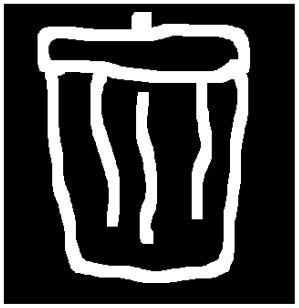

TENNESSEE'S TRASH IN THE 1990s

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Executive Summary

In 1991 the General Assembly passed the Solid Waste Management Act, the first comprehensive piece of solid waste legislation in Tennessee history. The act was passed in response to an ever increasing solid waste generation rate, increased federal regulations placed on waste disposal facilities, and the decreasing disposal capacity of many of those facilities.

It created a five year process in which local governments were required to develop solid waste infrastructure. Practically all 50 states now have similar legislation that require local governments to develop solid waste programs and services that better manage their solid waste streams. This report provides legislators with an evaluation of the act and draws conclusions about some of its major provisions. The report concludes:

Tennessee has made good progress with recycling and waste reduction since 1989. In 1989, approximately 84 percent of Tennessee's waste was landfilled, eight percent was recycled, and the remaining eight percent was incinerated. More recent waste stream figures indicate that significant progress has been made in waste reduction. According to *Biocycle Magazine,* Tennessee landfilled 78 percent of its 1994 waste stream, recycled 15 percent, and incinerated the remaining seven percent. The Division of Solid Waste Assistance estimates that the state reduced almost 22 percent of its 1994 waste stream going to Class I disposal facilities through recycling and waste diversion. (See pages 1-3.)

Thirty-eight of the state's 62 solid waste regions did not submit their regional solid waste plans by the July 1, 1994, deadline, including six of the 12 multi-county regions. All plans were submitted by May 1995 and 28 of those had been approved by the state as of December 1995. Apparent reasons for plans not being submitted by the deadline include the conflictual nature of solid waste issues, loss of local government officials after the 1994 elections, incorrect estimates of the work needed to prepare a regional plan, and failure to take the statutory deadline seriously. (See pages 13-14.)

Some counties had difficulty forming and coordinating multi-county solid waste regions. Multi-county regions, encouraged by the act, did not form with ease and the 12 multi-county regions that did form encountered coordination and planning problems. Some counties tried to regionalize and failed while other counties ultimately succeeded after some difficulty. Multi-county regions often encountered problems with coordination of information and one region in particular was troubled by the statutory limitation placed on regional planning board membership. Future multiple county regionalization should be undertaken only after careful planning and analysis. (See pages 14-16.)

The tire shredding program created by the act emphasizes landfilling of tire shreds and does not encourage tire recycling options. State tire shredders do not shred tires to an appropriate size for most recycling purposes. Most recycling options require tire shreds of two inches or less, a size not provided by state shredders. The statutory requirement on the number of tire shredders to be provided by the state has not been met since the program's inception. The state's tire shredding program has shredded about 5.5 million tires since July 1992, less than half of the approximately 11.9 million tires sold at retail in Tennessee in the same time period. A tires-to-prisons program initiated for tire dealers by

the state in 1993 ended in June 1995. A new pilot program for waste tire disposal began in July 1995. (See pages 16-21.)

Disagreement between the Division of Solid Waste Assistance and the Department of Education caused the division to terminate its K-12 solid waste education contract with the department effective July 1, 1995. Problems between the two agencies included disputes over curriculum development, hiring of staff, proper solid waste education objectives, and coordination of information. The Division of Solid Waste Assistance is now contracting with the University of Tennessee's Waste Management Research and Education Institute for K-12 solid waste education. The Waste Management Institute's program is called the Tennessee Solid Waste Education Project (TN. SWEP). (See pages 21-24.)

The local government waste flow control authority granted by the act may be constitutionally suspect, making Tennessee disposal facilities more vulnerable to the possibility of receiving waste from other states. The act granted waste flow control authority to local governments so those entities could control the waste within and coming into their localities. The U.S. Supreme Court, however, has ruled such authority to be a violation of the U.S. Constitution's Commerce Clause. Without this authority, a local government is severely limited in its ability to control the waste that flows into facilities from outside its jurisdiction. Congressional legislation granting local and state governments legal authority to pass flow control measures may be the best solution to this problem. Congressional committees are currently debating a variety of legislative proposals regarding flow control. (See pages 24-28.)

A decision by the Division of Solid Waste Assistance and the Solid Waste Disposal Control Board allowing solid waste intended for Class I disposal facilities to be disposed in Class III and IV facilities raises questions of public policy and safety. This decision allows a solid waste region to divert municipal solid waste from a Class I disposal facility designed expressly for that waste to Class III and IV facilities that are designed for other types of waste. The diverted waste can then be counted toward the region's 25 percent waste reduction goal. While saving valuable Class I disposal space is important, the Division of Solid Waste Assistance and the Solid Waste Disposal Control Board may need to emphasize methods that reduce the total amount of waste disposed as well as assuring that inappropriate waste is not placed in these facilities. (See pages 28-29.)

A large amount of money has accumulated in the solid waste management fund. The act created the solid waste management fund to provide grant funding and pay for solid waste technical assistance for counties and municipalities. The fund has two main sources of revenue: an 85¢ surcharge on each ton of waste deposited in Class I disposal facilities and a $1 pre-disposal fee placed on each new tire sold at retail in Tennessee. The money in this fund has grown rapidly since 1991; it contained $11,477,508 at the end of FY 1994-95. Local government officials interviewed have expressed concern that not enough money from the fund is coming back to their localities in the form of grants. (See pages 30-31.)

Grant limits and documentation requirements may make it more difficult for some counties and municipalities to receive grants. Limits on how much a local government

can receive for each type of grant, a cap placed on the total grant money available in each category, and application requirements all make it difficult for some counties and municipalities to receive much needed grants. The Division of Solid Waste Assistance should look at its rules and regulations to see if they are burdensome on the ability of local governments to obtain state grants. (See pages 31-33.)

Municipalities are ineligible to receive most of the grants in the state grant program. *T.C.A.* §68-211-823, §68-211-824, §68-211-847, and §68-211-867(d) prohibit municipalities from receiving state grants for planning, convenience centers, public education, and waste tire storage facilities. Municipalities currently are unable to apply for and receive any state grants provided except a grant for recycling equipment. Because municipalities also play a role in solid waste collection and disposal, the General Assembly may wish to amend the state grant program to allow municipalities to apply for some or all grants offered in the program. Some municipal officials feel the 85¢ waste surcharge should be reduced if municipalities continue to be ineligible for most state grants. (See page 33.)

A few counties have not developed enterprise accounting funds for solid waste disposal facility management as required by generally accepted accounting principles and *T.C.A.* §68-211-874(a). According to the Comptroller's Division of County Audit, nine of the 38 counties owning and operating disposal facilities do not account for the financial transactions of its facilities through an enterprise fund. An enterprise fund is important because it enables a local government to recognize the current and long-term cost of operating a disposal facility. The Division of County Audit opposes any attempt to amend the current statute regarding the use of enterprise accounting funds for disposal facilities. (See pages 33-35.)

Software and implementation problems have delayed development of the Division of Solid Waste Assistance's solid waste planning and management database. The act calls for the Division of Solid Waste Assistance to establish and maintain a solid waste planning and management database that can aggregate county reports on waste generation, collection, recycling, transportation, and costs. The database is to be available for counties and solid waste regions for use as an informational, decision-making tool. It is to maintain information on grant programs, regional solid waste plans, and recycling markets. According to the Division of Solid Waste Assistance, software and implementation problems have delayed the database's development. These delays mean the database probably will not be ready for full use until sometime in 1996. (See page 35.)

Alternatives

The report provides a number of legislative and administrative alternatives that may be found on pages 36-37.

Legislative Alternatives

- The General Assembly has several options regarding regionalization, including mandating single county regions to form multi-county regions, maintaining the status quo, or encouraging the Division of Solid Waste Assistance to offer incentives to single county regions that regionalize with other counties.

- The General Assembly may wish to enact separate legislation creating a comprehensive waste tire management program.
- The General Assembly should consider passing a resolution encouraging the U.S. Congress to give state and local governments authority regarding waste flow control.
- The General Assembly may wish to amend *T.C.A.* §68-211-823, §68-211-824, §68-211-847, and §68-211-867(d) to allow municipalities eligibility for grants. The General Assembly may also wish to create new grants to be funded through the state grant program.

Administrative Alternatives

- The Division of Solid Waste Assistance and the Solid Waste Disposal Control Board may need to re-examine Waste Disposal Reduction Goal Rule 1200-1-7-09 allowing solid waste regions to divert Class I waste to Class III and IV disposal facilities for waste reduction purposes.
- The Division of Solid Waste Assistance should recommend that the General Assembly amend *T.C.A.* §68-211-845 if the division wishes to continue its K-12 education contract with the University of Tennessee's Waste Management Research and Education Institute instead of with the Department of Education.
- The Division of Solid Waste Assistance should examine the administration of the current grant program to see if any changes may be needed.
- The Division of Solid Waste Assistance should ensure that all counties develop enterprise accounting funds for disposal facilities pursuant to *T.C.A.* §68-211-874(a).

Table of Contents

Introduction

The proper management of municipal solid waste in Tennessee has become a major problem over the past decade. As the amount of waste generated increases and the number of disposal facilities decreases, it is more important than ever that states formulate long-term strategies for solving solid waste problems.

The management of solid waste provides some of the greatest challenges that local and state officials face on a daily basis. Solid waste issues are often complex and controversial. Technologies for solid waste management continue to multiply in variety and complexity, increasing alternatives but also making potential solutions more difficult to determine.

To prevent solid waste from becoming an even bigger and more controversial problem in Tennessee, the General Assembly enacted the Solid Waste Management Act of 1991. The legislation, one of the south's most comprehensive solid waste laws, emphasizes local government planning. It provides a framework in which local governments may develop infrastructure to address their solid waste needs. While local governments bear the brunt of solid waste issues, the act establishes the state's priorities and overall direction for future solid waste management.

As a result, solid waste is now a major focus of local governments in Tennessee and other states. Most local governments are challenged financially and politically to develop adequate solutions to solid waste problems. The intent of this report is to provide an evaluation of the Solid Waste Management Act's impact and provide some recommendations as to how it may be improved.

Methodology

The conclusions expressed in this report are based on:

1. Interviews with state solid waste officials, local government officials, and representatives of private sector environmental groups.
2. Books, magazine articles, and newspaper articles on solid waste.
3. A review of federal solid waste legislation.
4. A review of Tennessee solid waste legislation.
5. A review of previous solid waste work done by the County Technical Assistance Service and other agencies.

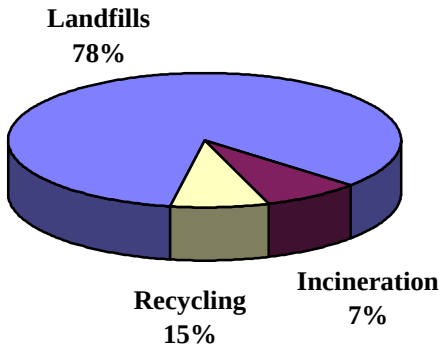
Background

Tennessee's Waste Stream

Tennessee residents in 1994 disposed of an estimated 5.7 million tons of solid waste in local disposal facilities, an average of 6.0 pounds per person per day. Tennessee has made good progress with recycling and waste reduction since 1989. In that year, approximately 84 percent of Tennessee's waste was landfilled, eight percent was recycled, and the remaining eight percent was incinerated. More recent waste stream figures indicate that significant progress has been made in waste reduction. According to *Biocycle Magazine,* Tennessee landfilled 78 percent of its 1994 waste stream, recycled 15 percent,

and incinerated the remaining seven percent. These figures are shown below in Figure 1. The Division of Solid Waste Assistance estimates that the state reduced almost 22 percent of its waste stream through recycling and waste diversion in 1994.

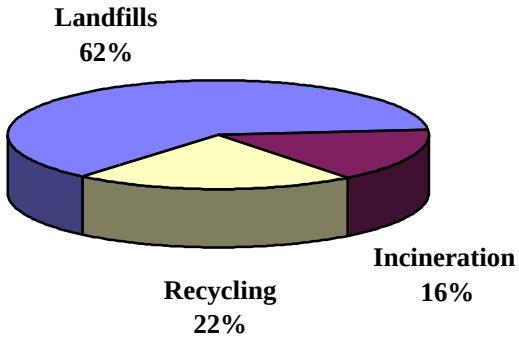
Figure 1: Management of Solid Waste in Tennessee



Source: *Biocycle Magazine,* May 1995.

Figure 2 reflects the percentages of solid waste management at the national level.

