indicated a coordinated effort among various community entities, and many still emphasized K-12 participation rather than targeting a broader public. Later plans showed improvement and the division plans to offer another education grant to help regions develop their programs. (See pages 15-16.)

Since 1995-96, the department has contracted with the University of Tennessee's Waste Management Research and Education Institute to carry out the K-12 educational directives in T.C.A. 68-211-845. However, the law still designates the Department of Education as the agency required to fulfill the provisions.

Disagreement between the Division of Solid Waste Assistance and the Department of Education resulted in contract termination effective July 1, 1995. Division staff indicates that it is pleased with the educational program designed and implemented by the institute. (See pages 16-17.)

The department has not developed a means of evaluating its solid waste education efforts. The Division of Solid Waste Assistance staff has devoted significant resources to helping regions develop education plans, but has been disappointed in the early efforts. Developing a specific methodology to evaluate the effectiveness of the division's public education efforts should help staff devise a future course of action. Similarly, neither the department nor UTWMREI, which is responsible for the K-12 components of solid waste education in the state, have developed a means to evaluate the overall effectiveness of the program. Evaluating existing educational efforts may provide an important key to the most effective means of changing public attitudes about solid waste. (See pages 17-18.)

The department has shifted its focus to recycling waste tires rather than landfilling. However, only 36 counties elected to participate in the tire recycling program in FY1997-98. Since July 1, 1995, the Division of Solid Waste Assistance has offered the Waste Tire Option Program, which provides three options for counties, two of which require the beneficial end-use of tires. Participation in the program has grown at a moderate pace, in part because both end-use markets and an infrastructure for transporting tires has been slow to develop. In addition, although whole tires are prohibited, shredded tires may still be disposed in landfills. As long as counties are permitted to landfill tires in some form, some will exercise that option. (See page 21-22.)

The Division of Solid Waste Assistance has improved its tracking of disposed tires to curb illegal tire dumping and to assist with record-keeping for the Waste Tire Option Program. In July 1997, the division implemented a manifest system allowing it to track all legally disposed tires. Previously, the department had no formal method of obtaining information about the number of tires being collected, stored, or recycled. (See page 22.)

Most, but not all, counties have established enterprise accounting funds for disposal facilities. Counties have resisted enterprise funds, partly because many had little previous experience maintaining funds on a full accrual basis as required by an enterprise fund. A survey of counties for the year ending June 30, 1997, indicates that 28 counties still own and operate disposal facilities. Two of the 28 counties failed to account for financial transactions in an enterprise fund as required by state law. Of the counties that maintained an enterprise fund, 22 had retained earning account deficits ranging from \$89,000 to \$9,480,000 as of June 30, 1997. Most of these deficits were attributable to insufficient fees charged for tipping and lack of planning for closure and postclosure care costs. Many counties have closed their landfills in recent years, and most had significant retained earnings deficits because they failed to collect sufficient funds to pay the closure and postclosure care costs. (See page 23.)

The solid waste management and planning database is still not functional as required by T.C.A. 68-211-872. The database is meant to be an informational, decision-making tool for counties and solid waste regions. It is to contain data compiled from county solid waste needs assessments, data from the regional solid waste plans, as well as information from annual reports. The database will maintain information on grant programs, regional solid waste plans, and recycling markets. Staff of the Division of Solid Waste Assistance indicates that the database is scheduled to be completed by the end of 1998. (See page 23.)

Alternatives

The report provides both legislative and administrative alternatives summarized below. (See page 24.)

Legislative Alternatives

- The General Assembly may want to request that the Municipal Solid Waste Advisory Committee provide a recommendation concerning the waste reduction goal in the Solid Waste Management Act.
- The General Assembly may want to amend *T.C.A. 68-211-851(d)*, placing a limit on the number of “green box” receptacles a county is allowed, or phasing them out completely over a period of time.
- The General Assembly may want to revise *T.C.A. 68-211-845*, which currently requires the Department of Education to carry out K-12 education directives for solid waste. The General Assembly may want to revise the language either to require the current contractor, University of Tennessee Waste Management Research and Education Institute, to carry out the directives or to allow TDEC to determine how to fulfill them.

Administrative Alternatives

- The department should develop a means of evaluating both its adult education program and the K-12 program that is contracted with UTWMREI.

- The department should continue to foster an infrastructure that will encourage the recycling of waste tires in the state.

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Introduction

The Tennessee General Assembly passed the Solid Waste Management Act, a comprehensive waste management initiative, in 1991. The act built on two previous state legislative efforts, the Solid Waste Disposal Act of 1969 and the Solid Waste Planning and Recovery Act of 1989. In early 1996, the Comptroller of the Treasury's Office of Research published a report on the implementation of the 1991 act.¹ During the ensuing 1996 legislative session, the General Assembly reauthorized and amended the law, again requiring the Comptroller's Office to:

...study and prepare a written report on the implementation of the Solid Waste Management Act, including the effectiveness of the adult education program and its funding.²

The intent of this report is to provide an evaluation of the state's implementation of the reauthorized solid waste initiative and to provide alternatives for its improvement.

Methodology

The conclusions in this report are based on:

1. Interviews with state solid waste officials and representatives of private sector environmental groups.
2. A review of Tennessee solid waste legislation.
3. A review of federal solid waste legislation.
4. Materials produced by the Department of Environment and Conservation's Division of Solid Waste Assistance and the University of Tennessee Waste Management Research and Education Institute.
5. Newspaper and journal articles about solid waste issues.
6. Attendance at meetings of the Municipal Solid Waste Advisory Committee, the Recycling Market Advisory Committee, the scrap tire legislative study committee, the Waste Reduction Task Force, and workshops for local governments regarding the design of solid waste adult education programs.

Background

In the last several years, solid waste management has been one of the most difficult public policy issues for government officials at all levels. Stringent federal regulations for environmentally protective landfills were finalized in 1991 resulting in increased costs for solid waste disposal and in the subsequent closure of many landfills across the country. Many state legislatures reacted to the federal landfill regulations by passing legislation that emphasizes planning and waste reduction. State and local officials in turn worked to design and implement plans for solid waste management.

In 1991, Tennessee passed the Solid Waste Management Act, the most comprehensive solid waste legislation enacted in the state's history. The act strongly emphasizes planning and directs local governments to define their long-term solid waste needs as well as formulate plans to meet those needs. It has three public policy goals for Tennessee:

¹ Comptroller of the Treasury, *Tennessee's Trash in the 1990s*, Office of Research, February 1996.

² Public Chapter 846, 1996, Section 51.

- To institute and maintain a comprehensive, integrated, and statewide solid waste management program.
- To educate and encourage generators and haulers of solid waste to reduce and minimize the amount of solid waste to the greatest possible extent.
- To promote markets for and engage in the purchase of goods made from recovered materials and goods that are recycled.³

The law encouraged the formation of multi-county solid waste planning regions, although 50 of the 95 counties chose to form their own regions. There are 12 multi-county regions, ranging in size from two to ten counties.⁴ (See Appendix B.)

1996 Reauthorization

In 1996, the General Assembly reauthorized the Solid Waste Management Act.

Generally, the amendments:

- revised some existing grant programs to require matching local funds from recipients.
- reauthorized and reduced the surcharge on waste disposed at Class I landfills.
- authorized use of the Solid Waste Management Fund for cleaning up unpermitted waste tire sites and authorized continuing grants to local governments for waste tires.
- limited the use of “green boxes” to those counties that had them in place on January 1, 1996. Also required counties to report to the Department of Environment and Conservation by July 1, 1997, regarding the number of green boxes in use.
- specified the process for dissolving a solid waste authority.
- added five representatives to the Solid Waste Advisory Committee: one representative of both the tire and the agricultural industries; one member recommended by the Tennessee Environmental Council; one municipal official from one of the four most populous cities; and one county official from one of the four most populous counties.
- clarified certain provisions and deleted those that had become obsolete.

Waste Stream: Tennessee and the U.S.

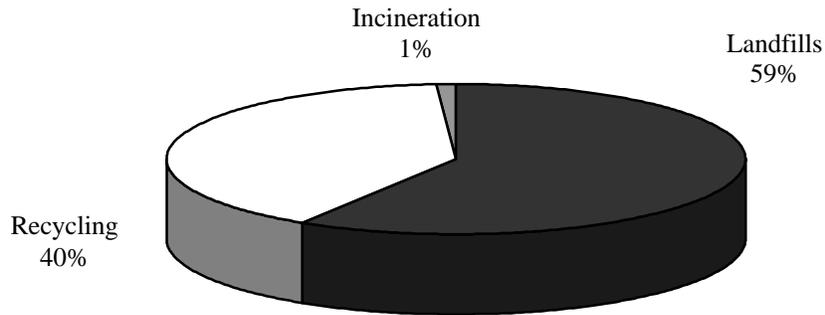
When Tennessee passed the Solid Waste Planning and Recovery Act of 1989, the state landfilled approximately 84 percent of its waste, recycled eight percent, and incinerated the remaining eight percent. More recent data indicate that in 1995 Tennessee landfilled 59 percent of its waste, recycled 40 percent, and incinerated one percent.⁵ The figures are shown in Exhibit 1. Exhibit 2 reflects the percentages of solid waste management at the national level in 1995.

³ T.C.A. 68-211-803.

⁴ As of 1998, there are 65 solid waste regions. Benton County left the region it shared with Carroll and Henry counties to form its own single county region. More recently, Lauderdale, Tipton, and Haywood split as a multi-county region and formed single county regions. During the period the report examined, there were 63 solid waste regions.

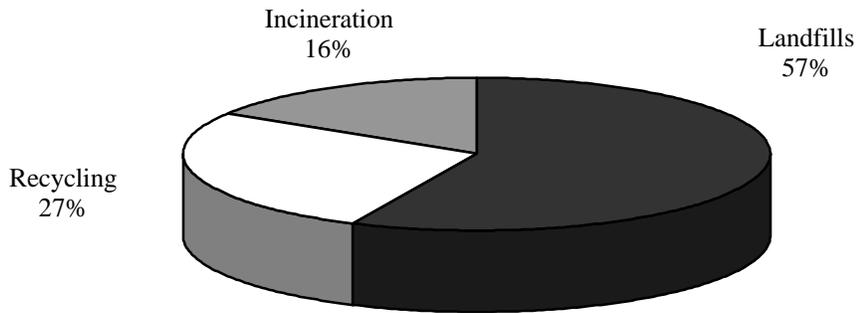
⁵ “Biocycle Nationwide Survey: The State of Garbage in America,” *Biocycle*, April 1997, p. 62.

Exhibit 1: Management of Solid Waste in Tennessee



Source: *Biocycle*, April 1997. (Data shown is for 1995.)

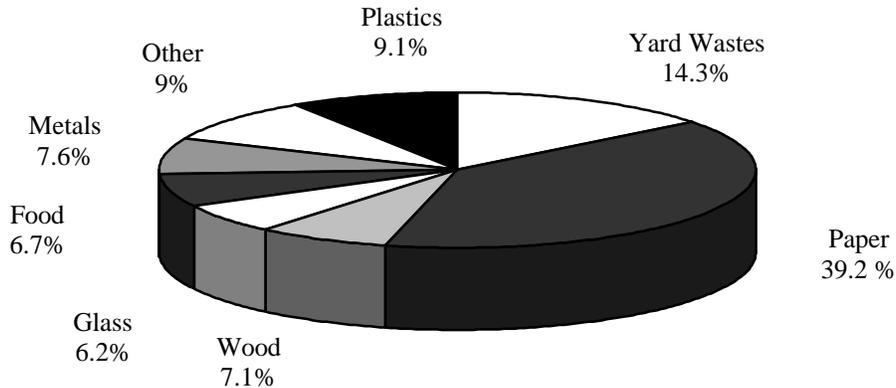
Exhibit 2: Management of Solid Waste Nationally



Source: U.S. EPA, *Characterization of Municipal Solid Waste in the United States: 1996 Update*. (Data shown is for 1995.)

Exhibit 3 characterizes the breakdown of waste nationally by waste product. As in previous years, more than half of the nation’s waste generation is paper and yard waste. Tennessee’s waste stream is assumed to mirror the national percentages.

Exhibit 3: National Solid Waste Generation by Weight



Source: U.S. EPA, *Characterization of Municipal Solid Waste in the United States: 1996 Update*. (Data shown is for 1995.)