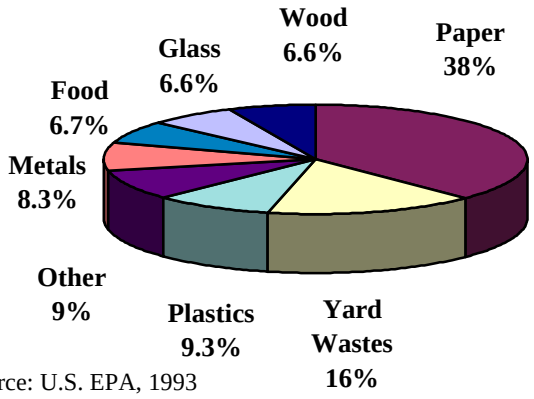
Figure 2: Management of Solid Waste Nationally



Source: U.S. EPA, 1993

Figure 3 characterizes the breakdown of waste nationally by waste product. Over half of the nation's waste generation is paper and yard waste. Tennessee's waste stream is assumed to mirror the national percentages.

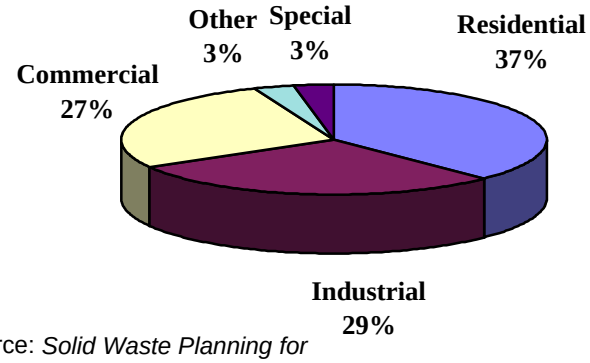
Figure 3: National Solid Waste Generation by Weight



Source: U.S. EPA, 1993

Figure 4 shows the origin of Tennessee solid waste by sector. A majority of Tennessee's waste stream is generated by the commercial and industrial sector while just over a third of the waste stream is residential waste.

Figure 4: Origin of Tennessee's Solid Waste



Source: *Solid Waste Planning for Tennessee*, 1989.

Federal Legislation

The first federal involvement in solid waste management was the Solid Waste Disposal Act of 1965.[1] This legislation called for federal action through financial and technical assistance and leadership in new methods of solid waste reduction. Congress also made clear that the collection and disposal of solid waste should continue to be the function of state and local governments, respecting the established roles of these governments in solid waste management.

The primary federal statutory authority governing solid waste is the Resource Conservation and Recovery Act (RCRA) of 1976. RCRA substantially increased the federal government's role in regulating solid waste. It addresses and draws a distinction between hazardous waste (Subtitle C) and solid waste (Subtitle D). RCRA further emphasizes environmental preservation by looking at waste reduction/recycling, resource recovery, and landfilling. Federal responsibility for solid waste belongs to the Environmental Protection Agency (EPA); it is responsible for collecting and providing information on waste reduction methods, recycling and material recovery markets, and general solid waste research.[2]

In 1991, the EPA promulgated strict regulations through congressional amendments to Subtitle D of RCRA. These regulations cover disposal facility design and operation for both new and existing disposal facilities. These regulations require facilities to be more environmentally acceptable by improving disposal site quality. Both new and existing facility owners will find it very expensive to meet these requirements after they take effect in 1996. It could cost millions of dollars for a facility owner to build or upgrade to proper Subtitle D specifications. This cost will force many existing facilities to close, thus reducing the amount of disposal capacity available.

State Legislation

The Solid Waste Management Act of 1991 is Tennessee's primary piece of solid waste legislation. The act builds on two previous state legislative efforts, the Solid Waste Disposal Act of 1969 (*T.C.A.* §68-211-101 to §68-211-121) and the Solid Waste Planning and Recovery Act of 1989 (*T.C.A.* §68-211-601 to §68-211-608).

The Solid Waste Disposal Act of 1969 was Tennessee's first legislative attempt to regulate solid waste. Prior to the 1969 Act, there was little direct solid waste regulation in Tennessee. The act empowered the Tennessee Department of Public Health to regulate solid waste and provided that disposal operations be run according to state regulatory standards. The primary legislative purpose was to provide a coordinated statewide program of control of solid waste processing and disposal in order to protect the public health.[3] The 1969 act also had three other goals: to provide for safe and sanitary processing/disposal of solid wastes, to develop long range plans for adequate solid waste disposal systems, and to ensure efficient and economical solid waste disposal systems.[4]

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[1] *U.S. Public Law* 89-272.

[2] Jean Peretz, *The Evolution of Solid Waste as a Current Agenda Issue in State Government*, University of Tennessee Waste Management Research and Education Institute, p.4.

[3] Judy Frank, *Solid Waste in Tennessee*, University of Tennessee County Technical Assistance Service, July 1987, p.2.

[4] *T.C.A.* §68-211-102(a).

Solid waste issues received less emphasis for most of the next 20 years both at the state and national levels. During the 1970s and 1980s, hazardous waste became the main environmental focus, and Tennessee was no exception to that trend. Tennessee passed no more legislation regarding solid waste until the Solid Waste Planning and Recovery Act of 1989.

The 1989 act arose from a coalition of public and private interests working together to try to solve the state's growing solid waste problems. Three bills were introduced in the 1989 session of the General Assembly. One bill was supported by the Tennessee Association of Businesses, another by the Tennessee County Services Association and the Tennessee Municipal League, and the third by a coalition of environmental groups including the Tennessee Environmental Council. All three bills addressed the need for waste reduction methods but differed on reasonable waste reduction goals, appropriate state and local government roles in solid waste, and what state agency should have responsibility for implementing the state's solid waste regulations. At about the same time, the Governor's Office and the State Planning Office created a forum that would bring together environmental, business, waste industry, and government interests. Known as the Governor's Roundtable, it began having regular meetings with representatives of these groups to develop solutions to Tennessee's growing solid waste problems.[5]

As a result, the General Assembly passed the 1989 Solid Waste Planning and Recovery Act. Its goals and purposes are the following[6]:

- Solid waste should be reduced at the source or recycled whenever economically or technically feasible.
- A decrease in solid waste should be attained to lessen the state's dependence on disposal facilities as a means of waste disposal.
- A regional planning process should be developed to facilitate the safe and responsible disposal of solid waste.
- The State Planning Office would establish a comprehensive solid waste plan for Tennessee by January 1, 1991.

Perhaps the 1989 act's most important provision was the directive to the State Planning Office to develop a state solid waste plan. The plan's priority was to provide Tennessee with a volume reduction of wastes going to disposal facilities. It also contains provisions on planning, funding, and implementing a solid waste infrastructure. The state solid waste plan was developed by the State Planning Office, the Governor's Roundtable, and the University of Tennessee's Waste Management Institute. The plan made it clear that the state needed comprehensive long-term solid waste planning and developed a framework for developing such planning. Much of this framework was incorporated in the Solid Waste Management Act of 1991.

The Solid Waste Management Act of 1991 is the most comprehensive solid waste legislation enacted in Tennessee's history.[7] The act places a distinct emphasis on planning

[5] Interview with Dr. Ruth Neff, Division of Solid Waste Assistance, November 9, 1994.
[6] *T.C.A.* §68-211-602 and §68-211-603(a).
[7] Martha M. Gentry and William R. Bruce, "A Lawyer's Guide to the New Solid Waste Management Act," *Tennessee Bar Journal*, November/December 1991, p. 32.

and directs local governments to accurately define their long-term solid waste needs as well as formulate plans to address those needs. It has three public policy goals for Tennessee:

- 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 recyclable.[8]

Implementation Agencies

All matters regarding solid waste in Tennessee are governed by two divisions of the state Department of Environment and Conservation: Solid Waste Assistance and Solid Waste Management. The original agency in charge of implementation was the State Planning Office. That power was eventually transferred to the Department of Environment and Conservation.[9]

The Division of Solid Waste Assistance is in charge of the actual day-to-day implementation of the act. It is non-regulatory and aids local governments in planning for their solid waste needs through its grants, special wastes, and recycling sections. The Division of Solid Waste Management is regulatory and promulgates solid waste disposal regulations as well as issuing site permits for solid waste disposal facilities.[10]

The state Solid Waste Disposal 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.[11] The Municipal Solid Waste Advisory Committee helps continue a dialogue between state agencies, the private business sector, and environmental/special interest groups. The committee members are appointed by the commissioner of the Department of Environment and Conservation.[12]

The Solid Waste Management Act is a five year planning and implementation process. The act's waste surcharge provision is slated to sunset on July 1, 1996, unless the General Assembly authorizes its continuation in the 1996 legislative session. The Solid Waste Advisory Committee met throughout 1995 to discuss reauthorization of the surcharge and to evaluate the strengths and weaknesses of each of the act's provisions so recommendations for future solid waste direction and legislation can be made to the General Assembly.

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[8] *T.C.A.* §68-211-803.
[9] Governor's Executive Order #54, January 7,1994.
[10] Interview with Tom Tiesler, Director, Division of Solid Waste Management, November 8, 1994.
[11] Interview with Geneil Dillehay, Deputy Director, Division of Solid Waste Assistance, October 24, 1994.
[12] *T.C.A.* §68-211-841(a).

Financing

Financing of solid waste programs may be accomplished both at the local and state levels. Local governments have 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 are a popular way to fund solid waste management issues. 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.[13] Tipping fees vary from county to county depending on the location and the amount of waste disposed.

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.[14]

In addition to tipping fees at their own facilities, the act allows a county, municipality, or solid waste authority to 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.

Another type of fee that may be implemented after a regional plan is approved is a host fee. A host fee may be charged by a county that is a host to a solid waste disposal facility used by other counties within its solid waste region. The fee is placed on each ton of solid waste received and revenue collected may be used for solid waste management purposes only.[15]

Funding for local solid waste programs and services may be received through a state grant program administered through the Division of Solid Waste Assistance. The money for this grant program comes from the solid waste management fund, which receives an 85¢ surcharge placed on each ton of solid waste disposed of in Class I disposal facilities and a $1 pre-disposal fee placed on each tire sold at retail in the state. Grants may be awarded in various need areas such as convenience center construction, public education, and the purchase of recycling equipment. A total of $20,779,423 in funding has been provided through the solid waste management fund from total revenues of $32,256,931. This leaves $11,477,508 in the fund at the close of FY 1994-95. See pages 30-33 for a more extensive discussion of state funding.

[13] County Technical Assistance Service, *Tennessee County Government Handbook,* June 1994, p. 167.
[14] Ibid.
[15] *T.C.A.* §68-211-835(e).

Technical Assistance

T.C.A. §68-211-822 enables the University of Tennessee's Municipal Technical Advisory Service (MTAS), County Technical Assistance Service (CTAS), and development districts to provide technical assistance to counties, solid waste regions, and municipalities in any aspect of solid waste management. The act allows that funds from the state solid waste management fund be used to pay for such assistance. Technical assistance may include advice on convenience center construction, development of local recycling programs, and implementation of regional solid waste plans. Technical assistance is also provided by the University's Center for Industrial Services (CIS) and Waste Management Research and Education Institute (WMREI).

MTAS, which provides technical assistance to Tennessee municipalities, uses engineering/public works, legal, and finance consultants to advise local government officials on solutions to solid waste problems. CTAS works with county and municipal governments, regional planning boards, and departments of state government. Each grand division of the state has a CTAS solid waste consultant who travels to counties on request and provides unbiased, objective expertise on local solid waste issues. A consultant may provide advice on general solid waste matters such as landfills; waste reduction such as individual workshops, diversion, and recycling; collection systems including convenience centers and equipment specifications; and transfer stations including day-to-day operation and maintenance. CTAS consultants also aid solid waste regions with data collection and implementation of regional solid waste plans.[16]

CIS engineers perform waste assessments at private companies, usually at a company's request, by conducting a tour of operations. The engineer analyzes the types of waste generated by the company, ways to reduce its waste stream, the money it spends on solid waste, and its recycling/reduction options. That information is then summarized in a formal report submitted to the company. These assessments are usually paired with waste management training sessions that may be as brief as one-half day or as long as five days.[17]

The Waste Management Research and Education Institute (WMREI) did much of the data collection and research for the 1989 state solid waste plan, and conducts both policy and technical research. WMREI has a team of research experts that examine solid waste problems and trends in Tennessee and the nation in hopes of developing solutions to those problems. The Waste Management Institute is now developing the K-12 public education program for the Division of Solid Waste Assistance.

Disposal Facilities

Various types of disposal facilities are used for disposing different types of solid waste. Disposal facilities are identified according to Classes I-VI.[18]

- 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

[16] Interview with Lewis Bumpus, CTAS Solid Waste Consultant, Nashville, November 15, 1994.
[17] Interview with Albert Tische, CIS Waste Reduction Consultant, Nashville, December 1, 1994.
[18] Rule 1200-1-7-.01, *Summary of State Solid Waste Processing and Disposal Regulations*, Division of Solid Waste Assistance.

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 only be used 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 II facilities.
- A Class IV disposal facility is a landfill used for the disposal of construction, demolition and other 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 is a facility that receives land farming wastes.
- A Class VI facility refers to a surface impoundment used for solid waste disposal.

Collection

The Solid Waste Management Act mandates that each county assures one or more collection/disposal systems is available for residents by January 1, 1996. The absolute minimum that a county can provide is a system consisting of a network of convenience centers where citizens may drop off waste and recyclables.[19] Any door-to-door collection services provided by private carriers would exceed the level of service mandated. If a county chooses to provide a door-to-door collection system instead of convenience centers, then that county must assure at least 90 percent of its residents have access to the system. All door-to-door collection systems will be evaluated by the Division of Solid Waste Management on an annual basis. Grant assistance is *not* available to cover expenses for door-to-door or other such types of collection.[20]

Recycling

Two things are occurring with recycling: the Division of Solid Waste Assistance operates an Office of Cooperative Marketing and maintains a Recycling Market Advisory Council. The cooperative marketing office, originally planned for operation by the Department of Economic Development, is instead operated by the Division of Solid Waste Assistance.[21] The cooperative marketing office provides outreach to local governments and information about current recycling markets for materials.

The Recycling Market Advisory Council advises the Division of Solid Waste Assistance in the identification and development of recycling markets.[22] The council has representatives from the not-for-profit recycling sector, the manufacturing sector, and various environmental organizations. It meets monthly in an effort to track national

[19] *T.C.A.* §68-211-851(a).
[20] Department of Environment and Conservation, *Tennessee Wastewise*, May 1994, p.5.
[21] *T.C.A.* §68-211-826(a).
[22] *T.C.A.* §68-211-827.

recycling trends and propose initiatives to better develop markets for recyclables. The council also conducts recycling commodity symposiums as a forum for discussing issues critical to a state recycling strategy.

Household Hazardous Waste

The household hazardous waste (HHW) collection program operated by the state has been relatively successful. The act mandates that the Division of Solid Waste Assistance provide a household hazardous waste collection and disposal program for Tennessee's citizens. This HHW program involves the use of mobile collection units that travel on request from counties to hold HHW collection days.[23] A county requesting a mobile HHW collection unit is responsible for a variety of preparations for the event. The county must provide a service site, advertise the date and time in the local newspaper(s) identifying the types of wastes that will be collected, and provide a service person to assist at the collection site. The county is also responsible for designating a collection site that is convenient to the public.[24] The state contracts with Laidlaw Environmental Services of Nashville to provide the mobile collection units.[25]

As of September 1995, 69 counties have held a collection day and 11 counties plan to hold a collection day by the end of 1996. Twenty-four counties have hosted two collection days and 15 more have a second collection day scheduled.[26] The best part of the household hazardous waste collection program is the education it can provide citizens regarding proper disposal techniques. The participation and success of a HHW collection unit for a county usually depends on the amount of advertisement the county provides and word of mouth.

[23] *T.C.A.* §68-211-829.
[24] Department of Environment and Conservation, *Tennessee Wastewise,* April 1993, p.2.
[25] Division of Solid Waste Assistance, *1993-94 Annual Report to the Governor and General Assembly*, p.13.
[26] Division of Solid Waste Assistance, *Summary of Tennessee's Problem Waste Management Programs*, September 21, 1995.

Conclusions

Planning

Most of the state's 62 solid waste regions did not submit their regional solid waste plans by the July 1, 1994 deadline, including six of the state's 12 multiple county regions.[27] Reasons for this include the conflictual nature of solid waste issues, the loss of local government officials after the 1994 elections, incorrect estimates of the work needed to prepare a regional plan, and failure to take the statutory deadline seriously. All plans have now been submitted and 28 have received state approval.

Some counties had difficulty forming and coordinating multi-county solid waste regions. Multi-county regions, encouraged by the act, did not form with ease; the 12 multi-county regions that did form encountered coordination and planning problems. Some counties tried to regionalize and failed while other counties ultimately succeeded after some difficulty. Multi-county regions often encountered problems with coordination of information. One region in particular was troubled by the statutory limitation on the membership of its regional planning board.

The planning process began with the state's nine development districts. Each development district was required to compile a solid waste needs assessment for each county in its district to be submitted to the State Planning Office by September 30, 1992.[28]Staff from each development district compiled assessments that provided each county with a current inventory of its solid waste services, programs, and facilities as well as projecting the needs for those programs and facilities over the following ten years. Needs assessments were developed to enable counties to better address their future solid waste needs.[29]

The Division of Solid Waste Assistance was very pleased with the work of each of the development districts as the first part of the planning process. Development districts continue to aid solid waste regions with planning advice.

Each county was directed to form a solid waste planning region by December 12, 1992. A county had the choice of either planning alone or forming a region with neighboring counties. Any region, whether single or multi-county, was formed by resolution of the appropriate county commission(s).[30] The act encouraged counties to form multiple county solid waste regions for planning purposes. According to the Division of Solid Waste Assistance, over one-half of Tennessee's counties did not regionalize with other counties. Fifty of the 95 counties chose to plan alone while the remaining 45 counties formed 12 multi-county regions. A map of the solid waste regions is portrayed in Figure 5 and a listing of the counties in each region may be found in Appendix B.

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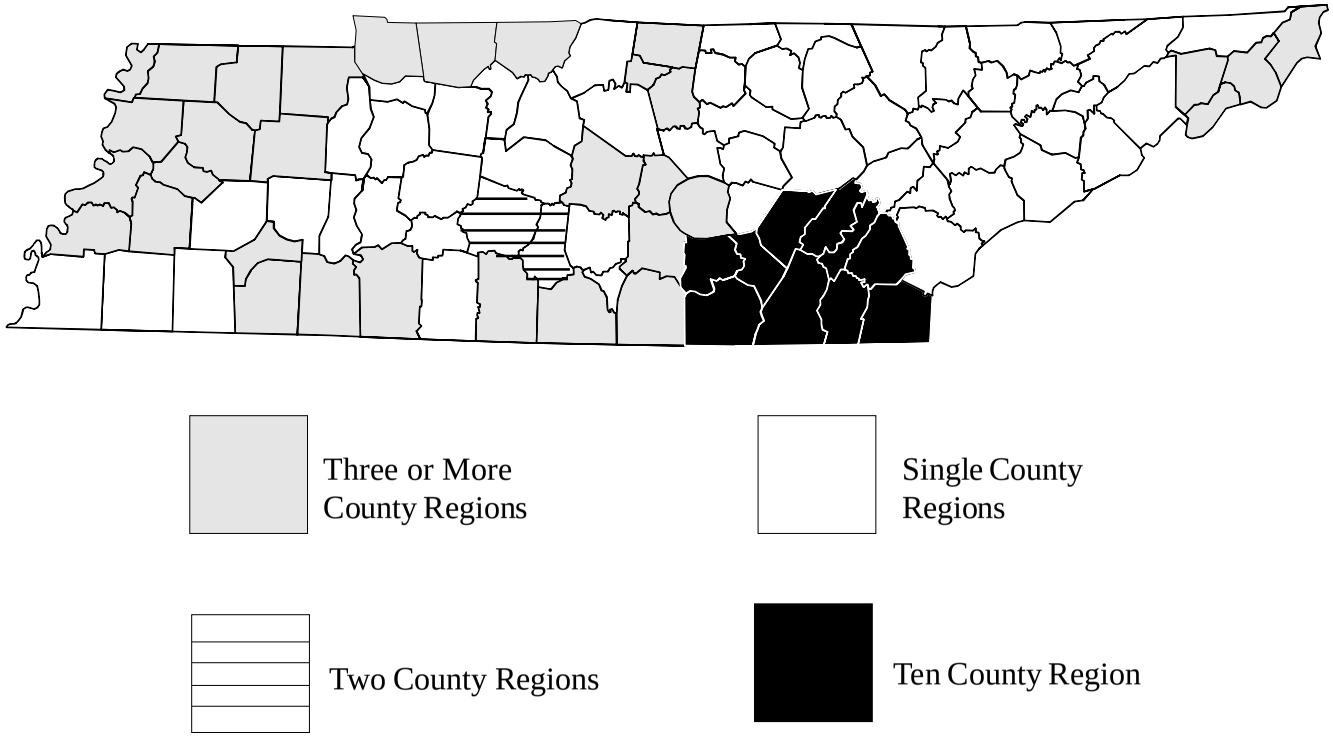
[27] There are now 63 solid waste regions in the state. Benton County left the solid waste region it shared with Carroll and Henry Counties to form a single county region of its own. The Division of Solid Waste Assistance is not requiring Benton County to submit a new solid waste regional plan.
[28] *T.C.A* §68-211-811(a).
[29] Tennessee Department of Environment and Conservation, *Tennessee Wastewise,* January 1993, p.2.
[30] *T.C.A.* §68-211-813(a)(1).

Figure 5

Map of Tennessee Solid Waste Planning Regions



Source: Division of Solid Waste Assistance

Each region has a planning board containing five to 15 members appointed by the county executives and mayors of that region's counties and municipalities.[31] These planning boards usually have members with specific expertise in areas of solid waste such as recycling and public education. Each region must develop a 10-year solid waste regional plan that addresses strategies to meet the act's goal of 25 percent per capita waste reduction by 1996 and the provision of disposal capacity assurance for the following 10 years. Each region was required to submit its plan to the Division of Solid Waste Assistance by July 1, 1994.[32]

The act enables a county or counties acting jointly to create a solid waste authority to implement regional solid waste plans. A municipality may join by agreement of the governing bodies of all participating municipalities and counties. An authority's governing board of directors is to be appointed by the executives and mayors of the counties and municipalities participating in that authority and must be approved by the appropriate legislative bodies. Alternatively, a region's solid waste board may become the solid waste authority. An authority may have broad power to act as a corporate body with duties such as contracting for services and setting tipping fees. It may also borrow money and issue bonds backed by its property and/or revenue.[33]

- **Thirty-eight of the state's 62 solid waste regions did not submit their regional solid waste plans by the July 1, 1994, deadline, including six of the 12 multi-county regions. All plans were submitted by May 1995 and 28 of those had been approved by the state as of December 1995.[34]**

There are many reasons why more than half of the state's solid waste regions did not submit their plans by the appropriate deadline. The loss of local officials after the 1994 elections may have adversely affected some regions. Several county commissioners and city councilpersons who retired or were not re-elected worked with solid waste boards. The loss of these officials during the planning process meant that affected regions lost continuity as well as practical and political expertise that is difficult to replace.

Some regions may have simply ignored the deadline or failed to take it seriously. If a region did not feel it would be severely penalized for missing the deadline for plan submission, then it would be less likely to submit its plan on time. Another possible scenario is that particular regions may not like the state legislature directing local governments to provide certain solid waste services considering these services are traditionally provided by local governments. A few regional boards also may have underestimated the work necessary to complete a regional plan. One local official commented that his region's planning board underestimated the work needed to complete its plan and waited too close to the July 1st deadline to begin its work.

While many regions did have legitimate difficulties developing regional solid waste plans, T.C.A. §68-211-814(a)(1) requires all plans be submitted by July 1, 1994. The

[31] *T.C.A.* §68-211-813(b)(1); Each county in a solid waste region is entitled to a regional board member while each municipality providing its citizens waste collection or disposal services is entitled to a board member.
[32] *T.C.A.* §68-211-814(a)(1).
[33] County Technical Assistance Service, *Solid Waste Management Act Technical Report 91-4*, June 1991.
[34] According to the Division of Solid Waste Assistance, the 34 plans yet to be approved are currently in the review process.

Division of Solid Waste Assistance is permitted to levy sanctions on a non-complying region after certain time intervals. A region may first receive a warning letter, then a loss of eligibility for future grant funding 90 days after the warning letter, and fines of up to $5,000 per day 180 days after the issuance of the warning letter.[35]

These potential sanctions do not appear to have compelled or encouraged regions to submit regional plans by the deadline. One individual interviewed stated the sanctions simply weren't enough to force regions to meet the deadline. Another individual concurred, adding that the state was reluctant to enforce the sanctions against offending regions.

Everyone's best interest is served by submitting regional plans on time. The longer it took a region to write and submit its plan, the longer it will take for the state to approve that plan and allow the region to develop its necessary solid waste infrastructure. It may also make some regions more likely to miss future deadlines outlined in the Solid Waste Management Act such as the deadlines for providing collection and recycling sites.