Implementation Agencies

Two divisions of the Tennessee Department of Environment and Conservation govern all matters regarding solid waste in Tennessee: Solid Waste Assistance and Solid Waste Management.⁶ The Division of Solid Waste Assistance is non-regulatory and aids local governments in planning for their solid waste needs through its grants administration and waste reduction sections. The Division of Solid Waste Management, which is regulatory, promulgates solid waste disposal regulations and issues site permits for solid waste disposal facilities.

The state Solid Waste Disposal Control Board and the Municipal Solid Waste Advisory Committee both aid in the act's implementation as well. The Solid Waste Disposal Board is the regulatory, rulemaking body for solid waste issues. Meeting six times a year, the board practices oversight and hears local government appeals of state solid waste decisions. The Municipal Solid Waste Advisory Committee helps continue a dialogue among state agencies, the private business sector, and environmental/special interest groups. The committee members are appointed by the commissioner of the department in consultation with statewide organizations representing the various interests on the committee.⁷

Disposal Facilities

Various types of disposal facilities are used for solid waste. Disposal facilities are identified as Classes I-VI.

- A Class I facility is a sanitary landfill that serves a municipal, institutional, and/or rural population, and is used for disposal of domestic, commercial, institutional, bulky, landscaping and land clearing, industrial, construction/demolition, farming, and municipal wastes. The facility refers to a city, county, or private landfill and has specific safety standards associated with buffer zones, leachate migration control, gas migration control, waste handling, and groundwater protection and monitoring.
- A Class II disposal facility is a landfill that receives waste generated by one or more industrial or manufacturing plants and may also be used as a monofill for ash disposal from the incineration of municipal solid waste. A Class II facility may be used only for the disposal of waste generated by industrial or manufacturing plants and has specific safety standards similar to those for Class I facilities.
- A Class III disposal facility is a landfill used for the disposal of farming, landscaping, and land clearing, and/or certain similar wastes. A Class III facility has specific safety requirements that are generally less stringent than those for Class I or Class II facilities.
- A Class IV disposal facility is a landfill used for the disposal of construction, demolition, and similar special wastes. The more inert nature of these types of waste allow a Class IV facility to have the least stringent safety standards.
- A Class V facility receives land farming waste.
- A Class VI facility refers to a surface impoundment used for solid waste disposal.

⁶ As of March 30, 1998, the Division of Solid Waste Assistance was combined with two other divisions, Construction Grants and Loans and Pollution Prevention. The resulting new division has been named the Division of Community Assistance. For the sake of clarity, this report refers to the Division of Solid Waste Assistance throughout.

⁷ T.C.A. 68-211-841(b).

Financing Solid Waste Programs

The 1991 act created the solid waste management fund, designed to finance the act's implementation. The fund has two main sources of revenue: the surcharge placed on each ton of municipal solid waste received at Tennessee's disposal facilities and a \$1 pre-disposal fee placed on each new tire sold in Tennessee.⁸ When the act was reauthorized in 1996, the amount of the surcharge was reduced from 85 cents per ton to 80 cents in fiscal year 1997-98, and will be reduced to 75 cents per ton in fiscal year 1998-99.

At the state level, grant funding for local governments is provided through the solid waste management fund.⁹ Grants are available through the Division of Solid Waste Assistance to qualifying counties, municipalities, or solid waste authorities for purposes ranging from planning to purchasing recycling equipment. Although the revenue generated from the surcharge and tire disposal fee is used for various purposes, grant funding is the largest expenditure from the fund. (See Appendix E for a list of grants funded in 1995-96 and 1996-97.)

Exhibit 4: Expenditures from the Solid Waste Management Fund, FY1996-97

	Expenditures	Percent of Total
Grants	\$10,844,827	65 %
Statewide Services	\$3,579,251	22 %
Technical Assistance / Program Oversight	\$2,142,959	13 %
Total Expenditures	\$16,567,037	100 %

Source: Tennessee Department of Environment and Conservation, *Annual Report to the Governor and General Assembly on the Solid Waste Management Act of 1991*, Fiscal Year 1996-97, January 1998.

In addition, money from the fund is paid to state entities such as the University of Tennessee for technical assistance to state and local governments. The fund also pays for the administrative costs of the state's solid waste assistance program and for the provision of statewide services such as the tire shredding and household hazardous waste programs.

According to the department, for FY1996-97 revenues to the fund totaled \$10,782,082.¹⁰ The balance of the Solid Waste Management Fund at the close of FY1996-97 was \$3,478,630.04.

Exhibit 5: Solid Waste Management Fund Revenues, FY1996-97

	Revenues	Percent of Total
Landfill Surcharge Fee	\$4,897,691	45 %
Tire Pre-disposal Fee	\$3,995,400	37 %
Other	\$1,888,991	18 %
Total Revenues	\$10,782,082	100 %

Source: Tennessee Department of Environment and Conservation, *Annual Report to the Governor and General Assembly on the Solid Waste Management Act of 1991*, Fiscal Year 1996-97, January 1998.

⁸ T.C.A. 68-211-835 and 67-4-1603.

⁹ T.C.A. 68-211-821(a).

¹⁰ Tennessee Department of Environment and Conservation, *Annual Report to the Governor and General Assembly on the Solid Waste Management Act of 1991*, Fiscal Year 1996-97, January 1998, p. 35.

Exhibit 6 shows the amount of money collected from both the waste tire predisposal fee and the surcharge fee since the Solid Waste Management Act's inception in 1991.

**Exhibit 6: Solid Waste Management Act Fee History
FY1991-92 through FY1996-97**

Fiscal Year	Waste Tire Predisposal Fee	Solid Waste Surcharge Fee	Total Fees
1991-92	\$2,267,904	\$3,199,439	\$5,467,343
1992-93	\$3,339,628	\$4,289,423	\$7,629,051
1993-94	\$3,717,280	\$4,440,974	\$8,158,254
1994-95	\$3,625,251	\$4,988,841	\$8,614,092
1995-96	\$3,856,852	\$4,738,317	\$8,595,169
1996-97	\$3,995,400	\$4,897,691	\$8,893,091
Totals	\$20,802,315	\$26,554,685	\$47,357,000

Source: Tennessee Department of Environment and Conservation, Division of Solid Waste Assistance

In addition to accessing the solid waste management fund, local governments may choose a variety of solid waste financing options. These include waste disposal tipping fees, user disposal fees, surcharges, or host fees. These fees may be placed on waste received at publicly owned disposal facilities and the revenue generated may be used for solid waste management purposes. A local government may also fund solid waste programs through revenues from taxes or general fund revenues.

Tipping fees—Any county, municipality, or solid waste authority that owns a solid waste disposal facility may impose a tipping fee on each ton of waste or its volume equivalent received at that facility. The amount of the tipping fee is determined according to the cost of providing services; any revenue raised from such a tipping fee may be expended for solid waste management purposes only.¹¹ Tipping fees vary from county to county depending on the location and the amount of waste disposed.

User disposal fee—A county, municipality, or solid waste authority may collect a user disposal fee on generators of solid waste within its jurisdiction, with the exception of a solid waste generator that disposes of its waste at a facility located on land that it owns. A user fee must bear a reasonable relationship to the cost of providing disposal services. These revenues may be used only to provide collection and disposal services to which all county residents have access (an example would be a system of convenience centers). The user fee may be collected by an electric utility through that utility's regular billing process.¹²

Surcharge—A county, municipality, or solid waste authority may impose a surcharge on each ton of municipal solid waste received at any disposal facility within its boundaries. The surcharge may not be imposed until the state approves a county's regional solid waste plan and can only be used to pay for solid waste collection and disposal services.¹³

¹¹ T.C.A. 68-211-835(b).

¹² T.C.A. 68-211-835(g)(2).

¹³ T.C.A. 68-211-835(f).

Host fee—A county that is host to a solid waste disposal facility used by other counties within its solid waste region may charge a host fee. The fee is placed on each ton of solid waste received and revenue collected may be used for solid waste management purposes only.¹⁴

¹⁴ T.C.A. 68-211-835(e).

Analysis and Conclusions

Planning

The Solid Waste Management Act of 1991 required counties to form solid waste planning regions by December 12, 1992. Counties had the choice of planning alone or forming a region with neighboring counties. Regions, whether single or multi-county, were formed by resolution of the appropriate county commissions. Provisions to the law adopted in 1996 allow regions to dissolve or to alter their composition.¹⁵

The act encouraged counties to form multiple county solid waste regions for planning purposes. However, 50 of the 95 counties chose to plan alone while the remaining 45 formed 12 multi-county regions. As of 1998, there are 65 solid waste regions, since two of the original multi-county regions have split into four single-county regions and one two-county region. (See footnote 4 on page 2.)

The act required each region to develop a plan for a 10-year disposal capacity and for achieving a 25 percent waste reduction goal. Each solid waste region's plan must include, among other items, a waste stream analysis, costs, revenues, anticipated growth trends and waste capacity needs for the 10-year period, plans for recycling and for disposing of household hazardous waste, waste reduction activities aimed at achieving the 25 percent reduction goal, and a description of education initiatives addressing solid waste issues.

- **All regions have now submitted plans that have been approved by the department.** All regions submitted plans by May 1995. The Division of Solid Waste Assistance approved all plans by June 30, 1997. Amendments to the Solid Waste Management Act in 1996 require development districts to submit revised needs assessments by April 1, 1999, and every five years after that date. Original needs assessments were first submitted in 1992, and included demographic information and projections, an analysis of economic activity, characterization of the solid waste stream, and a comparison of projected demands from waste generation with available and projected capacity noting any expected shortfalls.

In addition, the 1996 amendments require each region to revise its solid waste plan every five years after initial approval, and also allow regions to revise plans any time to reflect subsequent developments.

The department cites benefits from the planning requirements contained in the act, including improved information, allowing local governments to make more informed long-term decisions about solid waste.

Waste Reduction Goal

The Solid Waste Management Act of 1991 established a 25 percent per capita waste reduction goal for regions by the end of 1995.¹⁶ The intent of the goal was to reduce by 25 percent the amount of waste disposed in municipal solid waste disposal facilities and incinerators by December 31, 1995. In 1996, the law was amended to clarify that the reduction goal applied to Class I facilities only.

¹⁵ T.C.A. 68-211-813.

¹⁶ T.C.A. 68-211-861.

The amount of waste disposed in the base year 1989 is used to determine the 25 percent reduction, unless a region can prove that its 1989 data was flawed or invalid. Regions that can prove inaccurate base year data may receive a base year adjustment.

Each region measures its waste on a per capita basis and by weight (tons per person per year). Each solid waste region's 10-year plan must address its planned strategies for obtaining the 25 percent reduction.¹⁷ If a region makes a good faith effort toward reaching the goal yet still fails, it may apply for a variance from the goal. If the state determines that a region did not make a "good faith effort," it may levy sanctions that could include a warning, loss of grant funding, and civil penalties.¹⁸

Solid waste regions are required to submit annual reports to the Division of Solid Waste Assistance, which contain the amount of each region's per capita waste reduction. Regions that have been granted variances from meeting the required goal must provide an explanation of activities conducted during the previous year designed to achieve the goal. Variances may be granted for up to a five-year period. Annual reports must also address regions' waste collection and transportation; recycling; disposal capacity; composting, solid waste processing, waste to energy, and incineration, if applicable; and public information and education efforts.

- **As a whole, the state has not yet achieved the 25 percent waste reduction goal.** The Division of Solid Waste Assistance calculated the statewide per capita tonnage reduction for 1996 at 22 percent. The statewide per capita rate for 1995 was 20 percent. In 1996, according to the division, 33 of the 63 regions met or exceeded the goal with decreases from the base year ranging from 25 percent to 72 percent. Twenty-three regions decreased their disposed waste in amounts ranging from five to 24 percent. Seven regions increased their disposed waste in amounts ranging from four to 29 percent. (See Appendix B for regions' 1995 and 1996 reduction rates.)

The number of regions that have met or exceeded the goal increased slightly from 1995 to 1996. However, once a region achieves the 25 percent goal, there is no guarantee that it will continue to meet it. Reducing waste is difficult, for example, in areas of high growth such as Williamson County, which met the waste reduction goal in 1995, but not in 1996. The current method of measuring waste reduction does not account for changes in economic growth.

Other factors can also contribute to a region's increased disposal rate. For example, Hamblen County achieved the 25 percent reduction goal in 1995, but in 1996 the county's disposal rate increased after the closing of a privately owned, commercial use landfill, resulting in an increase in waste disposed at its Class I facility. Williamson County received a five-year variance and Hamblen a three-year variance, both beginning in 1996.

T.C.A. 68-211-862 authorizes the department to sanction regions that fail to meet the waste reduction goal, using letters of warning and, ultimately, imposing civil penalties. The department has never resorted to the latter, likely because of the difficulty in defining the "good faith effort" that allows it to grant variances and because sanctions could increase the burden of counties that may already be economically distressed.

¹⁷ *T.C.A.* 68-211-815(b)(10).

¹⁸ *T.C.A.* 68-211-861(e) and 68-211-816.

- **The waste reduction calculations for regions may not be accurate in all cases.**
The Division of Solid Waste Assistance has not provided specific guidelines for solid waste regions to use in determining their waste reduction rates, aside from suggesting that regions work with their disposal facilities. Therefore, regions may use different methods to calculate the amount of disposed waste. When a region reports its annual waste reduction rate to the division, staff tries to verify the rate by making comparisons using other sources, such as the solid waste haulers' report, reported landfill disposal tonnages, population data, regions' previous reports, and overall solid waste programs. If a region's reported rate differs by more than 10 percent from the division's estimate, the division raises the question of accuracy with the county.¹⁹ Ultimately, however, the process of verifying the data is, in the division's own description, rather subjective.

In addition, 1989 is used as the base year to determine regions' annual reduction rates. The Division of Solid Waste Assistance has granted base year adjustments to 28 of the 63 regions (or about 44 percent) suggesting a problem commonly acknowledged among staff and solid waste officials: flawed base year data. The 1989 data reported by many counties was based largely on estimates since most had not maintained prior records. Based on such a method, a county that overestimated its actual 1989 disposed waste by a large amount, and which is now—with the advent of weight scales at all Class I facilities—accurately measuring its disposed waste, would appear to have achieved a large reduction rate. Other counties that had more accurately estimated their 1989 waste would appear to be less successful at reducing their waste. (See also the conclusion on page 12—the department has designated a task force that is considering this among other issues.)

Another obstacle to data accuracy appears to be the waste haulers' report, which is maintained by the Division of Solid Waste Management as part of the permitting process required of solid waste haulers. When haulers purchase their annual permits through the division, they are required to report the amount of waste they transported the previous year. Waste haulers have no incentive, however, to report accurate information. In fact, according to Solid Waste Management staff, some may deliberately report erroneous data to avoid giving information to competitors.

Currently, the haulers' report is the only source that documents the origin of disposed waste. Again, however, the accuracy of the reported data is questionable. Haulers frequently pick up waste in a single vehicle from more than one county. They may then report the source of the waste inaccurately, attributing a load to a single county rather than the two or three actual counties where portions of the waste originated.

The Division of Solid Waste Assistance does not prohibit regions from using the haulers' information to calculate their waste reduction rates. Because the report is known to contain inaccuracies, however, it is probable that some of the resulting calculations are not accurate.

Response from the Tennessee Department of Environment and Conservation:

There is not an "across the board" best method or "cookbook" formula for calculating the disposal rate in all 65 solid waste regions. As of this date, this process is more of an art rather than a science. As the Comptroller's report points out, accuracy has been a problem with base year figures and hauler reports. From region to region, the most accurate source of disposal information may vary depending on whether the region's disposal site or sites are publicly or

¹⁹ Interview with Paul Evan Davis, Director, Division of Solid Waste Assistance, December 12, 1997.

privately owned. Since 1991, the Division has offered annual workshops and technical assistance specifically geared toward accurate reporting methods. Since 1994, an annual workshop has been offered at the beginning of the year specifically on annual reports and methods. The regions report their annual figures (including written documentation and verification of the same) and the Division reviews the information submitted for accuracy. Once the Division is confident with the information, the Division includes the information in its calculation for waste reduction. This formula is included in the region's Annual Progress Report form provided by the Division.

- **The department still allows waste diversion to Class III and IV disposal facilities.**

Regions may use various methods to achieve the 25 percent waste reduction goal, including composting, recycling, source reduction, problem waste diversion, mulching, and diversion from Class I facilities to Class III or IV facilities. Methods that cannot be used in calculating waste reduction include incineration, unmarketed municipal solid waste compost, recovered materials stored for recycling without being marketed, and illegal or unauthorized storage or disposal of municipal solid waste.²⁰

The February 1996 report by the Office of Research noted that the Division of Solid Waste Assistance and the Solid Waste Disposal Control Board decided in 1993 to allow regions to divert waste from Class I to Class III and IV facilities and count that diversion toward their 25 percent reduction goals.²¹ The diversion method, which is still used, remains a hotly debated issue, particularly among environmentalists.

In 1996, the General Assembly amended *T.C.A.* 68-211-861(a), which set out the 25 percent waste reduction goal, to apply to only Class I municipal solid waste disposal facilities and incinerators. Even so, as the previous report stated, allowing the diversion raises some concerns. One of the Solid Waste Management Act's goals is "to reduce and minimize to the greatest extent possible the amount of solid waste which requires collection, treatment, incineration or disposal through source reduction, reuse, composting, recycling, and other methods."²² Although diversion of Class I waste to Class III and IV facilities may save Class I disposal space, it does not ultimately reduce the overall amount of disposed waste.

In addition, environmentalists have charged that the diversion may allow inappropriate waste to be disposed in Class III and IV facilities. Waste diverted from a Class I facility to a Class III or IV facility ideally should be waste appropriate for such a facility—inert waste such as yard waste, construction and demolition waste, or tire shreds, for example. Environmentalists have charged that inappropriate waste has been disposed in Class III/IV facilities in the past. According to staff of the Division of Solid Waste Management, however, all Class III/IV facilities are monitored at least quarterly to ensure that they meet environmental regulations. The department maintains that any inappropriately disposed waste in Class III/IV facilities is insignificant.

The department has also argued that allowing the diversion at least gets regions to separate construction and demolition wastes, which may prove useful if future markets develop for the recycling of these wastes.²³ Currently, however, the market

²⁰ Waste Disposal Reduction Goal Rule 1200-1-7-.09-2-(b) and -3-(a).

²¹ Waste Disposal Reduction Goal Rule 1200-1-7-.09-2-(b).

²² *T.C.A.* 68-211-803(b).

²³ Interview with Paul Evan Davis, Director, Division of Solid Waste Assistance, June 30, 1997.

for construction and demolition wastes remains largely undeveloped, particularly in the less urban areas of the state.

- **Some municipal solid waste is still collected in “green boxes,” a practice that does not further the goals of the Solid Waste Management Act.** Green boxes are containers used to collect solid waste other than those in convenience centers, and may be located throughout counties for citizens’ use. Because the containers typically are not staffed, counties can exert no control over the types of waste disposed there. The law was amended in 1996 to ban the use of “green boxes” in counties that did not have such receptacles in use on January 1, 1996. The 1996 amendment further prohibits any county that discontinues the use of green boxes from installing or maintaining additional receptacles after July 1, 1996. Amendments also require that counties report the number of green boxes to the department by July 1, 1997.²⁴ The Division of Solid Waste Management’s 1996 Greenbox Report indicates that 25 counties still use green boxes to some extent. Those counties reported a total of 282 sites comprised of 1,124 receptacles, with the number of reported receptacles per county ranging from one to 167. (See Appendix C for a copy of the 1996 report.)

Effective January 1, 1996, the Solid Waste Management Act designates a minimum level of service that counties must provide for the collection of solid waste: a network of convenience centers throughout each county. Counties may choose to offer a higher level of service, such as household garbage pickup.²⁵ Regulations specify the method for determining the number of convenience centers that each county must provide, based on service area and population.²⁶ Planned convenience centers generally allow citizens both to dispose of and recycle waste at a location that is staffed by public works employees.

The continued use of green boxes to collect solid waste clearly does not advance the recycling and waste reduction goals of the Solid Waste Management Act. Regions that continue to rely heavily on the collection of waste in green boxes are not contributing to the overall effort to reduce waste.

- **The department has formed a Waste Reduction Task Force to examine alternatives to the 25 percent waste reduction goal in the Solid Waste Management Act.** The task force, which began meeting in December 1997, is comprised of representatives of cities and counties, the private sector, an environmental group, and a development district, and receives staff support from the Division of Solid Waste Assistance, the University of Tennessee’s County Technical Assistance Service, and UT’s Waste Management Research and Education Institute. The group’s mission statement is “to review and discuss what and how the Tennessee waste reduction goal should be modified or revised; and provide recommendations to the State Municipal Solid Waste Advisory Committee.” Initially, the task force is considering four options, although others may be proposed:

²⁴ T.C.A. 68-211-851(d).

²⁵ T.C.A. 68-211-851(a).

²⁶ Rule 1200-1-7-.10(2). Convenience Centers/County Public Collection Receptacles.

Alternatives for measuring waste reduction

Option 1	Retain the current 25 percent goal and continue to measure annual progress through the solid waste regions' progress reports to the department. As progress is made by regions, the department would consult with the State Municipal Solid Waste Advisory Committee about any future amendments to the 25 percent goal.
Option 2	On a prescribed basis, set a new goal for regions that have met the 25 percent reduction. For example, these regions might be required to meet a 30 percent goal by 2002 and a 35 percent goal by 2005. Once any other region met the 25 percent goal, it would proceed under a new goal. The current requirement would not change for those regions that were granted a variance. All regions would still submit annual progress reports to the department.
Option 3	Replace the current statute with a "waste reduction and diversion goal," establishing 1993 (or another appropriate year) as the base year. The 25 percent per capita goal would have a new deadline of December 31, 1999. Those regions that have not yet reached the 25 percent goal could demonstrate compliance either by reaching the quantitative goal or by creating waste reduction programs patterned after a list of options prepared by the state. Those regions that had achieved the original goal would be expected to demonstrate a programmatic commitment to sustained waste reduction by December 31, 1999. A new waste reduction and diversion goal of 35 percent would be established for December 31, 2004.
Option 4	Replace the current statute with a new recycling goal. The Environmental Protection Agency has proposed a national 35 percent recycling rate to be achieved by 2005. The state's recycling goal would mirror the EPA goal. Each solid waste planning region would strive to achieve a 35 percent recycling rate by 2005. All states adopting the goal would report solid waste and recycling information in a uniform manner, resulting in comparable data among states. This option is currently being piloted in Kansas, Ohio, West Virginia, Wyoming, and the District of Columbia.

In addition to these options for measuring waste reduction and recycling, the task force is considering related issues including: accounting for economic growth in a waste reduction goal, determining when there is a lack of a "good faith effort" and how to respond, banning other wastes from Class I landfills (such as yard waste), whether to continue the diversion of construction and demolition wastes from Class I landfills, and whether any monetary incentives other than recycling grants should be added to state law.

As of the publication of this report, the task force is still in the research phase of its mission. However, some observations seem apparent from its early meetings. There does not seem to be widespread enthusiasm to change the state's waste reduction goal to a recycling goal as the EPA has proposed. Most task force members believe that measuring recycling efforts accurately would be even more difficult than the current

method, and, philosophically, most support the idea of overall waste reduction rather than emphasizing one tool, such as recycling. In addition, there is some resistance to a system that would treat regions differently, e.g., imposing different waste reduction goals on different counties. And, although task force members acknowledge that data accuracy is a problem, they generally agree that the information being collected now is better than in the past.

The task force expects to continue its dialogue through July 1998 and plans to report its recommendations to the Solid Waste Advisory Committee.

Public Education

The Solid Waste Management Act requires the Department of Environment and Conservation to collect and disseminate information about solid waste, especially source reduction and recycling, to the public. To that end, the department is to conduct workshops and training programs, develop an information clearinghouse, and work with the Department of Education to develop curricula for grades K-12. The Act directs the department to conduct these educational efforts in part “to inform the public of the relationship between an individual’s consumption of goods and services and the generation of different types and quantities of solid waste.”²⁷

The Act also requires the department to issue guidelines for the education program component required in each solid waste regional plan and allows it to award grants to regions for implementing the component. The Division of Solid Waste Assistance published guidelines for the first round of these grants in April 1995. Counties could apply for base grants of \$10,000 to develop and implement programs and then could compete for additional funds up to \$25,000 to expand existing programs or develop new ones. A total of \$478,559 was awarded to 23 regions in 1995 for education grants.