- **While multi-county regionalization can be advantageous, there are many reasons why some counties chose not to regionalize with other counties. Some counties that created multi-county regions had difficulty forming and coordinating those regions.** Some definite advantages are attached to multi-county regionalization. The first is that regionalization allows counties to pool valuable and scarce resources for use in developing solutions to common solid waste problems. Regional efforts can allow communities to develop solid waste programs that might otherwise be too expensive for a single county to implement.[36] This is especially useful for smaller counties that have fewer resources to expend for solid waste management purposes.

  Another advantage is that a multi-county region can develop regional waste disposal facilities that may be used by all the counties of the region. The development of such facilities enables counties in a region to better use resources and develop stronger waste management programs. Multi-county regionalization is more likely to be successful if a facility already exists or a county or municipality is willing to develop one. In such a case, a county or municipality may charge a host fee for each ton of waste received from other counties in the region.

  A third advantage is the increased financial support counties could gain from regionalization. When the General Assembly passed the act, it advocated counties joining together in regional planning efforts. To encourage this, the Division of Solid Waste Assistance provided a larger planning grant for a county that joined other counties in regional solid waste planning. Each county in a region, whether a single county or multi-county region, received a planning grant to aid in the development of regional solid waste plans. As an incentive for multi-county regionalization, any county that joined with another county received a $20,000 planning grant while single county regions received a grant totaling $15,000.[37]

  There are differing and valid reasons why some counties chose not to pursue regionalization. Urban counties such as Shelby and Davidson stated in their regional solid

[35] *T.C.A.* §68-211-816(a).
[36] Environmental Protection Agency, *Joining Forces on Solid Waste Management*, October 1994, p.6.
[37] Division of Solid Waste Assistance, *Annual Report for FY 1992-93*, p. 11.

waste plans that they chose to plan alone because the waste streams and collection/disposal systems of surrounding counties are so different from their own. The counties surrounding both these areas have much smaller waste streams and smaller scale collection/disposal systems, rendering regionalization of little use to either county.

Some small rural counties declined to regionalize with others because of their relatively small waste streams and specific collection/disposal systems. Each of these counties has a disposal facility that will serve its waste needs for the next 10 years or more, mitigating one of regionalization's main advantages. Another county's regional plan stated that it remained a single county region because it wanted to maintain sole and complete control over the Class I disposal facility operated within its boundaries. At least one county approached numerous neighboring counties in an effort to regionalize, but each one declined and the county eventually formed a single county region. Some individuals interviewed said the extra planning grant money provided for counties in a multi-county region was not a large enough incentive to overcome these obstacles to regionalization.

Problems plagued multi-county regions from the outset of the planning process. Regionalization itself proved quite difficult for some counties that attempted it, as with Wilson County's attempt to regionalize with Sumner County. A dispute between the two counties over membership selection of the regional planning board derailed the formation of the region. A dispute over planning board representation also sidetracked the regionalization of Montgomery, Robertson, and Stewart counties, although these counties did eventually form a three-county region.[38]

The 15 member limit for a regional planning board was troublesome for Fayetteville and Lincoln County. Lincoln County created a three county region with Giles and Franklin counties to begin the planning process. When the regional board was being formed, the three counties realized that 13 municipalities would each be entitled to a board representative in addition to a member for each of the counties. While each county and municipality was entitled to a board member, such a board would have violated the requirement in *T.C.A.* §68-211-813(b)(1) that it have no more than 15 members. The board had two choices: violate the statute or deny a county or municipality a member on the board. The problem was solved when the city administrator of Fayetteville agreed to be the board representative for both Fayetteville and Lincoln County.[39]

Another problem in multi-county regions is coordination of information. Logistically, it is much easier to gather and share information in a single county region than in a multi-county one. A single county region can gather and analyze data faster and make decisions based on its needs and resources. A county in a multi-county region must determine its needs from the perspective of the entire region and develop strategies to address the needs of the region as a whole. The coordination of information needed to develop informed and accurate solid waste strategies has been hard to achieve in multi-county regions.

Consultants from the County Technical Assistance Service, who provide solid waste regions with technical assistance, have encountered problems advising multi-county regions. It is harder for a consultant to provide specific assistance for a county when it is a

[38] Warren Duzak, "45 counties to dispose of own trash," *Nashville Tennessean*, January 30, 1993.
[39] Telephone interview with Lynn Wampler, Fayetteville City Administrator, December 15, 1994.

member of a multi-county region.[40] Officials in multi-county regions who were interviewed all agree that working with other counties has been more difficult than anticipated. A couple of officials stated that, given the chance again, their respective counties would prefer to plan alone as single county regions.

Even so, more solid waste regions will likely form multi-county solid waste regional alliances as greater numbers of disposal facilities close over the next few years. The economies of scale regionalization can provide will push solid waste regions to work together. Single county regions will learn from the problems and mistakes of previous regional efforts and develop better, more successful regional solid waste programs. Solid waste regions should identify any potential barriers to regionalization and enter any such arrangement with great care.

Waste Tires

The state's tire shredding program created by the act emphasizes landfilling of tire shreds and does not encourage tire recycling options. The statutory requirement on the number of tire shredders to be provided by the state for use in counties has been violated since the program's inception. The state's tire shredding program has shredded about 5.5 million tires since July 1992, a relatively small number of tires considering that approximately 11.9 million tires have been sold at retail in Tennessee in the same time period. A tires-to-prisons program initiated for tire dealers in 1993 ended in June 1995 and the Division of Solid Waste Assistance began a new pilot program for waste tire disposal in July 1995.

T.C.A. §68-211-866(b) mandates that each county shall, by January 1, 1995, provide directly or through a contract at least one site to receive and store waste tires, used auto fluids and oil, and lead acid batteries if adequate sites do not already exist. Disposal facilities no longer accept whole waste tires, used automotive batteries, or used oil as of January 1, 1995. The only exception is that incinerators can continue to accept whole waste tires. The act also creates a waste tire shredding program for counties so tires may be shredded for safe and legal disposal.

A tire shredder is dispatched to counties on request. The county is responsible for collecting tires to be shredded and transporting them to the shredder's location. Each county may receive the service at least twice per year. The state is required, directly or by private contract, to provide six tire shredders for use in any and all of Tennessee's counties. The Division of Solid Waste Assistance contracts for the tire shredding service with SET-TN.(A Joint Venture) of Franklin at a cost of 62¢ per shredded tire. The program began in July 1992.[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. At present the only local government to do this is the city of Memphis, which contracts to provide tire shredding for both Memphis and Shelby County.

[40] Interview with Chris Garcovich, CTAS Solid Waste Consultant, Knoxville, November 18, 1994.
[41] Division of Solid Waste Assistance, *1992-93 Annual Report,* p.8.

- **About 5.5 million waste tires have been shredded between July 1992 and September 1995, approximately 46 percent of the number of tires sold in Tennessee in the same time period.**
  The state's argument for tire shredding is that it provides counties with a method of reducing the volume of waste tires disposed in facilities or dumped illegally. Over 5.5 million tires have been shredded at county and prison sites between July 1992 and September 1995.[42] The shredding program can be considered a success in that Tennessee had no waste tire management program before 1991. It helps counties save valuable disposal space and comply with *T.C.A.* §68-211-866(a) prohibiting the disposal of whole tires in Tennessee disposal facilities. It gives counties a disposal option not previously available.

  A concern with the program is that it captures only a portion of the waste tire stream. About 11.9 million tires have been sold at retail in Tennessee in the three years since the shredding program began.[43] Assuming that a large majority of those tires have been or will eventually be disposed of in Tennessee, the shredding program captures about 46 percent of the waste tire stream. In addition, the Scrap Tire Management Council estimates the number of waste tires legally and illegally stockpiled in Tennessee could be as high as 16 million.[44] Although the shredding program is beneficial and certainly better than no program at all, it is still missing a large portion of Tennessee's waste tire stream.

- **The state's tire shredding program created by the act does not encourage tire recycling options.**
  Making tire shredders available provides counties with a means to reduce the volume of waste tires disposed in their facilities or illegally dumped. Waste tire shreds can then be safely and legally disposed in a proper disposal facility. Shredding tires can also allow counties to reduce the potential fire and public health hazard that whole waste tires may present to its citizens.

  The shredders that SET-TN. makes available to counties through its contract with the Division of Solid Waste Assistance shred tires to pieces approximately six inches in size.[45] Tire shreds are preferred for disposal because whole tires tend to "float" to the surface of disposal facilities and become difficult to manage. In addition, shreds take up less disposal space and help save increasingly scarce disposal capacity.

  Some local government officials interviewed expressed dissatisfaction with the tire shredding program. One official commented that the shredding program is a volume reduction plan and only a short term solution to the waste tire problem. Another official remarked that the tire shredding program provides a quick fix solution to the problem and does not provide a long-term cradle to grave solution. Yet another official said that the shredders currently used aren't an appropriate answer considering the growth and potential of waste tire recycling.

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[42] Division of Solid Waste Assistance, *Waste Tire Shredding Report*, October 1995.
[43] Calculated from total revenues received from the pre-disposal tire fee since July 1992.
[44] Michael Blumenthal, "A National Perspective on Scrap Tire Management," Scrap Tire Management Council, September 21, 1995, p.2.
[45] Contract between the Department of Environment and Conservation and SET-TN. (A Joint Venture) approved July 1, 1992.

Waste tire recycling is becoming an increasingly viable tire management option. Shredded tires may be recycled, usually in the development of tire-derived fuel (TDF). Tire shred recycling has traditionally been hampered by the lack of recycling markets, causing it to be a less attractive option economically for local governments. That is changing now as recycling markets for waste tires are growing dramatically. Between 1991 and 1993 the number of nationwide tire recycling markets doubled and the number continues to grow.[46] Markets in Tennessee are now slowly developing. TVA's Allen Steam Plant in Memphis currently uses tire-derived fuel, Signal Mountain Cement in Chattanooga is burning whole tires in its cement kilns, and Packaging Corporation of America in Hardin County takes tires shredded to a one inch size. Bowater Corporation in McMinn County and Tennessee Eastman Corporation in Sullivan County are each considering burning tires at their plants in the future.[47]

The tire shredders provided by SET-TN. do not shred tires small enough to be used for recycling purposes. Most tire-derived fuel applications require shreds of a size no larger than one inch square. This is true for coal burning utilities, one of the most promising avenues for tire-derived fuel. Some utility boilers require even smaller shreds of one-fourth inch square. Fluidized-bed and stoker-fired boilers may burn tire shreds that are from two to four inches square.[48]

The six inch shred size rules out most recycling possibilities.[49] The Division of Solid Waste Assistance's argument for the current shredding program is that it is designed only for volume reduction, not for recycling. As stated earlier, the state pays SET-TN. 62¢ per shredded tire. Division officials say that the purchase and operation of shredders to create shreds appropriate for recycling would have cost the state more than the 90¢ collected from each new tire sold at retail. Don Manning, the Division of Solid Waste Assistance's Special Wastes Director, states that the shredding program has done well with limited resources and the mandates of the law, but does feel a more comprehensive program is needed. Such a program would include a more active role for private industry, more authority to deal with illegal dumping, and research on recycling and the development of recycling markets.

Development of tire recycling markets in Tennessee is essential to proper waste tire management. According to the Scrap Tire Management Council, a successful recycling market must have three characteristics: environmental soundness, economic viability, and appropriate geographic location. A market must be good for the environment, have potential economic vitality, and adequate sources of tires. The council reports that Tennessee has sufficient potential market demand to consume of its entire yearly tire stream plus some of its stockpiled waste tires. Tennessee could also conceivably develop regional tire recycling markets considering the length of the state and location of its metropolitan areas.

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[46] John Serumgard and Michael Blumenthal, "A Practical Approach to Managing Scrap Tires," *MSW Management*, September/October 1993, p. 50.

[47] Remarks delivered by Michael Blumenthal, Scrap Tire Management Council Director, to the Municipal Solid Waste Advisory Committee on September 21, 1995.

[48] Matthew W. Mayo and James F. Sullivan, "Processing Scrap Tires for Multiple Markets," *Solid Waste and Power*, March/April 1992, p.21.

[49] However, a local government can use the six inch shreds provided by the state shredders as light-fill material for road bed construction.

A few states have very successful tire recycling markets. Illinois is a prime example of good market development. It has developed recycling markets for up to 20 million tires a year while its yearly waste tire stream is only 15 million tires. These robust markets also allow Illinois to reduce the number of its stockpiled tires. Other states with strong tire recycling markets include Maryland, Virginia, Florida, and Wisconsin.[50]

- ***T.C.A.* §68-211-867(c) pertaining to the number of tire shredders provided by the state is being violated.**
  T.C.A. §68-211-867(c) directs that the Department of Environment and Conservation, through the Division of Solid Waste Assistance, "shall obtain six (6) mobile tire shredders and operate them throughout the state as waste tire disposal needs may require." The department is allowed to contract for the services of shredders and does indeed contract with a private firm, SET-TN. Funding for the shredders comes from the solid waste management fund.