In 1996, the law was amended to require that these be matching grants, with the local match to be determined by the department using an economic index. The department awarded a total of \$330,000 to counties in 1996 for education grants. According to division staff, counties may use education grant funds for salaries, contracting out, equipment, and some supplies. To date, most regions have used grant funds for materials and equipment.

When the Solid Waste Management Act became state law in 1991, it contained no specific provisions for funding the educational directives. Amendments made in 1996 require that the solid waste adult education program be funded at a level of four percent of the waste disposal surcharge collected in 1996-97. The amount was scheduled to increase in 1997-98 to five percent, and will be six percent of the surcharge collected in 1998-99.²⁸ (However, since the surcharge is decreasing, the actual amount may not increase.) For 1995-96, the department budgeted \$200,000 for the education program; for 1997-98, the amount was estimated at \$230,500.²⁹ The Division of Solid Waste Assistance has used the funds to create materials and conduct workshops aimed at

²⁷ T.C.A. 68-211-844.

²⁸ T.C.A. 68-211-842.

²⁹ Interview with Joyce Dunlap, Division of Solid Waste Assistance, July 3, 1997.

helping counties design effective solid waste education plans.

In addition, in 1997 the Environmental Protection Agency awarded the Division of Solid Waste Assistance a matching grant of \$100,000 for its solid waste education efforts, specifically for the purpose of conveying “effective messages and materials...to influence consumer behavior for responsible solid waste management actions.” According to the grant application, the division plans to use the grant money to create informational publications and videos targeted at consumers and citizens, and to design an evaluation format to measure the impact of community education in a given area. Grant monies are to fund activities from October 1997 through September 1998.³⁰

- **The Division of Solid Waste Assistance has begun implementing the tasks and activities set out in the Solid Waste Adult Education Framework adopted by the Municipal Solid Waste Advisory Committee.** An ad hoc group formed by the Advisory Committee, the Solid Waste Adult Education Task Force, developed the framework at a series of meetings that began in the fall of 1995.

On June 25, 1996, the Municipal Solid Waste Advisory Committee adopted the Solid Waste Adult Education Framework created by the task force, which outlines the basic solid waste adult education needs, programs, and activities to be implemented statewide. The mission statement of the framework is “to improve environmental attitudes and behaviors among Tennessee citizens as shown by practicing responsible solid waste management.”³¹ The task force identified several mechanisms to accomplish its mission, including a “train the trainer” program, creation and distribution of a “cookbook” to include a variety of resource materials, and a sample campaign to help local governments coordinate their programs.

Since the Solid Waste Advisory Committee’s approval of the framework, the Division of Solid Waste Assistance has published *Pathways to Community Solid Waste Education*, described in the subtitle as “a guide to creating solid waste awareness in Tennessee communities.” The guide encourages regions to take an organized, coordinated approach to developing an education plan. It provides information about solid waste issues, including household hazardous waste, composting, litter prevention, recycling, and source reduction, among others. It also contains worksheets to help regions develop their education plans, as well as sample projects, public service announcements, brochures, and a list of state and national resources.

Division staff distributed and explained the guidebooks at a series of 16 “train the trainer” workshops held across the state from February to September 1997, attended by approximately 400 participants from 86 counties.

- **Despite the efforts of the department and the Solid Waste Advisory Committee, some regions appear to be making slow progress toward developing effective solid waste public education programs.** The last education grant offer for solid

³⁰ Application for Federal Assistance to the Environmental Protection Agency from the Division of Solid Waste Assistance, May 28, 1997.

³¹ *Solid Waste Adult Education Framework*, prepared by the Solid Waste Adult Education Task Force and the Division of Solid Waste Assistance, presented to the Tennessee Municipal Solid Waste Advisory Committee and Commissioner Justin P. Wilson, Tennessee Department of Environment and Conservation, June 25, 1996, p. 1.

waste regions expired June 30, 1996, and the Division of Solid Waste Assistance did not offer another in 1997. The division in conjunction with the Advisory Committee chose to discontinue the education grants because of concern that counties were not using the funds effectively for the purpose of solid waste education. According to division staff, some regions failed to access their grant funds for more than a year after grant approval. Staff became concerned that counties were applying for grants simply because they were available rather than out of a clear understanding of their own solid waste education needs.

About the time the division suspended the grants, the Advisory Committee adopted the Solid Waste Adult Education Framework, and division staff began conducting workshops to help regions develop education programs. After regions participated in the “train the trainer” workshops, which were part of the framework design, the division asked them to submit education action plans by the end of December 1997. The resulting plans were to drive future education funding decisions of the Solid Waste Advisory Committee.³² As of December 1997, however, only 15 regions had submitted plans, most of which staff described as inadequate. According to staff, most of the plans simply reflected regions’ current activities. Few indicated a coordination of effort among various community entities and many still emphasized K-12 participation rather than targeting the general public

By May 1998, 37 regions had submitted plans. Staff indicated that overall plan content had improved. Not surprisingly, those regions with more experience in solid waste education have more advanced plans. Those with less experience have somewhat basic plans. Based on a review of the education plans and regions’ annual reports, Solid Waste Assistance staff concluded that regions with less intricate plans may require more intensive assistance to help them advance in their education efforts. Although the details have not yet been made final, the division indicates that it plans to offer another education grant.

- **Since 1995-96, the department has contracted with the University of Tennessee’s Waste Management Research and Education Institute to carry out the K-12 educational directives in T.C.A. 68-211-845. However, the law still designates the Department of Education as the agency required to fulfill the provisions.** As the previous Comptroller’s report on solid waste stated, disagreement between the Division of Solid Waste Assistance and the Department of Education resulted in termination of the public education contract effective July 1, 1995. Disagreement apparently centered around what the Department of Education was required by statute and contract to provide in regard to the K-12 solid waste education curriculum.

No statutory revisions were made during the 1996 reauthorization of the Solid Waste Management Act to alter the legislative directives that concern the Department of Education. The law still requires the Department of Education to:

- (1) Review, evaluate and publish a list of approved curriculum materials relative to solid waste management, source reduction and recycling;
- (2) Sponsor workshops on the curriculum materials for educators;
- (3) Provide in-service training for teachers on solid waste management, recycling and source reduction, environmental protection and conservation of materials, and

³² Memorandum to Solid Waste Regional Planning Board Chairmen, County Executives, and County Solid Waste Directors, from Paul Evan Davis, Director, Division of Solid Waste Assistance, July 1, 1997, p. 3.

(4) Establish peer assistance programs for teachers within a solid waste management region.

The Department of Environment and Conservation contracted with the University of Tennessee's Waste Management Research and Education Institute for the 1995-96 fiscal year and continues to contract with UTWMREI. The contract terms include the requirements listed above. The institute's program is called the Tennessee Solid Waste Education Project (TN. SWEP), and has a staff of six part-time educational specialists, with at least one based in each of the state's three grand divisions. The specialists visit schools in their divisions to provide in-service training for K-12 teachers, deliver guest lectures, provide teachers with lesson plans, and inform teachers about available curriculum materials.

During school years 1995-96 and 1996-97, the TN-SWEP staff conducted 69 in-service training sessions, 45 curriculum workshops, and 213 classroom presentations. Staff estimate that they served 696 teachers during 1996-97 and reached more than 5,000 students. (TN-SWEP began collecting statistics on the number of teachers and students served in 1996-97.) According to staff, they conduct an average of three meetings with teachers, superintendents, and city or county solid waste officials prior to each in-service or workshop event, allowing them to tailor the programs to the community's needs.³³

UTWMREI has developed its solid waste education materials drawing from curriculum already developed by universities, nonprofit environmental organizations, the waste management industry, and other states. Activities have been divided into appropriate grade levels K-3, 4-6, 7-8, and 9-12. According to TN-SWEP staff, the materials can be integrated into many classroom subjects, including art, history, health, science, and civics.³⁴ Staff is also working on cross-referencing the lesson plans and activities with the state's science guidelines.

Division of Solid Waste Assistance officials indicate that they are pleased with UT's program. If the division wants to continue to contract with UTWMREI, it should recommend to the General Assembly that *T.C.A. 68-211-845* be amended to allow the Department of Environment and Conservation to determine the best procedure to promote public education for solid waste.

- **The department has not developed a means of evaluating its solid waste education efforts. The Division of Solid Waste Assistance plans to use some of its EPA grant to design an evaluation format that will measure the impact of community education in a given area.** Division staff have devoted a significant amount of resources to helping regions develop education plans, but have been disappointed in the early results of that effort. (See pages 15-16.) Developing a specific methodology to evaluate the effectiveness of the division's public education efforts should help staff devise a future course of action. Some indicators of solid waste education programs' effectiveness could include the number and kinds of programs that target adult solid waste education; participation rates in recycling programs, household hazardous waste projects, and oil recycling programs; and the

³³ Information supplied by Catherine A. Wilt, Waste Management Research and Education Institute, University of Tennessee, Knoxville, January 22, 1998.

³⁴ Lori Phan, "Teaching Trash to Tennessee's School Children," *The Knoxville Recycler*, December 1995, p. 4.

number of requests about solid waste, recycling, or other related issues.

The State Comptroller's Performance Audit of the department released in August 1997 concluded that its overall education efforts are not always documented and or evaluated. The report noted that such steps are necessary if the department is to determine the most effective educational approaches and to maximize available funds and resources.³⁵

Similarly, neither the department nor UTWMREI has developed a means to evaluate the overall effectiveness of the TN-SWEP program. TN-SWEP staff indicated in a September 24, 1996, memo to the Municipal Solid Waste Advisory Committee that it is was working toward developing an evaluation process, but as of early 1998 this had not been accomplished. Participants of workshops and in-service training sessions are requested to complete an evaluation form, which can be given to the workshop facilitator or mailed directly to UTWMREI. However, the information this type of evaluation can provide is limited, and may not provide the data needed to assess adequately the program's overall effectiveness. The TN-SWEP Advisory Committee plans to discuss methods to improve its evaluation efforts at a future meeting.

Some useful measures to determine effectiveness of the K-12 program could include:

- the number of teachers and students that receive instructional training,
- whether program content relates well to the solid waste programs offered in the area (i.e., how can a child apply what is learned?), and
- information retention (i.e., at the end of the school year, does the child remember what was learned about solid waste?).

Data regarding the number of teachers, students, and programs are already maintained by TN-SWEP staff. While other measures could be more difficult to collect, evaluating existing educational efforts may provide an important key to the most effective means of changing public attitudes about solid waste.

Waste Tires

The Division of Solid Waste Assistance estimates that the number of waste tires generated in Tennessee averages about four million per year. Although tires represent only a small percentage of the total municipal solid waste disposed in the U.S.—about 1.8 percent in 1995—they present significant waste disposal problems.³⁶ Tires can present a fire risk as well as a health hazard because they are ideal breeding places for mosquitoes. In landfills, whole tires tend to rise gradually to the surface, because they fill with methane gas and are less dense than the moist waste degrading in the landfill. Whole waste tires have been banned from the state's disposal facilities since January 1, 1995, except that incinerators can continue to accept whole waste tires. Also since January 1, 1995, each county has been required to provide at least one site to receive and store waste tires.³⁷

³⁵ Comptroller of the Treasury, Division of State Audit, *Performance Audit: Department of Environment and Conservation and Related Environmental Boards*, August 1997, p. 62.

³⁶ Estimate by the Scrap Tire Management Council.

³⁷ T.C.A. 68-211-866(b) and Rule 1200-1-7-.04(2)(k)(3).

A \$1 pre-disposal fee is assessed on each new tire sold at retail in Tennessee.³⁸ Although the fee is assessed on tire dealers, these individuals usually pass on the charge to the consumer. Ten cents of each dollar collected is kept by tire dealers for administrative purposes and the other 90¢ goes to the Department of Revenue for the solid waste management fund. The money may then be used for any purpose or to fund any program operated pursuant to the Solid Waste Management Act. (See Exhibit 6 on page 6 for a fee history of the Solid Waste Management Fund, including the amount collected from the tire predisposal fee each year since FY1991-92.)

In the last two years, the issue of waste tires has received a great deal of study in Tennessee. In the fall of 1996, a task force designated by the Municipal Solid Waste Advisory Committee identified nine priorities regarding waste tires, including ensuring collection of the pre-disposal fee, strengthening laws and enforcement regarding tire dump sites, accounting for out-of-state tires through the Division of Solid Waste Assistance's tire manifest system, and increasing per ton reimbursement under the Waste Tire Option Program. (See Appendix F for a complete list and explanation of the task force's priorities.)

In 1997, the General Assembly appointed a special joint legislative study committee to review waste tire legislation, policies, and programs.³⁹ In its final meeting, the committee recommended legislation, which the General Assembly subsequently passed in February 1998, authorizing the department to contract directly with beneficial end users for the recycling of waste tires. In essence, the law simplifies procedures for beneficial end users, and its supporters argue that it could attract more tire recyclers to the state, providing local governments more opportunities for recycling waste tires. To contract with the state, end users will have to prove their ability to provide collection, management, and transportation for all eligible and available waste tires generated within the area or county specified by the department. Contracts would be subject to approval by the county legislative body of each affected county, and would require performance bonds. In addition, the bill would prohibit the landfilling of shredded tires after July 1, 2002, if a county's cost of shredding, transporting, and landfilling exceeds the cost of an available beneficial end use.⁴⁰ Department staff have just begun to implement the bill's provisions.

Current Tire Programs. The department has approached the state's waste tire disposal problems using three methods: shredding, recycling, and a newly implemented tire abatement strategy:

Tire shredding. The Division of Solid Waste Assistance provides contracted waste tire shredding services for counties, as required by *T.C.A.* 68-211-867, as well as a Waste Tire Option Program that encourages counties to recycle tires.⁴¹ The new shredding contract, which is for a two-year term with three possible one-year extensions, began July

³⁸ *T.C.A.* 67-4-1603.

³⁹ House Joint Resolution 279, 1997.

⁴⁰ Public Chapter 566, 1998 (Senate Bill 1729).

⁴¹ *T.C.A.* 68-211-867(c) also authorizes the division to contract for the services of a shredder with a county or municipality. The only local government currently doing this is the city of Memphis, which contracts to provide tire shredding for both Memphis and Shelby County.

1, 1997, with J.L. Mac-TN, Inc. The state pays the shredding contractor 60¢ per passenger tire equivalent (PTE).⁴² Funding for the shredding contract comes from the solid waste management fund, which is in part funded by the \$1 pre-disposal fee collected on the sale of each new tire sold in the state.⁴³ During FY1996-97, a total of 3,005,512 waste tires were shredded for landfill disposal, which the department indicates is a 32 percent increase over the previous year.⁴⁴

Tire recycling. The Waste Tire Option Program began in 1995 as a pilot effort to assist with the costs of operating waste tire collection sites, as well as the marketing of whole waste tires as an alternative to shredding and landfilling.⁴⁵ As interest has turned more toward the beneficial end-use of tires, the Division of Solid Waste Assistance describes the program as “a financial incentive [for counties] to provide free tipping for their customers and to recycle their scrap tires,” as well as a means to discourage illegal tire dumping.⁴⁶

Under all three options, the state reimburses counties for each tire handled. Only Option 1 allows tires to be landfilled after shredding. Options 2 and 3 require tires to go to a beneficial end-use, defined by the department as the use of tires in the manufacture of cement, the burning of tire-derived fuel (TDF) in contained industrial boilers for the capture of energy, and the crumbing or pyrolysis of tire material. Only Option 2 allows counties to charge tipping fees for tires, and counties that select it receive a lower reimbursement rate than those under Option 3. The department requires counties to document the end-use of the tires by providing, for example, copies of market contracts and manifests. In addition, counties may choose not to participate in Options 1, 2, or 3, and may instead charge a tipping fee and receive services from the state shredder, with no reimbursement from the state. (See Appendix D for a description of the three options.)

To encourage the development of Tennessee’s tire recycling markets, in 1997 the department awarded innovative technology grants to two businesses that are processing tire-derived fuel (TDF) or burning TDF as part of their manufacturing process. The General Assembly amended the Solid Waste Management Act in 1996 to allow the department to award matching grants to “persons to promote the development of new technology for solid waste and recovered materials management, the use of solid waste as a fuel substitute, or innovative solid waste management infrastructure development.”⁴⁷ Quest Recycling in Johnson City and Bowater Newsprint in Calhoun were both awarded grants of \$250,000 for fiscal year 1997-98.

⁴² According to the contract terms, the state defines PTE as a tire with a rim diameter of less than 20 inches = 1 PTE and a tire with a rim diameter of 20 inches or larger = 5 PTEs.

⁴³ T.C.A. 67-4-1603.

⁴⁴ According to the Department of Environment and Conservation’s *Annual Report to the Governor and General Assembly on the Solid Waste Management Act of 1991, Fiscal Year 1996-97*, SET-TN, the previous shredding contractor, shredded 2,565,137 tires and Shelby County shredded 439, 275.

⁴⁵ Memorandum to County Executives from Wayne K. Scharber, Deputy Commissioner for Environment, regarding Waste Tire Pilot Program Options for Fiscal Year 1995-96, May 15, 1995, p. 1.

⁴⁶ Tennessee Department of Environment and Conservation, Waste Tire Option Program, Scrap Tire Payment Procedures, FY 1997-1998.

⁴⁷ T.C.A. 68-211-830, Public Chapter 846 (1996).

The grant to Quest Recycling, which produces tire-derived fuel (TDF), should allow the company to increase its tire processing from approximately 500,000 tires per year to 1.8 million. The company began processing tires in January 1997 for Washington and Sullivan Counties. As of October 1997, Quest had contracts to process tires in 10 east Tennessee counties with contracts pending in six other counties. Bowater Newsprint, a paper mill, indicated it would use the grant partially to fund a project converting an existing boiler to a multi-fuel solid waste boiler. Once converted, the boiler should be able to burn 54 tons per day of tire derived fuel, along with other fuel sources. Bowater contracts with Quest to take TDF for use in its boiler operation.

Tennessee Tires in 1996-97

New tires purchased at retail*	3,595,860
Tires shredded	3,005,512
Tires recycled**	1,400,000
Scrap tires generated**	4,000,000

*Derived from multiplying the total pre-disposal fee collected by \$.90, which is the amount per tire that is deposited in the Solid Waste Management Fund.

**Estimated by the Division of Solid Waste Assistance.

Tire abatement. The department began implementing a new tire abatement strategy in January 1998. Using environmental specialists from the Divisions of Solid Waste Management and Solid Waste Assistance, the department plans to evaluate sites where tires have been illegally disposed statewide. Evaluators will determine and rate each site according to its danger to public health and the environment, as well as ease of access to the site. Specifically, evaluators will record the location of the site and its proximity to the public, location relative to groundwater or public drinking water supplies, the tires’ susceptibility to fire and mosquito infestations, and size and characteristics of the tire piles, as well as the site’s topography and accessibility, and the local governments’ willingness to cooperate in the clean-up. Prior to implementing the new strategy, the department completed tire clean-up projects in Shelby (524,000 tires), Davidson (900,000 tires or 9,300 tons of tires), and Bedford counties (82,000 tires).

Department officials cite two possible obstacles to implementing the strategy: enforcement and locating tire dumps. The General Assembly in 1996 amended the Solid Waste Management Act authorizing the department to attempt recovery of funds expended for tire cleanups from persons responsible for the illegal dumping.⁴⁸ However, effective enforcement depends on the willingness of local courts to impose strict judgements against such persons. Department officials indicate that this has been a problem in the past. In addition, locating tire dumps can be troublesome, often because tires tend to be dumped in geographically obscure locations and because individuals avoid “informing” the authorities about each other.

- **The department has shifted its focus to the recycling of waste tires rather than landfilling. However, only 36 counties elected to participate in the tire recycling program in FY1997-98.** Since July 1, 1995, the Division of Solid Waste Assistance has offered the Waste Tire Option Program, which provides three options for counties, two of which require the beneficial end-use of tires (Options 2 and 3). For

⁴⁸ T.C.A. 68-211-831.

1997-98, 24 counties have requested Option 1; five are in Option 2; 31 are in Option 3; 14 have not changed from their previous procedures; and 21 have not responded. According to the division, in the first year of the option program, only 17 counties participated in Options 2 and 3, and about one million tires were sent to a beneficial end-use. In the second year, 22 counties participated in these options and 1.4 million tires were sent to an end-use. During 1997-98, 36 counties have chosen to participate in Options 2 and 3.

Department officials believe that the number of participating counties continues to be lower than anticipated because both end-use markets and an infrastructure for transporting tires have been slow to develop. Currently, three end-users of waste tires and tire-derived fuel are located in Tennessee: the Tennessee Valley Authority's Allen Steam Plant in Memphis, Bowater Incorporated paper mill in Calhoun, and Signal Mountain Cement in Chattanooga. As the number of end-users increases in the state, the demand for recycling should increase.

In addition, although whole tires are prohibited from landfills, shredded tires may still be landfilled. As long as counties are allowed to landfill tires in some form, some will exercise that option. The recent passage of Public Chapter 566 (1998), which will prohibit shredded tires in landfills by July 1, 2002, (unless recycling tires is not economically feasible for a county) should provide further incentive to recycle tires.

- **The Division of Solid Waste Assistance has improved its tracking of disposed tires to curb illegal tire dumping and to assist with record-keeping for the Waste Tire Option Program.** Beginning in July 1997, the division implemented a manifest system allowing it to track all legally disposed tires. Prior to the system, the department lacked a formal method of obtaining information about the number of tires being collected, stored, or recycled. The manifest document is a four-part form that requires tire retailers, waste tire haulers, site operators for waste tire collection/storage facilities or processing sites for beneficial end-use, and beneficial end-users, to certify the number and type of tires disposed or processed. Counties are responsible for sending completed manifest forms along with weight tickets to the state for reimbursement through the Waste Tire Option Program.

Enterprise Fund Accounting

The Solid Waste Management Act mandates that each county, municipality, and solid waste authority that operates a landfill or incinerator account for financial activities related specifically to that facility in an enterprise fund.⁴⁹ Prior to passage of the act, most county governments accounted for financial transactions related to the operation of a disposal facility in the general fund. The use of the general fund made it difficult to determine the full cost of operating a landfill or incinerator since this type of fund uses the current financial resources measurement focus and the modified accrual basis of accounting. With this focus, only current assets and current liabilities are recognized in the fund.

The operation of a landfill or incinerator contains many long-term costs such as closure and post-closure costs. When these operations are accounted for in a general fund or similar fund with the same basis of accounting, then long-term costs are not recognized in

⁴⁹ T.C.A. 68-211-874(a).

that fund, but are instead recognized as part of the county's general long-term debt. The use of an enterprise fund provides for the recognition of both current and long-term cost in the fund, giving a clearer picture of the total cost involved in the operation of a landfill or incinerator.

County governments have resisted the use of enterprise funds, partly because many had little previous experience at maintaining funds on a full accrual basis as required by an enterprise fund. Also, the Governmental Accounting Standards Board (GASB) requires the recognition of long-term liabilities for the closure and post-closure cost of a disposal facility. Because of this requirement, most enterprise funds reflect a deficit in the retained earnings account.

The Environmental Protection Agency dictates the cost of closure and post-closure for a disposal facility. In addition, GASB dictates that liabilities for closure and post-closure costs be realized while the facility is in operation, and prefers these liabilities be recognized in an enterprise fund.

- **Most, but not all, counties have established enterprise fund accounting for disposal facilities.** The previous Comptroller's report indicated that some counties had not developed enterprise fund accounting for landfills and incinerators as required by *T.C.A. 68-211-874(a)*. A survey of Tennessee counties for the year ending June 30, 1997, indicates that 28 counties owned and operated a landfill or incinerator. Two of the 28 counties failed to account for financial transactions of their landfill operations in an enterprise fund. Of the counties that maintained an enterprise fund, 22 had retained earnings account deficits ranging from \$89,000 to \$9,480,000 as of June 30, 1997. Most of these deficits were attributable to insufficient fees charged for tipping and/or the recognition of closure and postclosure care costs late in the landfill's life. The trend in more recent years has been for counties to close landfills. Most of these counties closed their landfills with significant retained earnings deficits due to insufficient amounts being collected to fund the closure and postclosure care costs associated with the operation of landfills.