  While the statute says that six tire shredders shall be provided, SET-TN. provides only three shredders. SET-TN. is allowed to determine the number of shredders needed to fulfill the obligations of the contract. This is reflected in the contract between the Department and SET-TN. as it does not require SET-TN. to provide any particular number of shredders.[51]

  The argument for this decision is economics. The primary rationale for contracting with SET-TN. is to save money. Requiring the company to provide six shredders would have increased the cost of the contract and could have potentially resulted in the state paying for services it did not need or use. If that is the case, it may be a waste of the state's money to require SET-TN. to provide six shredders.

  The Division of Solid Waste Assistance states that SET-TN. has performed the terms of the contract at a cost that is quite reasonable and admired by others knowledgeable of the business. The fact remains, however, that the statute appears to be unequivocal in its requirement of six shredders. If the Division's opinion is that providing six shredders would be cost prohibitive, it should recommend to the General Assembly that *T.C.A.* §68-211-867(c) be amended.

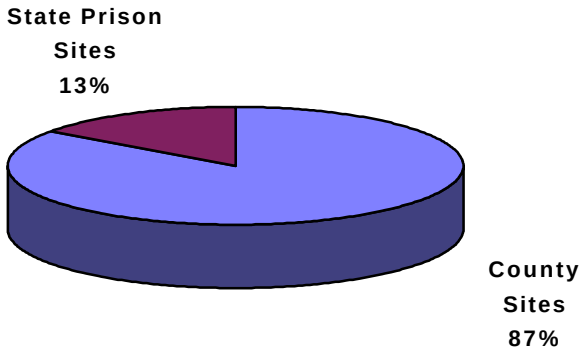
- **The state's tires-to-prisons program, developed to provide tire dealers with free tire drop-off sites, ended in June 1995. A new pilot tire disposal program was initiated by the Division of Solid Waste Assistance in July 1995.**
  Another program that attempted to reduce the state's amount of waste tires allowed tire dealers to dispose of tires at state prison sites. Tire dealers collect waste tires from customers and must find some way to properly dispose of them. Some tire dealers contract with commercial scrap tire transporters, often referred to as "tire jockeys," to pick up and dispose of their waste tires.[52] Other tire dealers take waste tires to disposal facilities where they must pay disposal tipping fees. Whatever the case, tire dealers must pay for the proper disposal of the waste tires they collect.

[50] Remarks delivered by Michael Blumenthal, September 21, 1995.
[51] Contract between the Department of Environment and Conservation and SET-TN.
[52] Serumgard and Blumenthal, p.48.

A $1 pre-disposal fee is assessed on each new tire sold at retail in Tennessee.[53] 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 to fund any purpose or program operated pursuant to the Solid Waste Management Act.[54] Simply put, each 90¢ collected is not specifically earmarked for waste tire management. Some of the state's tire dealers, however, had the impression that each dollar would directly pay for the costs they incur including shredding and collection costs as well as disposal tipping fees.[55] To address the concerns of the tire dealers and help prevent the illegal disposal of waste tires, the Governor's office launched a tires-to-prisons initiative in 1993.

The program was coordinated through an interagency agreement between the Division of Solid Waste Assistance and the Department of Correction. Two free drop-off sites for tire dealers to bring waste tires were provided by the Department of Correction. When the program first began the SET-TN. shredders traveled to each site, shredded the collected tires, and the resulting shreds were stored at the sites, state correctional facilities located in Bledsoe and Davidson counties. In November 1994, the Department of Correction expanded the program's number of tire drop-off sites to six and contracted with Browning-Ferris Industries (BFI) to remove whole and shredded tires from these sites. The sites added were state correctional facilities located in Hickman, Johnson, Lauderdale, and Morgan counties. The contract with BFI had the company remove both whole and shredded tires from the prison sites and take those tires to their permitted facilities in Georgia, Illinois, and Mississippi for use as tire-derived fuel.[56]

Figure 6: Number of Tires Shredded at County Sites versus State Prison Sites through September 1995



Source: Waste Tire Shredding Report, Division of Solid Waste Assistance

[53] *T.C.A.* §67-4-1603.
[54] A listing of tire pre-disposal fees in other southern states is located in Appendix E.
[55] Interview with Manning, November 28, 1994.
[56] Memorandum to Rick Sinclair from Paul Evan Davis, Department of Environment and Conservation, November 1994.

The Division of Solid Waste Assistance no longer maintains the tires-to-prisons contract with the Department of Correction effective June 30, 1995. The Division cites the primary reason for ending the program was the cost of the service. The cost of the contract with BFI to collect and remove tires from prison sites was 98¢ per shredded tire and $1.08 per whole tire. Added to that was 25¢ per tire plus maintenance overhead costs for the Department of Correction, making the cost anywhere from $1.23 to $1.33 per tire. The Division of Solid Waste Assistance made the decision not to continue spending more money per tire than was collected from the $1.00 pre-disposal tire fee. A second reason may have been that a relatively small amount of the waste tire stream was collected at the prison sites. As shown in Figure 6, just over 714,000 tires were shredded at the prison sites, about 13 percent of the total four million plus tires shredded in the tire shredding program.

A pilot waste tire disposal program designed to provide counties with more options for tire disposal began in July 1995. The program involves a new state grant made available to counties to help pay for costs associated with proper tire disposal. The program attempts a more comprehensive approach to waste tire management and encourages local governments to find end uses for its waste tires. A county has three options from which to choose, each option providing a per tire rate for reimbursement up to a maximum of the calculated annual generation rate for the county. Those options are:

- *Option #1*: A county would be reimbursed $0.25 per tire by the state in lieu of that county charging a disposal tipping fee on waste tires. The state's tire shredders would continue to shred tires collected at the county's tire collection site.
- *Option #2*: A county would be reimbursed $0.62 per tire by the state up to the maximum of that county's calculated waste tire stream. This is in lieu of the state provided tire shredding service. Under this option, the county may continue to charge an authorized disposal tipping fee.
- *Option #3*: This is a combination of the first two options and provides a county a reimbursement rate of $0.87 per tire up to a maximum of that county's calculated waste tire stream. The county would not receive the state tire shredding service and could not charge a disposal tipping fee.

A county may also elect to continue the current method of collecting tires, collecting a tipping fee, and using the state shredding service to shred waste tires.[57]

Public Education

The state Department of Education, in conjunction with the Division of Solid Waste Assistance, is directed to prepare solid waste information and programs for state and municipal officials, students, businesses, and the general public.[58] Each region's solid

[57] Memo from Wayne Scharber, Deputy Commissioner for Bureau of Environment, to Tennessee County Executives dated May 15, 1995.
[58] *T.C.A.* §68-211-844.

waste plan must also include an educational component that addresses planned public education efforts for its citizens.[59]

A number of agencies and groups provide Tennessee citizens public education regarding proper solid waste management. The Division of Solid Waste Assistance provides solid waste education to the general public and technical assistance to solid waste regional planning boards. The division also provides assistance to various community groups and publishes pamphlets on solid waste management. The Department of Transportation and the Clean Tennessee program each provide well organized grass roots education programs for solid waste management and litter prevention. These programs include public service announcements and newsletters promoting awareness of solid waste issues.

Local public education efforts are often provided and coordinated by Keep America Beautiful branches throughout the state. Local agricultural extension services provide special programs on solid waste through 4-H youth development services. The Department of Education believes the extension services and 4-H programs may be the most useful of all solid waste educational resources in Tennessee.[60]

- **Disagreement between the Division of Solid Waste Assistance and the Department of Education caused the division to terminate its public education contract with the department effective July 1, 1995.[61]**

T.C.A. §68-211-845 directs the state Department of Education, in coordination with the Division of Solid Waste Assistance, to develop a program that promotes solid waste education for children in grades K-12. The statute requires the two departments to:

- Review, evaluate, and publish a list of approved curriculum materials relative to solid waste management, source reduction, and recycling;
- Sponsor workshops on the curriculum materials for educators;
- Provide in-service training for teachers on solid waste management, recycling and source reduction, and environmental protection as well as conservation of materials; and
- Establish peer assistance programs for teachers within a solid waste management region.

This education is important for children and young adults in grades K-12. Solid waste officials feel it is vital that students learn proper waste reduction methods and waste management techniques to reduce the amount of waste generated and disposed in the future.

The two agencies are to review and evaluate a list of approved curriculum materials relative to proper solid waste management. To enable teachers to effectively use the curriculum activity materials, the agencies are also directed to provide in-service training workshops for teachers about proper solid waste management. These workshops provide teachers with basic solid waste education and must be completed before any curriculum materials may be used.

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[59] *T.C.A.* §68-211-842.

[60] Interview with Teri Wildt, Solid Waste Specialist, Department of Education, November 4, 1994.

[61] Most of the information for this section is derived from a March 21, 1995, telephone interview with Paul Evan Davis of the Division of Solid Waste Assistance and an April 13, 1995, interview with Joel Walton of the Department of Education.

The Division of Solid Waste Assistance contracted through an interagency agreement with the Department of Education to provide the in-service workshops and development of the curriculum activity guide. The Division of Solid Waste Assistance cites several problems with the Department of Education's work. First, the department did not hire solid waste education staff in what the division considered a timely manner. The department signed the contract to begin work in January 1992 and officially began in the summer of that year. The development of the solid waste education began through the Department's Conservation and Environment education program (known as CENTS) with that program's director being the only staff person. The CENTS director remained the only person working with solid waste education throughout FY 1992-93 despite the Department of Education's assurance to the Division of Solid Waste Assistance that it planned to hire two specialists and a secretary to work specifically on the in-service workshops and curriculum materials guide.

Department of Education staff state that money to fund these positions was available for FY 1992-93 but the Commissioner of Education would not allow those positions to be filled. The first specialist was hired by the department in August 1993 and began conducting in-service teacher workshops. The second specialist was brought on board in 1994.

The Department of Education submitted a workplan to the Division of Solid Waste Assistance in July 1994 detailing the department's accomplishments up to that date and its future plans. The division was not pleased with the workplan because it did not provide education pertaining to the goals of the Solid Waste Management Act. These goals include the 25 percent waste reduction, recycling, and source reduction. Division staff also complained that the workplan was written in education "jargon" that was very difficult to understand. The Department of Education disagrees, asserting its workplan fulfilled the provisions of the contract in addressing proper solid waste education. The Director of the Division of Solid Waste Assistance indicates his agency had, by its own choosing, little input regarding the Department of Education's work or its workplan.

The main disagreement apparently centers around what the Department of Education is required by statute and contract to provide in regard to the K-12 solid waste education curriculum. *T.C.A.* §68-211-845(1) requires that the Department of Education, in conjunction with the Department of Environment and Conservation, "review, evaluate, and publish a list of approved curriculum materials" and make that listing available to teachers. The contract between the two agencies requires that the Department of Education do exactly as the statute provides. The department's opinion is that it is to assimilate educational materials from other states and organizations instead of developing a specific curriculum of its own. The department would then publish a listing of educational materials it considers best and make that listing available to teachers. The goal of the department is to enable teachers to integrate solid waste materials and information into the science framework already taught in schools.

The division is of the opinion that the department is not only to compile a listing of curriculum materials but to develop and mandate a specific solid waste curriculum. The Department of Education's argument against a mandated curriculum is that teachers and local school systems feel too much is already mandated by the state and another mandated curriculum would not be welcomed. Both the statute and the contract appear to have been

met by the Department of Education and neither seems to require the department to develop a specific solid waste curriculum.

Attempting to meet the concerns of the Division of Solid Waste Assistance, the Department of Education revised its workplan and resubmitted it in January 1995. The revised workplan was not acceptable to the Division of Solid Waste Assistance for the same reasons. The division decided in March not to renew its contract with the department when it expired June 30, 1995, and contracted with the University of Tennessee's Waste Management Institute for the 1995-96 fiscal year.

The Waste Management Institute's program is called the Tennessee Solid Waste Education Project (TN. SWEP) and within this program the Institute is developing a solid waste curriculum framework. The framework includes education on science and social science foundations, the current status of solid waste in Tennessee, conceptual awareness levels, knowledge and investigation of solid waste issues, and community participation. It has a staff of six persons, with at least one based in each of the state's grand divisions.

The TN. SWEP program appears to have no real substantive differences from the program developed by the Department of Education. Utilizing the Institute does not appear to address the Division of Solid Waste Assistance's preference that a specific solid waste education curriculum be developed and mandated in local school systems.

The Institute's program "seeks to assist K-12 educators in incorporating solid waste education into existing science curriculum."[62] This goal is one that the Department of Education says its solid waste program tried to meet, but that the Division of Solid Waste Assistance desired a specific solid waste curriculum that would be mandated for use in local school systems. Since the Institute's program is still new, it remains to be seen whether it will be more acceptable to the Division of Solid Waste Assistance than the program developed by the Department of Education.

The Division of Solid Waste Assistance has not ruled out the possibility of again contracting with the Department of Education at some later date. If it does so, then the department would have to redevelop a program and rehire staff to implement that program. Until the Division of Solid Waste Assistance decides to contract again with the Department of Education, the division would appear to be in violation of *T.C.A.* §68-211-845. If the Division desires to keep the public education contract with the Waste Management Institute, it should recommend to the General Assembly that *T.C.A.* §68-211-845 be amended.

Protection of Disposal Capacity

The local government waste flow control authority granted by the act may be constitutionally suspect, making Tennessee disposal facilities more vulnerable to the possibility of receiving waste from other states. The act granted waste flow control authority to local governments so those entities could control both waste generated within and waste brought from other regions or states. The U.S. Supreme Court, however, ruled such authority to be a violation of the U.S. Constitution's Commerce Clause. Without this authority, a local government is severely limited in its ability to control the waste that flows into facilities within its jurisdiction.

[62] Brochure produced by the Waste Management and Research Institute outlining the TN. SWEP program and its goals. The brochure was provided to the Solid Waste Advisory Committee on August 24, 1995.

Each region's solid waste plan must address how it plans to dispose of its waste for the next 10 years. The Solid Waste Management Act allows solid waste regions relatively broad power in the areas of waste disposal and disposal facility regulation. Each region is given the authority to approve or reject any application for a permit to expand or build a solid waste disposal facility in its region. For a permit to be approved a region must determine that permit issuance will be consistent with its planned waste disposal needs. Any disposal facility must also be approved by the legislative body of the county or municipality where the facility plans to locate. To locate in a municipality, the facility must receive approval from both the municipal council and the county commission. A further discussion of this can be found on pages 26-27.

- **Most state, county, and municipal laws governing waste flow control have been ruled constitutionally suspect by the U.S. Supreme Court.**
Flow control is a legal or economic means to direct solid waste or deny access to particular locations within a region, county, or municipality.[63] All 50 states have some type of waste flow control statutes. According to a summary of state flow control authorities provided by the National Conference of State Legislatures, most state statutes leave flow control authority to counties and municipalities.[64]

The Solid Waste Management Act grants regional flow control authority that allows a region, after its solid waste plan is approved, to take two actions. One is to regulate the flow of collected municipal solid waste within a region.[65] The second is that a region may restrict disposal of waste generated outside its region to any disposal facilities located within that region. Access may not be restricted if a facility has accepted waste from a specific source outside the region prior to July 1, 1991.[66]

Flow control is an often controversial issue involving matters of interstate commerce. Local and state government flow control provisions have been challenged in court by private waste haulers as a violation of the U.S. Constitution's Commerce Clause. The act's regional flow control authority is likely invalid due to the U.S. Supreme Court decision *C&A Carbone Inc. v. Clarkstown, NY.* This May 1994 decision cast much doubt on the waste flow control authority granted to Tennessee solid waste regions by *T.C.A.* 68-211-814. The *Carbone* decision ruled that local authority to adopt flow control laws is unconstitutional. The Court struck down a New York town ordinance that required all waste within town borders to be sent to a designated processing facility. The rationale is that local flow control ordinances interfere with interstate commerce by depriving competitors, including out-of-state firms, access to local markets.[67]

A recent Tennessee Attorney General's opinion asserts that the act's flow control authority is indeed discriminatory against interstate commerce. This opinion states that flow control deprives out-of-state businesses of access to local solid waste processing and disposal markets. Such discrimination would contravene the Constitution's Commerce

[63] *Decision Makers Guide to Solid Waste Management,* November 1989, p. 149.
[64] National Conference of State Legislatures, *Draft Summary of State Flow Control Authorities,* January 1994.
[65] *T.C.A.* §68-211-814(b)(1)(A)
[66] *T.C.A.* §68-211-814(b)(1)(B).
[67] See United States Supreme Court Docket 92-1402, May 1994.

Clause unless the flow control advances a legitimate local interest that could not be attained by nondiscriminatory means.[68]

In the *Carbone* opinion, the Supreme Court invites the U.S. Congress to pass flow control legislation. The Supreme Court's opinion is that Congress has the power to authorize local or state flow control authority and the Court will defer to any such legislative judgment.[69] The U.S. Congress has yet to pass any type of flow control legislation, although numerous bills currently sit in congressional committees.

- **A lack of or limits on local and state waste flow control authority could make Tennessee disposal facilities more vulnerable to receiving waste from other states and hamper local government solid waste financing options.**

Flow control authority is usually implemented to help ensure solid waste financing options or to control the potentially adverse effects of out-of-state waste. Financing solid waste collection and disposal is a concern for local governments. Waste flow control can allow a county or municipality to regulate where waste generated within its area may be disposed. Such authority can enable a county or municipality to ensure waste generated within its boundaries is disposed in a facility owned by the local government. Waste haulers could be forced to dispose of waste at a publicly owned disposal facility and pay the disposal tipping fees charged at that facility. These tipping fees would in turn be used to help finance the local government's solid waste facilities and programs.

An example is Metro Nashville and its Thermal incinerator. Thermal is a waste-to-energy facility that burns 900 to 1100 tons of waste per day. The resulting energy is used to heat and cool 40 downtown Nashville buildings. Metro has proposed building a $20 million trash separator that would separate recyclables from the waste stream.[70] The remaining waste would then be burned at Thermal. If and when the separator becomes operational, Metro must control up to 1100 tons of waste per day to continue Thermal's current energy generation levels.

To ensure that waste demand, Metro's solid waste plan requires that all residential solid waste generated and collected in Metro would go to Thermal or the separator, requires that a portion of commercial waste go to one of these locations, and levies a $2 per cubic yard fee on commercial waste disposed elsewhere. Metro's argument is that flow control authority is necessary to ensure Thermal receives the amount of waste per day that it needs. The legal validity of Metro's authority to direct waste within its region is challenged in a lawsuit filed by Waste Management, Inc. The lawsuit cites the *Carbone* case in its argument that Metro's flow control authority violates the U.S. Constitution's Commerce Clause.[71]

A U.S. District Court decision handed down in May 1995 ruled in Metro's favor, distinguishing its flow control authority from the ordinance struck down by the U.S. Supreme Court in *Carbone*. The District Court ruled that Metro's authority met a narrow exception to a violation of the Commerce Clause.[72] This exception, stated by the Supreme

[68] Tennessee Attorney General Opinion 95-041, April 18, 1995, p.2.
[69] "U.S. Supreme Court Strikes Down Flow Control Law," *Solid Waste Report*, May 1994.
[70] Timothy Roberts, "Waste plans may need Congressional rescue," *Nashville Business Journal*, July 18-22, 1994.
[71] Roberts, "Metro mulls fee-for-disposal plan," *Nashville Business Journal*, February 6-10, 1995.
[72] Carrie Ferguson, "Judge dumps fee for outside trash hauling," *Nashville Tennessean*, May 22, 1995.

Court in the *Carbone* case, allows a municipality to enact a flow control ordinance if it has no other means to advance a legitimate local interest. The rationale of the District Court is that there is no other way for Metro to ensure that the Thermal plant receives the waste necessary for continued operation.

A solid waste region may also use flow control authority to prevent waste from other areas or states from disposal in its facilities. Waste generated in other states and brought to Tennessee facilities for disposal is not currently a problem. That could change, however, if states, counties, and municipalities are unable to enact resolutions, ordinances, and laws restricting the flow of out-of-state waste. Having limited authority to control waste flow will make it more difficult for a county or municipality to site and construct a disposal facility. Because such a facility could not be prevented by local or state laws from taking waste from other states for disposal, a county or municipality might tend to veto such a facility altogether.

This point is illustrated by a recent controversy involving a proposed West Tennessee disposal facility. The facility, to be located in Galloway in Fayette County, planned to take waste from as many as a dozen states. *T.C.A.* §68-211-701 requires the county commission of a county where a disposal facility is to locate to approve the plans for such a facility before construction may begin. Any plans to locate a disposal facility within the limits of a municipality must be approved by that municipality's governing council. Approval must also be granted by the appropriate regional solid waste board. The proposed facility was approved by the Galloway city council in 1992 but encountered opposition from many Fayette County residents. In hopes that further development of the facility could be halted, the General Assembly amended *T.C.A.* §68-211-701 to require any facility being developed within a municipality to be approved by both the municipal and county legislative bodies.[73]

This example shows how the potential of receiving out-of-state waste in disposal facilities affects public reaction to these facilities. Limited or no flow control authority means a county or municipality can do little to control the waste that is deposited in a facility within its boundaries. A disposal facility, whether publicly or privately owned, could receive waste from other states with limited regulation from the county or municipality where the facility is located. Limited local authority may affect the future development of disposal facilities. A local government might use *T.C.A.* §68-211-701 to stop plans for location of a disposal facility within its boundaries if the government fears it could not stop the facility from receiving waste from other regions or states.

The opinion of the Attorney General is that a region may exercise the authority granted by *T.C.A.* §68-211-814(b)(1)(B) to exclude waste originating from other regions in Tennessee. It is also of the opinion that a region, in order to effectuate its regional plan, may impose some type of nondiscriminatory disposal restriction that would have an incidental effect on commerce in out-of-state waste. An example would be an annual waste volume limitation imposed at a particular disposal facility. The Attorney General states that such a limitation would not violate the Commerce Clause if that limitation also applied to waste generated within the region. A region could not exclude out-of-state

[73] *Public Act No. 5*, 99th General Assembly.

waste from its disposal facilities for the sole purpose of protecting the disposal capacity for regional waste.[74]

Waste Reduction Mandate

The Solid Waste Management Act requires a 25 percent waste reduction goal for regions by the end of 1995. The intent of the goal is to reduce by 25 percent the amount of waste being disposed in Class I landfills and municipal solid waste incinerators by December 31, 1995.[75] The amount of waste disposed in the base year 1989 is used to determine the 25 percent reduction. In other words, by the end of 1995, each region was to reduce by 25 percent the amount of waste it disposed in 1989. Each region measures its waste on a per capita basis and by weight (example: tons per person per year). The 1989 waste amounts must be used as the base for calculation unless a region can prove that its 1989 data are flawed or invalid. If a region believed its 1989 waste data were inaccurate, then it could apply for a variance.

Each solid waste region's 10-year plan must address its planned strategies for obtaining the 25 percent reduction. If a region makes a good faith effort toward reaching the goal yet still fails, the state may issue a variance from the goal. If a region fails and the state determines it did not make a good faith effort, then the state may level sanctions that could include a warning, loss of grant funding, and civil penalties.[76]

Tennessee's 1994 waste reduction rate differs depending on the calculation method used. If the waste reduction is calculated by tonnage diverted from Class I facilities, the Division of Solid Waste Assistance estimates the reduction at just under 22 percent. If calculated as a per capita waste reduction as required by *T.C.A.* §68-211-861(a), the reduction is about 9.2 percent.[77] Regions will report to the Division of Solid Waste Assistance on compliance with the 25 percent mandate in March 1996. A listing of each region's estimated 1996 waste tonnage reduction percentage is located in Appendix D.

- **Allowing municipal solid waste to be disposed in Class III and IV disposal facilities raises questions of public policy and safety.**

A region may use various methods to achieve its 25 percent waste reduction. These include diversion of appropriate municipal solid waste to Class III or IV disposal facilities, composting, recycling, source reduction, and problem waste diversion. (See pages 8-9 for definitions and descriptions of the types of disposal facilities.) There are other reduction methods that may not be used in calculating a region's waste reduction rate. These include incineration, unmarketed compost, and illegally stored or disposed solid waste.[78]

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 its 25 percent waste reduction goal.[79] Disposing

[74] Attorney General Opinion 95-041, p.11.
[75] *T.C.A.* §68-211-861(a).
[76] *T.C.A.* §68-211-861(e).
[77] Division of Solid Waste Assistance, *Report on Waste Reduction Rate for 1994*, September 21,1995.
[78] Division of Solid Waste Assistance, *Guidelines for the 25% Waste Reduction Goal*, December 1993, pp. 4-5.
[79] Waste Disposal Reduction Goal Rule 1200-1-7-.09-2-(a).

of appropriate waste in these facilities allows a region to save valuable and increasingly scarce Class I disposal space by reducing the amount of waste it deposits in Class I facilities.

The decision to allow waste diversion to Class III and IV facilities raises both public policy and public safety issues. In terms of public policy, the decision can be interpreted as one that enables a region to simply shift waste from one disposal facility to another. The region could then count the diverted waste as a waste reduction without actually reducing the total amount of waste that it disposes.