Data Maintenance

- **The solid waste management and planning database is still not functional.** The Comptroller's previous report indicated that software and implementation problems delayed the development of the database. In addition, division staff indicate that other departmental initiatives have taken priority over the development of the database. The Solid Waste Management Act requires the department to establish and maintain a statewide solid waste planning and management database that can aggregate county reports on waste generation, collection, recycling, transportation, and costs.⁵⁰ The database is an informational, decision-making tool for counties and solid waste regions. It is to contain data compiled from county solid waste needs assessments, data from the regional solid waste plans, as well as information from annual reports. The database will maintain information on grant programs, regional solid waste plans, and recycling markets. Staff of the Division of Solid Waste Assistance indicates that the database is scheduled to be completed by the end of 1998.

⁵⁰ *T.C.A. 68-211-872.*

Legislative Alternatives

The General Assembly may want to request that the Municipal Solid Waste Advisory Committee provide a recommendation concerning the waste reduction goal in the Solid Waste Management Act. Final task force recommendations, when completed, will first be presented to the Advisory Committee and should be given full consideration by the General Assembly, particularly if legislative change is required. The task force is a diverse group representing varied perspectives. Its approach is comprehensive and its recommendations will be reached through consensus.

The General Assembly may want to amend T.C.A. 68-211-851(d), placing a limit on the number of “green box” receptacles, or phasing them out completely over a period of time. Data collected for 1996 indicate that 25 counties still use green boxes to some extent. Those counties reported a total of 282 sites comprised of 1,124 receptacles, with the number of reported receptacles per county ranging from one to 167. A few counties may need some of these receptacles to provide adequate service throughout rural areas. But some counties may rely too heavily on green box collection to the exclusion of a comprehensive, well-planned approach to waste management.

The General Assembly may want to revise T.C.A. 68-211-845, which currently requires the Department of Education to carry out K-12 educational directives for solid waste. The Tennessee Department of Environment and Conservation has contracted with the University of Tennessee Waste Management Research and Education Institute (UTWMREI) for these services since the 1995-96 fiscal year, and is pleased with the education program. The General Assembly may want to revise the language either to require UTWMREI to carry out the directives or to allow the department to determine how to fulfill them.

Administrative Alternatives

The Department of Environment and Conservation should develop a means of evaluating both its adult education program and the K-12 program that is contracted to UTWMREI. The department was criticized in a 1997 state performance audit for poor coordination of its education programs and for its lack of evaluation to determine effectiveness. The department recently received an EPA grant to be used partly for this purpose. Solid waste regions’ education programs have progressed slowly, even though the department has expended a good deal of effort to assist the regions in developing programs. In addition, although the Department is apparently pleased with the TN-SWEP program conducted by UTWMREI, an evaluation of TN-SWEP could identify strengths and weaknesses, and could be used to improve the program.

The department should continue to foster an infrastructure that will encourage the recycling of waste tires in the state. The Division of Solid Waste Assistance has already taken steps to do this by awarding innovative technology grants to businesses that are producing or using tires in their processes, and by sponsoring a waste tire conference for the southeastern region to allow states to share information about their waste tire programs. In addition, the department recently started work on its new tire abatement strategy, a step toward ridding the state of illegal tire dumps.

Appendix A Persons Interviewed

Paul Evan Davis
(Former) Director
Division of Solid Waste Assistance
State Department of Environment and Conservation

Bill Dobbins
Deputy Director
Division of Solid Waste Assistance
State Department of Environment and Conservation

Joyce Dunlap
Environmental Assistance Program Manager (Grants)
Division of Solid Waste Assistance
State Department of Environment and Conservation

Chip Forrester
President
Recycle! Nashville

Doug Goddard
Executive Director
Tennessee County Commissioners Association and
Chairman
State Municipal Solid Waste Advisory Committee

Teri James
Accountant
Division of Solid Waste Management
Department of Environment and Conservation

Alan Jones
Executive Director
Tennessee Environmental Council

Frank Victory
Manager
Division of Solid Waste Management
Department of Environment and Conservation

Catherine Wilt
Director
Waste Management Research and Education Institute
University of Tennessee

**Appendix B: Regions' Plan Approval Dates, 1995 and 1996
Waste Reduction Rates, Recycling Tonnages, and Variances
Granted**

Region Name	Plan Approved	% Waste Reduction Rate – 1995	% Waste Reduction Rate – 1996	Recycling Tonnage 1996	Variance Granted (Years)
Anderson	9/27/96	8%	6%	9,951	5
Bedford +	3/28/95	(34%)	5%	571	5
Benton	9/16/94	50%	25%	331	N/A
Blount +	9/12/94	12%	21%	1,831	3
Campbell +	6/12/95	5%	23%	10,697	5
Central TN + (Cannon, Coffee, Rutherford, Warren)	10/6/95	3%	(16%)	16,436	5
Carroll-Henry +	9/16/94	18%	37%	10,679	3 (Goal met in 1996)
Cheatham	3/7/97	6%	13%	255	5
Claiborne +	5/1/96	32%	36%	730	N/A
Clay	3/16/95	(7%)	(6%)	48	5
Cocke	3/27/96	4%	17%	669	5
Crockett-Dyer-Gibson +	4/25/97	17%	48%	426	3 (Goal met in 1996)
Cumberland	6/15/95	27%	29%	1,131	N/A
Davidson +	11/3/94	25%	26%	135,410	N/A
Decatur	6/23/95	9%	16%	167	5
DeKalb	7/30/96	17%	31%	0	3 (Goal met in 1996)
Dickson	11/23/94	26%	36%	1,602	N/A
Fayette	9/1/95	16%	29%	874	3 (Goal met in 1996)
Fentress +	9/27/96	27%	27%	1,947	N/A
Grainger	9/27/96	26%	36%	6	N/A
Greene +	3/22/96	28%	32%	4,822	N/A
Hamblen	9/27/96	26%	(5%)	1,358	3 (New in 1996)
Hancock +	10/21/96	0%	32%	0	5 (Goal met in 1996)
Hardeman	10/8/96	27%	31%	1,161	N/A
Hawkins +	3/16/95	43%	45%	10,385	N/A

Region Name	Plan Approved	% Waste Reduction Rate – 1995	% Waste Reduction Rate – 1996	Recycling Tonnage 1996	Variance Granted (Years)
Haywood, Tipton, Lauderdale	10/8/96	5%	8%	760	5
Henderson	9/25/95	47%	54%	46	N/A
Hickman	3/7/97	14%	17%	476	2
Houston +	10/8/96	(13%)	16%	447	5
Humphreys	7/12/96	(5%)	19%	777	5
Interlocal + (Franklin, Giles, Lincoln, City of Tullahoma)	3/9/95	21%	14%	4,261	2
Jackson	4/16/97	50%	71%	56	N/A
Jefferson	8/18/95	33%	39%	1,172	N/A
Knox +	11/16/94	(6%)	15%	109,905	5
Lake-Obion-Weakley	6/30/97	20%	(4%)	3,389	2
Lawrence	5/22/96	6%	12%	799	5
Lewis	2/12/97	54%	54%	335	N/A
Loudon +	7/15/96	15%	24%	311	1 Plus 4 in 1996
Madison +	3/9/95	12%	20%	180	5
Marshall-Maury +	3/9/95	19%	14%	2,989	3
Monroe	5/1/96	32%	30%	16	N/A
Moore	4/26/95	74%	72%	3	N/A
Morgan	10/21/96	65%	63%	785	N/A
North Central (Macon, Smith, Trousdale)	3/22/96	26%	41%	587	N/A
Northeast + (Carter, Johnson, Washington, Unicoi)	3/28/95	26%	29%	15,673	N/A
Overton	2/10/97	64%	61%	311	N/A
Perry	9/26/96	43%	54%	244	N/A
Pickett +	1/30/97	(36%)	(7%)	187	5
Putnam +	3/16/95	(110%)	17%	105,011	5
Roane	12/1/94	5%	35%	17,554	5 (Goal met in 1996)
Scott	5/10/95	29%	33%	391	N/A
Sevier +	1/19/96	66%	63%	46,846	N/A
Shiloh (Chester, Hardin, McNairy, Wayne)	3/9/95	24%	20%	1,661	2
Shelby +	5/9/95	25%	26%	201,858	N/A
Southeast Region + (Bledsoe, Bradley, Grundy, Hamilton, Marion, McMinn, Meigs, Polk, Rhea, Sequatchie)	7/25/96	9%	10%	29,600	5

Region Name	Plan Approved	% Waste Reduction Rate 1995	% Waste Reduction Rate 1996	Recycling Tonnage 1996	Variance Granted (Years)
Stewart, Robertson, Montgomery	5/20/96	26%	35%	14,380	N/A
Sullivan +	3/28/95	(5%)	10%	14,349	5
Sumner	7/15/96	33%	29%	23,055	N/A
Union	1/8/96	(10%)	(29%)	NR	5
Van Buren	3/31/97	34%	39%	NR	N/A
White +	9/19/95	(16%)	(24%)	0	5
Williamson +	3/28/95	27%	14%	26,024	5 New in 1996
Wilson +	5/7/96	3%	22%	1,924	5

+ Base year adjustment requested and granted.

() Increased waste generation since 1989.

NR Not responsive to request for 1996 data.

NA Not applicable

Source: Tennessee Department of Environment and Conservation, Division of Solid Waste Assistance

Appendix C: 1996 Greenbox Report (Authorized County Public Receptacles)

*Compiled by the Division of Solid Waste Management
Tennessee Department of Environment and Conservation
as prescribed by T.C.A. 68-211-851(d)*

County Name	No. of Sites	No. of Receptacles	Surface
Anderson	3	3	Gravel
Campbell	1	3	Gravel
Cheatham ¹	1	2	Gravel
Clay	7	80	Gravel
Cumberland	2	23	Gravel
Dekalb	9	14	Gravel
Fentress	1	2	Gravel
Greene	4	43	Gravel
Grundy ²	7	51	Gravel
Hardeman	33	125	Gravel
Hardin	25	68	Gravel/Dirt
Haywood	98	167	Gravel/Pavement
Humphreys	18	59	Gravel
Loudon	1	1	Gravel
Marion	1	2	Gravel
Morgan	10	121	Gravel
Perry	20	49	Gravel/Chert
Putnam	1	4	Gravel
Rhea	4	60	Gravel
Roane	1	4	Pavement
Rutherford	5	11	Dirt/Gravel/Pavement
Sevier	11	141	Gravel/Pavement
Van Buren	6	11	Gravel
White	11	74	Gravel
Williamson	2	6	Gravel
TOTALS	282	1,124	

¹ Container swapped out once a week with alternate container at site.

² Seven of these sites are reported to be fenced and manned and are probably convenience centers. The number of receptacles at one site was not reported because it is a convenience center.

Appendix D: Waste Tire Option Program, 1997-98

Option 1	Option 2	Option 3	No Change	No Response
Benton	Carroll	Anderson	Blount	Bledsoe
Campbell	Henderson	Bedford	Cheatham	Claiborne
Cumberland	Henry	Bradley	Chester	Clay
Decatur	Loudon	Cannon	Giles	Crockett
Dekalb	Putnam	Carter	Johnson	Dickson
Fayette		Cocke	Lauderdale	Dyer
Fentress		Coffee	McNairy	Franklin
Hardeman		Davidson	Montgomery	Grainger
Hardin		Gibson	Pickett	Houston
Haywood		Greene	Stewart	Lake
Humphreys		Grundy	Robertson	Lawrence
Jefferson		Hamblen	Trousdale	Macon
Lincoln		Hamilton	Union	Meigs
Madison		Hancock	Wilson	Overton
Maury		Hawkins		Perry
McMinn		Hickman		Polk
Morgan		Jackson		Sequatchie
Obion		Knox		Sumner
Rhea		Lewis		Van Buren
Rutherford		Marion		Wayne
Scott		Marshall		Weakley
Shelby		Monroe		
Smith		Moore		
Williamson		Roane		
		Sevier		
		Sullivan		
		Tipton		
		Unicoi		
		Warren		
		Washington		
		White		

Option 1:

Reimbursement of \$25 per ton in lieu of county charging a tipping fee on waste tires. The state will continue to shred waste tires collected at the county collection site with its shredding contractor. Tires may be landfilled.

Option 2:

Reimbursement of \$40 per ton in lieu of state-provided shredding services. The county may continue to charge an authorized tipping fee. The county must have a beneficial end use contractor for the tires and shall not landfill the tires.

Option 3:

Reimbursement of \$40 per ton plus \$25 per ton in lieu of county charging a tipping fee on waste tires. County must also have a beneficial end use contractor for the tires and shall not landfill the tires. No state-provided shredding services offered.

No Change:

The county continues collecting and storing scrap tires at present site; continues charging tipping fee (if any); and state-provided shredder continues to shred tires. There is no reimbursement under this option. Each county may charge a disposal fee per ton.

Source: Tennessee Department of Environment and Conservation, Division of Solid Waste Assistance.

Appendix E: Grants Funded in 1996-97

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Planning	Conv. Centers	Waste Tire Options	Total
Anderson County			\$10,000		\$125,000	\$53,840	\$188,840
Lake City	\$12,500						\$12,500
Oliver Springs *	\$11,750						\$11,750
Bedford County						\$23,920	\$23,920
Bedford County SW Authority	\$15,525						\$15,525
Benton County				\$5,000		\$3,172	\$8,172
Bledsoe County	\$15,120						\$15,120
Bledsoe/Bradley/Grundy/ Hamilton/ McMinn/ Marion/ Meigs/ Polk/ Rhea/ Sequatchie				\$70,000			\$70,000
Blount County		\$19,770	\$10,000				\$29,770
Alcoa		\$2,010					\$2,010
Maryville		\$6,788					\$6,788
Bradley County			\$12,368				\$12,368
Campbell County	\$25,000					\$7,661	\$32,661
Caryville	\$19,600						\$19,600
Jacksboro	\$19,600						\$19,600
Cannon County						\$2,286	\$2,286
Cannon/ Coffee/ Rutherford/ Warren				\$28,000			\$28,000
Carroll County						\$9,614	\$9,614
Carter County	\$23,733					\$11,249	\$34,982
Carter/Johnson/ Unicoi/Washington				\$28,000			\$28,000
Carroll/Henry				\$12,000			\$12,000
Cheatham County			\$10,000				\$10,000
Chester County				\$5,000			\$5,000
Chester/Hardin/ McNairy/Wayne				\$28,000			\$28,000
Claiborne County			\$10,000	\$5,000			\$15,000
Cocke County				\$5,000		\$6,364	\$11,364
Newport	\$16,782						\$16,782
Coffee County						\$31,806	\$31,806
Crockett County			\$10,000				\$10,000
Cumberland County						\$7,586	\$7,586
Davidson County		\$1,426	\$10,000	\$5,000			\$16,426
Belle Meade		\$959					\$959
Berry Hill		\$273					\$273
Goodlettsville		\$2,845					\$2,845
Lakewood		\$686					\$686
Nashville		\$169,157					\$169,157
Oak Hill		\$1,418					\$1,418
Decatur County	\$19,395					\$2,287	\$21,682
Dekalb County				\$5,000		\$3,986	\$8,986
Dickson County	\$14,251			\$5,000			\$19,251
Dyer County			\$10,000		\$125,000	\$7,612	\$142,612
Fayette County				\$5,000		\$5,582	\$10,582
Fentress County	\$18,000					\$3,210	\$21,210

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Planning	Conv. Centers	Waste Tire Options	Total
Franklin/Giles/ Lincoln				\$21,000			21,000
Franklin County	\$18,095					\$19,718	\$37,813
Gibson County						\$293,715	\$293,715
Greene County				\$5,000		\$33,379	\$38,379
Greeneville	\$16,360		\$10,000				\$26,360
Grundy County						\$7,587	\$7,587
Hamblen County						\$11,025	\$11,025
Hamilton County		\$29,351				\$563,615	592,966
Chattanooga		\$58,287					\$58,287
Collegedale		\$1,912					\$1,912
East Ridge		\$8,094					\$8,094
Lookout Mountain		\$721					\$721
Red Bank		\$4,522					\$4,522
Signal Mountain		\$2,927					\$2,927
Soddy Daisy		\$3,419					\$3,419
Hancock County				\$5,000		\$8,169	\$13,169
Hardeman County					\$124,757	\$5,106	129,863
Hardin County						\$4,943	\$4,943
Hawkins County	\$22,890			\$5,000		\$9,733	37,623
Mount Carmel	\$3,180						\$3,180
Haywood County						\$4,245	\$4,245
Henderson County						\$7,633	\$7,633
Henry County	\$25,000		\$10,000		\$125,000	\$9,745	169,745
Hickman County	\$19,640					\$9,514	29,154
Houston County			\$10,000			\$1,533	\$11,533
Humphreys County				\$5,000		\$3,450	\$8,450
Jackson County						\$2,030	\$2,030
James Developmental Center	\$17,343						\$17,343
Jefferson County	\$23,100					\$7,211	30,311
Jefferson City	\$1,540						\$1,540
White Pine	\$12,600						\$12,600
Johnson County	\$22,950						\$22,950
Knox County		\$57,963				\$264,110	322,073
Farragut		\$4,546					\$4,546
Knoxville		\$56,253					\$56,253
Lake County			\$10,000				\$10,000
Lawrence County				\$5,000			\$5,000
Lawrenceburg	\$15,000						\$15,000
Lewis County				\$5,000		\$2,020	\$7,020
Lincoln County					\$125,000	\$7,925	\$132,925
Loudon County	\$21,000					\$10,922	\$31,922
Macon County	\$9,442		\$12,212			\$3,474	25,128
Macon/ Smith/ Trousdale				\$21,000			\$21,000
Madison County		\$9,476		\$5,000		\$17,031	31,507
Jackson		\$16,415					\$16,415
Marion County						\$216,775	\$216,775
Marshall County			\$10,000		\$125,000	\$12,231	147,231
Marshall/Maury				\$12,000			\$12,000
Maury County						\$19,300	\$19,300

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Planning	Conv. Centers	Waste Tire Options	Total
McMinn County			\$10,329			\$15,054	25,383
Tellico Plains	\$14,400						\$14,400
Monroe County	\$25,000		\$10,000	\$5,000			\$40,000
Montgomery County	\$25,000						\$25,000
Montgomery/ Robertson/Stewart				\$21,000			\$21,000
Moore County						\$2,681	\$2,681
Morgan County	\$18,900		\$10,000	\$5,000		\$3,778	37,678
Obion County						\$6,927	\$6,927
Overton County						\$3,852	\$3,852
Perry County				\$5,000		\$1,444	\$6,444
Putnam County		\$12,144	\$10,000			\$17,952	40,096
Algood		\$1,561					\$1,561
Baxter		\$1,036					\$1,036
Cookeville		\$14,141					\$14,141
Monterey		\$1,577					\$1,577
Rhea County						\$5,317	\$5,317
Roane County	\$24,250		\$10,000	\$5,000		\$17,888	57,138
Rockwood	\$9,000						\$9,000
Rutherford County		\$25,746	\$10,000			\$44,361	80,107
Murfreesboro		\$17,120					\$17,120
Scott County			\$10,000	\$5,000		\$4,009	19,009
Oneida	\$16,200						\$16,200
Sequatchie County							
Dunlap	\$10,800						\$10,800
Sequoia High Planet Club	\$1,670						\$1,670
Sevier County				\$5,000		\$80,795	\$85,795
Sevier Solid Waste, Inc.	\$8,187						\$8,187
Shelby County		\$45,194					\$45,194
Arlington		\$520					\$520
Bartlett		\$10,968					\$10,968
Collierville		\$6,542					\$6,542
Germantown		\$11,988					\$11,988
Lakeland		\$516					\$516
Memphis		\$205,609				\$296,156	501,765
Millington		\$5,717					\$5,717
Smith County						\$40,325	\$40,325
Sullivan County		\$18,523		\$5,000		\$81,540	105,063
Bluff City		\$365					\$365
Bristol		\$5,444					\$5,444
Kingsport		\$7,880					\$7,880
Sumner County		\$8,784		\$5,000			\$13,784
Gallatin		\$3,677					\$3,677
Hendersonville		\$6,426					\$6,426
Mitchellville		\$36					\$36
Portland		\$1,001					\$1,001
Tipton County						\$21,333	\$21,333
Unicoi							

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Planning	Conv. Centers	Waste Tire Options	Total
Erwin	\$12,600						\$12,600
Union County			\$10,000	\$5,000			\$15,000
Warren County						\$7,190	\$7,190
Washington County		\$12,355	\$10,000			\$74,740	97,095
Johnson City		\$14,641					\$14,641
Jonesborough		\$1,271					\$1,271
Waves, Inc.	\$6,502						\$6,502
Wayne County					\$125,000		\$125,000
White County				\$5,000		\$4,250	\$9,250
Williamson County						\$17,695	\$17,695
Wilson				\$5,000			\$5,000

Grants Funded for 1995-96

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Conv. Centers	Education	Waste Tire Options	Total
Anderson County						\$33,251	\$33,251
Bedford County					\$10,000	\$21,816	\$31,816
Benton County				\$125,000			\$125,000
Blount County		\$18,510		\$118,649	\$10,000		\$147,159
Alcoa		\$1,963					\$1,963
Maryville		\$5,890					\$5,890
Bradley County	\$17,500			\$121,423			\$138,923
Campbell County	\$20,520		\$10,000	\$125,000	\$10,000	\$4,911	\$170,431
Cannon County					\$10,000		\$10,000
Carroll County			\$10,140		\$10,000		\$20,140
Carroll County Recycling and Conv.	\$21,866						\$21,866
Carter County					\$20,000		\$20,000
Claiborne County				\$125,000	\$10,000		\$135,000
Clay County			\$10,000		\$10,000		\$20,000
CLEAN, Inc.	\$25,000						\$25,000
Cocke County	\$25,000		\$15,000		\$10,000	\$6,880	\$56,880
Coffee County					\$10,000		\$10,000
Coffee County Rural S.W.	\$5,494						\$5,494
Cumberland County	\$24,500				\$10,000	\$4,863	\$39,363
Pleasant Hill	\$8,710						\$8,710
Davidson County		\$523		\$125,000	\$35,000		\$160,523
Belle Meade		\$1,198					\$1,198
Berry Hill		\$338					\$338
Goodlettsville		\$4,734					\$4,734
Lakewood		\$848					\$848
Nashville		\$206,054					\$206,054
Oak Hill		\$1,815					\$1,815
Decatur County				\$118,412	\$10,000		\$128,412
Dickson County	\$9,680				\$8,650		\$18,330
Dyer County				\$34,714			\$34,714
Fayette County			\$10,000	\$125,000		\$3,578	\$138,578
Fentress County						\$2,058	\$2,058
Franklin County						\$26,664	\$26,664
Franklin Co. Div. S.W. Mgmt.	\$25,000						\$25,000
Gibson County			\$10,000			\$145,000	\$155,000
Giles County				\$12,932			\$12,932
Greene County	\$15,000				\$10,000	\$19,351	\$44,351
Grundy County						\$6,510	\$6,510
Hamblen County			\$10,000				\$10,000
Morristown	\$20,130						\$20,130
Hamilton County		\$25,362	\$9,740	\$125,000	0	\$377,000	\$537,102
Chattanooga		\$50,431					\$50,431
Collegedale		\$1,670					\$1,670
East Ridge		\$6,980					\$6,980
Lookout Mountain		\$629					\$629
Red Bank		\$4,076					\$4,076
Signal Mountain		\$2,450					\$2,450