The General Assembly's intent expressed in the 1989 Solid Waste Planning and Recovery Act was to ensure that "whenever economically and technically feasible, solid waste should be reduced at the source or recycled, consistent with market demand for recyclable materials, to decrease the volume of waste which must be disposed by incineration or landfilling."[80] *T.C.A.* §68-211-602(b) states that "removal of certain materials from the solid waste stream by mulching, recycling, composting, and incineration will substantially lessen our dependence on landfills as a means of disposing of solid waste." In the Solid Waste Management Act, *T.C.A.* §68-211-803(b) states the public policy goal "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."

While allowing diversion of Class I waste to Class III and IV facilities may be an adequate short-term solution and can save precious Class I disposal space, it does not ultimately reduce the overall amount of disposed waste. The Division of Solid Waste Assistance should continue to examine ways of reducing the total amount of waste being sent to all disposal facilities.

The diversion allowance may also not be in the best interests of public safety. Ideally, any waste diverted from a Class I facility to a Class III or IV facility would be waste appropriate for such a facility—inert waste such as yard waste, construction and demolition waste, or tire shreds. However, this may not always be the case. The diversion rule may encourage the transfer of potentially dangerous municipal solid waste to facilities not designed to take such waste. Paint, brake fluid containers, and anti-freeze are examples of potentially dangerous municipal solid waste that may be safely disposed of in a Class I facility, but not in a Class III or IV facility since these facilities have less stringent safety features. Landfilling potentially dangerous items in a Class III or IV facility could threaten water supplies and pose other pollution problems.

An example is provided in a recent newsletter produced by the Recycling Advocates of Middle Tennessee (RAM). The newsletter provided pictures of paint, oil, brake fluid, and caulking tubes allegedly disposed of in a Class IV facility in Davidson County. These items are inappropriate for disposal in a Class IV facility but could have been safely landfilled in a Class I facility.[81] If this is indeed the case, the Division of Solid Waste Assistance may wish to increase monitoring and enforcement of safety standards at Class III and IV facilities to ensure that any waste deposited would be appropriate for such a facility.

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[80] *T.C.A.* §68-211-602(a).

[81] Newsletter produced by the Recycling Advocates of Middle Tennessee, Summer 1993-Spring 1994, pp. 24-25.

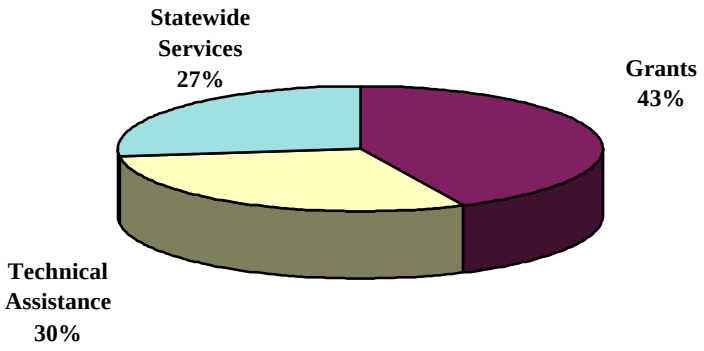
State Funding

At the state level, grant funding for local governments is provided through the solid waste management fund.[82] The fund has two main sources of revenue. One is an 85¢ surcharge placed on each ton of municipal solid waste received at Tennessee's disposal facilities. The other source is a $1 pre-disposal fee placed on each new tire sold in Tennessee. The fund also received a one time only grant from the U.S. Department of Energy in FY 1993-94 to make restitution for oil overcharges.[83]

The solid waste management fund revenue generated from the surcharge and pre-disposal fee is used for various purposes. Money is paid to state entities such as the University of Tennessee for technical assistance to state and local governments. Money is also used by the Department of Environment and Conservation to pay the 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. A county, municipality, or solid waste authority may receive grant monies from the fund for various needs including planning assistance, convenience center construction, and recycling equipment.[84] Appendix C lists the grants that have been offered to local governments and development districts since FY 1991-92.

- **A large amount of money has accumulated in the solid waste management fund.** While money from the solid waste management fund is used for various purposes, much of the fund's expenditures are grants awarded to local governments. From FY 1991-92 to FY 1994-95, total expenditures from the solid waste management fund were $20,779,423. Figure 7 depicts the percentage expenditures from the fund.

Figure 7: Solid Waste Management Fund Expenditures FY 1991-92 through FY 1994-95



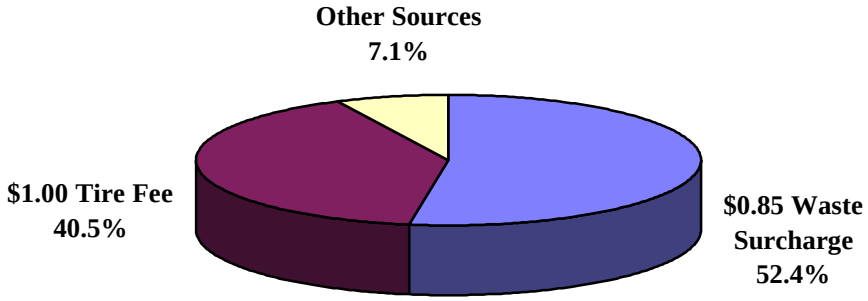
Source: Division of Solid Waste Assistance

As Figure 7 shows, 43 percent has gone to local governments in the form of grants. While this is a substantial amount of money and a substantial percentage of the fund's expenditures, a good deal of money still remains in the fund. The surcharge revenues, fee

[82] *T.C.A.* §68-211-821(a).
[83] Division of Solid Waste Assistance, *1993-94 Annual Report,* p. 23.
[84] County Technical Assistance Service, *Tennessee County Government Handbook*, June 1994, p.166.

revenues, and special state collections deposited in the fund have easily outpaced expenditures in each of the previously mentioned fiscal years. Revenues for the four fiscal years add up to a total of $32,256,931. Figure 8 shows the revenue sources for the Solid Waste Management Fund as provided by the Division of Solid Waste Assistance.

Figure 8: Solid Waste Management Fund
Sources of Revenue
FY 1991-92 through FY 1994-95



Source: Division of Solid Waste Assistance

The other sources of revenue include federal revenue, departmental revenue, interdepartmental revenue, and interest. At the end of FY 1994-95, $11,477,508 was available in the fund. Local officials are concerned that the money is not coming back to local governments through the grant program considering that the program is the primary funding focus of the solid waste management fund. There may be a variety of reasons why much of the money is not getting back to local governments through grants.

- **Grant limits and application requirements may make it more difficult for some counties and municipalities to receive grants.**
Grant application requirements may deter local governments from applying for grants. The Division of Solid Waste Assistance requires a county or municipality's grant application to contain a specific proposal detailing the local government's plans for any grant money it receives. The proposal is required so the division can ensure that any grant money awarded is spent for the proper purposes. When the Division of Solid Waste Assistance receives any grant application, it evaluates the strength of that application in light of certain criteria and with other applications for the same grant. The division has guidelines for each type of grant and a particular grant application is evaluated according to those guidelines.

Grant application guidelines can often be extensive. An example is the application for a recycling equipment grant. A local government application must include a narrative explaining the requested equipment and cost, a description of its existing solid waste system and how the new equipment would coordinate within that system, a detailed description of the existing or new recycling program and its efficiency, a demonstration of need and cost benefits, the marketing strategy for recovered materials, the local public

participation and education program for recycling, and the future expansion or modification of the local recycling program. The application must adequately address each of these factors before it may be considered for funding.

Another example concerns the application guidelines for the competitive public education grant offered to counties. An application must describe the work to be performed as well as its goals and objectives, address how the education program will provide innovative approaches to public education, outline expected results, detail how the program will impact the solid waste region, provide a budget, discuss long-term benefits, and describe the qualifications of the grantee.

Each of the above guidelines are ranked according to importance and scored anywhere from five to 25 points. In the case of the recycling equipment and public education grants, an application may receive a maximum of 100 points. A team of three evaluators looks at the applications, scores them, and ranks them with other applications. Whether a grant application is awarded or not ultimately depends on how high an application is ranked and the amount of money available in the grant category.

While the requirements for and evaluation of grant applications may enable the Division of Solid Waste Assistance to determine the most deserving grant applicants, it may also serve as a deterrent. If a county or municipality feels it is not worthwhile to provide such a detailed proposal for a grant as small as $10,000, it may not even bother to apply for the grant. Some local governments may also lack adequate staff to complete grant applications. One local official commented that the Division of Solid Waste Assistance's detailed grant application procedures have made it more difficult for local governments to receive state grant money.

Two limitations placed on available grant money may also serve as a deterrent to local governments. The first is that each grant category has a maximum amount that can be received by any local government in a given fiscal year. For example, a local government can receive up to $10,000 for public education, $25,000 for recycling equipment, or $125,000 for convenience center construction.[85] This is the maximum it can receive in a fiscal year. These limits apply to all local governments regardless of geographic size or population.

The second limitation is that each grant has a cap on the total amount of money made available for all local governments in a fiscal year. An example of the cap on total money available is that of the recycling equipment grants. The limits were $400,000 in FY 1991-92, $431,000 in FY 1992-93, and $500,000 in FY 1993-94. These caps may have contributed to some grant applications being denied because money was not available. A total of $400,000 in recycling equipment grants was made available in FY 1991-92 for counties, municipalities, and not-for-profit organizations with a maximum grant of $20,000 possible. Local governments submitted 80 grant applications but the available funding only allowed for 28 of those applications to be approved. In FY 1992-93, the Division received 36 applications requesting a total of $586,000 but only $431,000 was available. A total of 25 applications were approved that year. In FY 1993-94 there were 61 applications totaling $1,003,000 in requests with only $500,000 being available with 32 requests

[85] Division of Solid Waste Assistance, *Summary of Solid Waste Assistance Grants*, March 24, 1995.

granted.[86] The cap on available recycling equipment grant funding for FY 1994-95 was $600,000.

While limiting grant award amounts may help ensure more applicants the chance to receive grants, these amounts may not be adequate to aid local governments in developing effective services and programs. A grant can be especially useful to a rural county or municipality with few resources for solid waste management. There may be a need for other types of grants that are not currently part of the program. One might be a grant program for aiding local governments in the development of recycling markets or grants for development of local composting programs. Another option may be to allow municipalities to apply for and receive each of the grants. Given the substantial amount of money in the solid waste management fund, the Division should examine whether it can make it simpler for local governments to apply for and receive grants.

- **Municipalities are ineligible to receive any of the state grants with the exception of the grant for recycling equipment.**

Almost all of the grants made available to counties through the state grant program are unavailable to municipalities. The only exception is a grant for purchasing recycling equipment.[87] This exception is granted due to a statutory interpretation of *T.C.A.* §68-211-825 regarding recycling equipment grants. This statute provides grants to purchase recycling equipment at public or not-for-profit recycling collection sites. The Division of Solid Waste Assistance has interpreted this statute to mean municipalities are eligible as well. Grants for planning, convenience center construction, public education, and waste tire storage facilities are specifically reserved for counties or solid waste regions.

This is important considering that municipalities can and do play an integral role in aiding a region in meeting its 25 percent waste reduction. Not allowing a municipality to receive a particular grant could prevent it from developing a program that could enable not only the municipality but the county and region to reduce its waste stream. A municipality must also pay the 85¢ per ton waste surcharge on disposed waste and residents must also pay the $1 pre-disposal tire fee, yet it has the ability to receive very little of that money back through the state grants. A grant for public education or a waste tire storage facility could be put to good use by a municipality desiring to develop a program or facility. Some local officials expressed support for allowing municipalities eligibility for some or all of the grants offered through the state program. Some municipal officials suggest that the 85 cent per ton surcharge be reduced if municipalities continue to be ineligible for most of the state grants.

Enterprise Fund Accounting

- **A few counties have not developed enterprise accounting funds for disposal facilities as required by generally accepted accounting principles and *T.C.A*. §68-211-874(a).**

The act mandates that each county, municipality, and solid waste authority which operates a disposal facility account for financial activities related specifically to that facility in an

[86] Division of Solid Waste Assistance, *Annual Reports for FY 1991-92, 92-93, and 93-94*.

[87] Municipalities in the 11 counties that produce the state's highest waste generation amounts receive recycling rebates in lieu of recycling equipment grants. Municipalities were eligible for the truck scale grants available in FY 1992-93. See Appendix C for a listing of those recipients.

enterprise fund.[88] 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 disposal facility 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 disposal facility contains many long-term costs such as closure and post-closure cost. When disposal facility 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 that fund. These costs 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 of disposal facility operation.

There was initial resistance by county governments to the use of enterprise funds, primarily for two reasons. First, this method of accounting was a departure from how these transactions were accounted for in the past and many county governments had little experience at maintaining funds on a full accrual basis as required by an enterprise fund.