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Conv. Centers	Education	Waste Tire Options	Total
Soddy Daisy		\$2,726					\$2,726
Hancock County			\$10,000			\$943	\$10,943
Hardeman County						\$3,273	\$3,273
Hardeman County Developmental Sev.	\$20,550						\$20,550
Hardin County						\$3,169	\$3,169
Hawkins County	\$9,210		\$10,000			\$6,239	\$25,449
Surgoinsville	\$21,500						\$21,500
Haywood County						\$2,721	\$2,721
Henderson County			\$10,000	\$59,979	\$10,000	\$6,564	\$86,543
Henry County	\$25,000					\$9,683	\$34,683
Hickman County						\$6,584	\$6,584
Humphreys County						\$3,211	\$3,211
Jackson County	\$10,000			\$57,012		\$5,077	\$72,089
Gainsboro	\$8,300						\$8,300
Jefferson County			\$15,000	\$125,000		\$4,622	\$144,622
Johnson County			\$10,300		\$10,000		\$20,300
Knox County		\$41,757	\$10,000		\$35,000	\$237,729	\$324,486
Farragut		\$3,385					\$3,385
Knoxville		\$43,684					\$43,684
James Developmental Center	\$21,039						\$21,039
Johnson County	\$24,961						\$24,961
Lawrence Co.				\$125,000	\$10,000		\$135,000
Lawrenceburg/ Lawrence Co. SW	\$21,050						\$21,050
Lewis County						\$1,595	\$1,595
Lincoln County			\$7,576	\$54,050		\$11,932	\$73,558
Loudon County			\$13,691	\$125,000		\$10,852	\$149,543
Macon County	\$23,200				\$10,000	\$3,027	\$36,227
Lafayette	\$25,000						\$25,000
Madison County		\$10,302			\$17,500	\$13,117	\$40,919
Jackson		\$17,369					\$17,369
Jackson/Madison County HD			\$10,000				\$10,000
Marshall County					\$19,945		\$19,945
Maury County	\$17,000			\$125,000	\$19,910	\$15,901	\$177,811
McMinn County				\$125,000		\$11,679	\$136,679
McNairy County			\$10,000				\$10,000
Meigs County				\$125,000			\$125,000
Monroe County				\$125,000	\$10,000	\$6,525	\$141,525
Montgomery County		\$30,146	\$10,000	\$125,000			\$165,146
Moore County (Metro Lynchburg)			\$2,000	\$125,000			\$127,000
Morgan County	\$15,000						\$15,000
Obion County						\$4,440	\$4,440
Perry County			\$14,400				\$14,400
Pickett County	\$25,000		\$10,064				\$35,064
Polk County				\$62,250			\$62,250
Putnam County	\$25,000				\$19,554		\$44,554

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage	Conv. Centers	Education	Waste Tire Options	Total
Roane County				\$125,000	\$25,000	\$13,481	\$163,481
Harriman	\$17,000						\$17,000
Robertson County			\$10,000				\$10,000
Rutherford County		\$21,382			\$10,000	\$16,600	\$47,982
Murfreesboro		\$13,042					\$13,042
Scott County	\$24,930				\$28,000	\$2,570	\$55,500
Sequatchie County			\$10,000				\$10,000
Sevier County			\$10,000	\$125,000	\$10,000	\$78,408	\$223,408
Shelby County		\$43,429	\$10,000		\$10,000		\$63,429
Arlington		\$553					\$553
Bartlett		\$9,681					\$9,681
Collierville		\$5,175					\$5,175
Germantown		\$11,799					\$11,799
Lakeland		\$432					\$432
Memphis		\$218,935				\$402,000	\$620,935
Millington		\$6,409					\$6,409
Smith County			\$10,500		\$10,000	\$28,500	\$49,000
Sullivan County		\$17,378		\$125,000			\$142,378
Bluff City		\$293					\$293
Bristol		\$4,938					\$4,938
Kingsport		\$7,667					\$7,667
Sumner County		\$12,199					\$12,199
Gallatin		\$4,884					\$4,884
Hendersonville		\$8,365					\$8,365
Mitchellville		\$50					\$50
Portland		\$1,342					\$1,342
Sumner County Res. Auth.			\$10,000	\$125,000			\$135,000
Tipton County				\$125,000		\$5,260	\$130,260
Tri-County Center	\$20,000						\$20,000
Trousdale County	\$16,700				\$10,000		\$26,700
Unicoi County			\$10,000		\$10,000	\$2,317	\$22,317
Union County				\$125,000	\$10,000		\$135,000
Van Buren County			\$10,000	\$125,000			\$135,000
Warren County	\$21,500		\$10,000		\$10,000	\$8,362	\$49,862
Washington County		\$12,606			\$30,000	\$32,240	\$74,846
Johnson City		\$15,623					\$15,623
Jonesborough		\$978					\$978
Wayne County					\$25,000	\$1,951	\$26,951
Weakley County			\$10,000	\$28,387			\$38,387
Martin	\$17,000						\$17,000
White County			\$10,390		\$10,000	\$4,977	\$25,367
Williamson County			\$10,000	\$125,000	\$35,000		\$170,000
Wilson County			\$15,000	\$125,000			\$140,000
Lebanon	\$25,000						\$25,000

Appendix F

Source: Department of Environment and Conservation

Scrap Tire Task Force Meeting (Fall 1996)

New Options Recommended—Findings and Conclusions

Priority 1: Ensure collection of pre-disposal fee on retail tire dealers.

Findings: The staff from the Division of Solid Waste met with the staff from the Department of Revenue and shared these concerns. Revenue staff automatically includes a business in the pre-disposal fee program if the business states that it sells tires (e.g., Bob's Tire Store). If "Bob's Gas Station" also sells tires, Revenue does not have any way of knowing that tires are sold unless Bob volunteers the information, somebody reports Bob to Revenue, or Revenue conducts an audit on Bob's business. Revenue staff suggested having the pre-disposal fee collected at the wholesale level rather than the retail level. There would be fewer business operations to track on their part. Revenue staff informed the Division that they had signed up over 150 new businesses from which to collect the pre-disposal fees during the first 6 months of FY 1997. The pre-disposal fee is projected to generate approximately \$4,000,000 this year, an increase of over \$300,000 from the previous year. The Division of Solid Waste Assistance provided 2,300 brochures regarding a brief summary of the fee and related programs to the Division to Revenue to include with their annual mail-out to tire retailers this past spring.

Conclusions: The Department of Revenue is pursuing compliance with the pre-disposal fee with the resources available to them. If there is a desire to shift the collection of the pre-disposal fee from the retailers to the wholesalers, a legislative change would have to be initiated.

Priority 2: Strengthen laws and enforcement regarding tire dump sites (permitted and unpermitted).

Findings: The staff from the Divisions of Solid Waste Assistance (SWA) and Solid Waste Management (SWM) met to review this priority. SWM believes the current laws and regulations dealing with tire collections and disposal are adequate. With the limited availability of field office staff, regulated sites such as Class 1 landfills have a higher priority for oversight and inspections.

Conclusions: With the reductions in the number of landfills within the state and the reduction in non-compliance orders, the staff from SWM have committed to raise unpermitted tires sites to a higher priority of review and enforcement with its field office personnel. This higher priority comes with the understanding that should non-compliance incidents increase in other areas, the Department of Environment and Conservation is committed to provide the field office staff necessary to honor all of its commitments.

Priority 3: (Clarify) Account for "out-of-state" tires through the Department of Environment and Conservation's tire manifest; and clarify "bulk" manifesting.

Findings: The pre-disposal fee is collected from the retail sale of tires sold in Tennessee. The pre-disposal fee provides part of the funding to the Solid Waste Management Fund, from which all of the grants and services from the Division of Solid Waste Assistance (SWA) are paid. The staff of SWA maintain a review (audit) procedures on the counties submitting manifests forms and periodically checks tire dealer identification numbers. It

is imperative that tires that are shredded by the state's contractor or recycled under the Waste Tire Options Program are from Tennessee and not from other states.

Conclusions: The Waste Tire Manifest Form documents the trail of waste tire from its origin (a tire retailer) to the ultimate disposal site. Tires that are collected by county solid waste staff or delivered by private citizens are to be classified on the manifest form as a "bulk" manifest, because the origin of these tires cannot be traced to a retailer. A "bulk" manifest cannot be used in the clean-up of unpermitted tire sites, junk yard clean-ups, or retreaders' operations because there is little assurance the pre-disposal fee was collected on those tires.

Priority 4: Increase per ton reimbursement under the current Waste Tire Option Program (and evaluate differential reimbursement on truck tires).

Findings: Counties who were recycling their tires claimed that the amount of money reimbursed to them under the Waste Tire Options Program was not adequate to cover their costs. Of particular concern were truck tires (tires with a wheel diameter of 20 inches or greater). According to these counties, costs for handling, transporting and processing the truck tires greatly exceeded their budgets and SWA's reimbursement program.

Conclusions: The Division of Solid Waste Assistance (SWA) sent a survey to all counties to ascertain the revenue and expenses of their waste tire programs. Over 65 counties responded; however, there appear to be as many different ways to account for tires as there were counties. Depending upon the location of the county, the company with whom the county contracted and the arrangements made with other counties and/or tire dealers, the reimbursement amount varied greatly. One clear indication of the Waste Tire Option Program being on the right track is the increased number of counties recycling their tires. In the previous year, only 11 counties recycled their tires. In this current year 25 counties are recycling their tires. For the time being, the Division will keep the Waste Tire Option Program at its current reimbursement rates. However, as the staff from SWA continues its review and analysis of the Scrap Tire Cost Survey, the results could influence the reimbursement rate. (Please note, the results from the Scrap Tire Cost Survey will be finalized by June 30, 1997.)

Priority 5: Require licensing of waste tire generators, collectors, processors and end-users (add "out-of-state" tires); and fee collection from all sources (including used tire dealers).

Findings: Many other states require a license for tire haulers. This helps insure the tire dealer is giving his tires to a bona fide hauler who will transport the waste tires to a lawful disposal facility. In many states, if a hauler does not have a valid haulers' license, the tire dealer is not allowed to give his tires to that hauler. The Division of Solid Waste Management (SWM) currently issues permits for haulers of solid waste. However, a hauler that takes tires for recycling is exempted from this permit requirement.

Conclusions: Any licensing requirements for waste tire generators, collectors, processors, and end users will require a legislative initiative. With some end users located outside the state, there will have to be some mechanism to include these operations as well. A legislative initiative will also be required if a per-disposal fee is to be imposed upon used tire dealers.

Priority 6: Establish transportation cost reimbursement (under the Waste Tire Options Program) for tires carried to beneficial end-use markets.

Findings: Counties who were recycling their tires claimed that the amount of money reimbursed to them under the Waste Tire Options Program was not adequate to cover their costs. According to one company, mileage in excess of 125 miles from collection site to recycling site caused costs to increase.

Conclusions: (See Conclusions under Priority 4.) As the staff from Division of Solid Waste Assistance continue to review and analyze the Cost Survey, the results could influence the development of a reimbursement rate based upon mileage to a recycling site.

Priority 7: Establish a pre-disposal fee on annual vehicle registration renewals (license tags).

Findings: This issue was discussed at length during the Task Force Meeting. One member of the task force reported that over 6 million vehicle tags are renewed each year. If the pre-disposal fee were to be shifted from the tire retail sales to vehicle renewals, it would reduce the number of collection points (from 2,500+ to 95) as well as increase the amount of money coming into the Solid Waste Management Fund (from \$4,000,000 to \$6,000,000). This potential increase could help offset any additional reimbursements made under the Waste Tire Options Program.

Conclusions: Any change in the pre-disposal fee would require a legislative initiative. Also, the Department of Safety would be required to collect the pre-disposal fee at the county level and turn this fee over to the Department of Revenue. It is unknown at this time how to develop this program between those two departments.

Priority 8: Expand beneficial end uses definition for civil engineering application.

Findings: The Division of Solid Waste Management issued a policy in November 1996 that stipulated the beneficial end uses for scrap tires that were considered grant eligible under the Waste Tire Option Program. Those beneficial end uses include: tire derived fuel; cement manufacturing; crumbing; and pyrolysis. Civil engineering applications for scrap tires are not grant eligible under the Waste Tire Option Program.

Conclusions: Civil engineering applications are acceptable uses for scrap tires; however, current civil engineering uses for scrap tires is very similar to burying them in landfills. The Division of Solid Waste Assistance wants to encourage the developing markets of scrap tires. The Division believes this support requires additional capital paid through the counties' Waste Tire Option contracts. Whereas civil engineering uses for scrap tires may be more readily available, any funds committed to civil engineering uses undercuts or reduces the already limited funds going to developing markets for recycled tire products.

Priority 9: Expand the pre-disposal fee on new vehicle registrations.

Findings: This issue, although similar to Priority 7, is still different inasmuch as it applies to new vehicle registrations, not vehicle renewals. The Department of Revenue has reported that there are approximately 600,000 new vehicle sales annually in Tennessee. Expanding the pre-disposal fee to new vehicle registration would increase the

amount of money coming into the Solid Waste Management Fund by \$2,400,000 annually.

Conclusions: This priority would require a legislative initiative. It would also require the expansion of the pre-disposal fee to include the Department of Safety. This was the lowest priority outlined by the Scrap Tire Task Force. Consensus on this priority was very divisive.