Second, the Governmental Accounting Standards Board requires the recognition of long-term liabilities for the closure and post-closure cost of a disposal facility. This requirement resulted in the vast majority of enterprise funds reflecting a deficit in the retained earnings account. Some county governments have expressed a concern that a deficit in the retained earnings account of an enterprise fund established for solid waste transactions may affect a county's or municipality's bond rating. However, the Comptroller's Division of County Audit is not aware of any cases where this has occurred and discussions with bond rating agencies indicate that a retained earnings deficit would not in and of itself negatively affect the bond rating of a county or municipality.

The counties of the East Tennessee Development District passed a March 1995 resolution encouraging the General Assembly to pass legislation abolishing the enterprise fund requirement. It should be noted that the cost of closure and post-closure for a disposal facility is dictated by the Environmental Protection Agency. In addition, the Governmental Accounting Standards Board dictates that liabilities for closure and post-closure cost be realized while the facility is in operation, and prefers these liabilities be realized in an enterprise fund. Even without the statute requiring enterprise fund accounting, generally accepted accounting principles would mandate that most disposal facility operations be accounted for in an enterprise fund since they are proprietary operations.

An analysis of audit reports of Tennessee counties for the year ending June 30, 1994, disclosed that 38 of the state's 95 counties owned and operated a disposal facility. Nine of these 38 counties failed to account for financial transactions of the facility in an enterprise fund as required by statute. Of these nine facilities, seven expect to close their facilities by 1998. Of the 29 counties that did maintain an enterprise fund, 28 had a retained earnings account deficit as of June 30, 1994. The one county that did not reflect a deficit had yet to determine its liability for closure and post-closure cost. If this county's

[88] *T.C.A.* §68-211-874(a).

liability had been determined at that time, it probably would have reflected a retained earnings deficit.

The Division of County Audit opposes any attempt to amend the current statutes that would provide for financial transactions related to a disposal facility to be accounted for in a fund other than an enterprise fund. The division indicates that this type of accounting is necessary to show the full cost of operating a disposal facility and is required by generally accepted accounting principles.

Data Maintenance

- **Software and implementation problems have delayed the development of the Division of Solid Waste Assistance's solid waste management and planning database.**

The act calls for the Division of Solid Waste Assistance 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.[89] The database is available to counties and solid waste regions for use as an informational, decision-making tool. Data compiled from county solid waste needs assessments are entered in the database as well as data from the regional solid waste plans. Information from annual reports submitted by solid waste regions will be added annually.

The database will maintain information on grant programs, regional solid waste plans, and recycling markets. According to the Division of Solid Waste Assistance, software and implementation problems have delayed the database's development. These delays mean the database probably will not be ready for full use before 1996.

[89] *T.C.A.* §68-211-872.

Legislative Alternatives

The General Assembly has several options regarding regionalization. These include mandating single county regions to form multi-county regions, maintaining the status quo, or encouraging the Division of Solid Waste Assistance to offer incentives to single county regions that regionalize with other counties. Any future multi-county regionalization should be entered into with great care by counties considering that past regionalization has met with mixed results. Counties that wish to join together in solid waste planning efforts should explore all of the advantages and disadvantages of a joint planning effort.

The General Assembly may wish to enact separate legislation creating a comprehensive waste tire management program. Such a program might include a separate fund strictly for waste tire management. It could be funded by setting aside part or all of the $1 pre-disposal tire fee. A program might also include research into tire recycling and tire recycling markets in addition to working to increase the role of private tire manufacturers in proper tire management.

The General Assembly should consider passing a resolution encouraging the U.S. Congress to give state and local governments authority regarding waste flow control. Since state and local waste flow control authority has been severely limited by the U.S. Supreme Court, the best option appears to be the U.S. Congress enacting legislation clearing the way for state and local governments to enact some type of waste flow control authority. The Supreme Court has agreed to defer to any legislation that might be passed by Congress granting such flow control authority.

The General Assembly may wish to amend *T.C.A.* §68-211-823, §68-211-824, §68-211-847, and §68-211-867(d) to allow municipalities eligibility for grants. The General Assembly may also wish to create new grants to be funded through the state grant program. These statutes apply to grants for planning, convenience centers, public education, and waste tire storage facilities. Although municipalities play a large role in solid waste collection and disposal, these localities are ineligible for most of the grants provided through the state grant program. Amending these statutes would enable municipalities to apply for and receive any of the grants offered through the program. Consideration should also be given to the creation of more grants including ones for recycling market development and for composting. Another alternative may be to reduce the 85¢ waste surcharge if municipalities continue to be ineligible for most of the state grants.

Administrative Alternatives

The Division of Solid Waste Assistance and the Solid Waste Disposal Control Board may need to re-examine Waste Disposal Reduction Goal Rule 1200-1-7-09 allowing solid waste regions to divert Class I waste to Class III and IV disposal facilities for waste reduction purposes. The Division of Solid Waste Assistance should continue to examine ways to reduce the total amount of waste being disposed in all disposal facilities. The Division should also ensure that Class III and IV facility safety standards are enforced and that any waste disposed in such facilities is appropriate for those facilities.

The Division of Solid Waste Assistance should recommend that the General Assembly amend *T.C.A.* §68-211-845 if the division wishes to continue its K-12 education contract with the University of Tennessee's Waste Management Research and Education Institute. If *T.C.A.* §68-211-845 is not amended, the Division may need to re-contract with the Department of Education for the K-12 public education. The Division may wish to recommend that the statute be amended to allow the Department of Education and the Waste Management Institute to work together on K-12 public education.

The Division of Solid Waste Assistance should examine the administration of the current grant program to see if any changes may be needed. Changes might include increasing the maximum amount of assistance that may be received from each grant category and the maximum amount of funding made available in each category. The Division should also evaluate its grant application requirements to determine if they can be simplified.

The Division of Solid Waste Assistance should ensure that all counties develop enterprise accounting funds for disposal facilities pursuant to *T.C.A.* §68-211-874(a). If this is not enforced, those counties that have not developed enterprise funds will probably never do so and others may revert back to the use of general funds. The division should levy sanctions against counties that don't have enterprise funds as well as those that might attempt to revert back to the use of general funds.

Appendix A
Persons Interviewed

Art Alexander
Assistant Director
Division of County Audit
Comptroller's Office

Mike Apple
Deputy Director
Division of Solid Waste Management
State Department of Environment and Conservation

Lewis Bumpus
Solid Waste Consultant
University of Tennessee
County Technical Assistance Service

Rodney Carmical
Director
County Technical Assistance Service

Fred Congdon
Executive Director
Tennessee County Executives Association

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

Geneil Hailey Dillehay
Deputy Director
Division of Solid Waste Assistance
State Department of Environment and Conservation

Tammy Driscoll
Recycling Coordinator
Metro Nashville/Davidson County

Joyce Dunlap
Grant Program Director
Division of Solid Waste Assistance
State Department of Environment and Conservation

John Evans
Solid Waste Administrator
Knox County

Ron Everett
Chairperson
Bedford County Solid Waste Authority

Chip Forrester
President
Recycle!Nashville

Chris Garcovich
Solid Waste Consultant
University of Tennessee
County Technical Assistance Service
Knoxville Office

Doug Goddard
Executive Director
Tennessee County Commissioners Association

Don Manning
Special Wastes Director
Division of Solid Waste Assistance
State Department of Environment and Conservation

Roby McBride
Solid Waste Administrator
Washington County

Dr. Ruth Neff
Advisor
Division of Solid Waste Assistance
State Department of Environment and Conservation

John New
Legislative Liaison
Tennessee Municipal League

Ronnie Riley
Gibson County Executive

Sharon Rollins
Municipal Public Works Consultant
University of Tennessee
Municipal Technical Advisory Service

John Smith
Manager
Johnson City Solid Waste Services

Tom Tiesler
Director
Division of Solid Waste Management
State Department of Environment and Conservation

Albert Tische
Solid Waste Program Coordinator
University of Tennessee
Center for Industrial Services

Joel Walton
Director-Auxiliary Programs
State Department of Education

Lynn Wampler
Fayetteville City Administrator

Teri Wildt
Solid Waste Education Specialist
State Department of Education

John Williams
Attorney
Governor's Roundtable Member

Bruce Wood
Vice President
Bring Urban Recycling to Nashville Today (BURNT)

Robert Wormsley
Executive Director
Tennessee County Services Association

Appendix B

List of Solid Waste Planning Regions

Single County Regions:

Anderson	Fayette*	Jefferson*	Roane*
Bedford*	Fentress	Knox*	Scott*
Blount*	Grainger	Lawrence	Sevier
Campbell*	Greene	Lewis	Shelby*
Cheatham	Hamblen	Loudon	Sullivan*
Claiborne	Hancock	Madison*	Sumner
Clay*	Hardeman	Monroe	Union
Cocke	Hawkins*	Moore*	Van Buren
Cumberland*	Henderson*	Morgan	White*
Davidson*	Hickman	Overton	Williamson*
Decatur*	Houston	Perry	Wilson
Dekalb	Humphreys	Pickett	
Dickson*	Jackson	Putnam*	

Multi-county regions:

Two county regions:

Marshall, Maury*

Three county regions:

Benton, Carroll, Henry* (Benton Co. is now a single county region.)
Crockett, Dyer, Gibson
Franklin, Giles, Lincoln*
Haywood, Lauderdale, Tipton
Lake, Obion, Weakley
Macon, Smith, Trousdale
Montgomery, Robertson, Stewart

Four county regions:

Cannon, Coffee, Rutherford, Warren*
Carter, Johnson, Unicoi, Washington*
Chester, Hardin, McNairy, Wayne*

10 county region:

Bledsoe, Bradley, Grundy, Hamilton, McMinn, Marion, Meigs, Polk, Rhea, Sequatchie

*Indicates regions where solid waste plans have received state approval as of 12/15/95.

Appendix C

Grants Offered in FY 1994-95

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage Facility	Conv. Centers	Education	Regional Plan Dev t	Total
Bedford County	$25,000		$10,000	$120,552			$155,552
Bledsoe County				$70,000			$70,000
Blount County		$18,510					$18,510
Alcoa		$1,963					$1,963
Maryville		$5,890					$5,890
Cannon County				$70,178			$70,178
Carroll County	$15,000			$106,601			$121,601
Carter County	$25,000		$10,000	$125,000	$20,000		$180,000
Cheatham County	$8,530						$8,530
Chester County				$75,000			$75,000
Cocke County	$24,750			$125,000			$149,750
Coffee County	$9,000		$10,243	$70,000			$89,243
Cookeville, City of	$25,000						$25,000
Crockett County				$46,904			$46,904
Cumberland County				$50,000			$50,000
Dandridge, City of	$15,500						$15,500
Davidson County		$523			$35,000		$35,523
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
DeKalb County				$30,911			$30,911
Dickson County				$125,000			$125,000
Fentress County	$25,000		$10,000	$75,000			$110,000
Franklin County	$10,800			$125,000	$20,000		$155,800
Giles County					$20,000		$20,000
Greene County			$15,000	$125,000			$140,000
Grundy County				$125,000			$125,000
Hamilton County		$25,362					$25,362
Chattanooga		$50,431					$50,431
Collegedale		$1,670					$1,670
East Ridge		$6,980					$6,980
Lookout Mtn.		$629					$629
Red Bank		$4,076					$4,076
Signal Mtn.		$2,450					$2,450
Soddy Daisy		$2,726					$2,726
Hardin County			$10,000	$69,937	$10,000		$89,937
Hawkins County	$25,000						$25,000
Haywood County	$19,624						$19,624
Henry County	$19,208						$19,208

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage Facility	Conv. Centers	Education	Regional Plan Dev t	Total
Hickman County	$25,000		$10,000				$35,000
Houston County				$70,000			$70,000
Humphreys County	$7,130						$7,130
Jackson County			$15,000				$15,000
Jefferson County	$25,000						$25,000
Jellico, City of	$25,000						$25,000
Johnson County	$17,000			$75,000			$92,000
Knox County		$41,757			$20,947		$62,704
Farragut		$3,385					$3,385
Knoxville		$43,684					$43,684
LaFollette, City of	$25,000						$25,000
Lewis County				$75,000			$75,000
Lincoln County					$20,000		$20,000
Macon County				$125,000			$125,000
Madison County		$10,302		$75,000	$17,500		$102,802
Jackson		$17,369					$17,369
Marion County			$10,000	$79,380			$89,380
Marshall County					$19,945		$19,945
Maury County	$12,420				$19,910		$32,330
McMinn County	$17,130						$17,130
McNairy County	$25,000			$125,000	$10,000		$160,000
Monroe County	$25,000						$25,000
Moore County					$10,000		$10,000
Montgomery County		$30,146					$30,146
Morgan County	$1,800			$90,239			$92,039
Norris, City of	$17,000						$17,000
Overton County				$50,000			$50,000
Perry County				$113,750			$113,750
Pickett County				$112,500			$112,500
Putnam County	$25,000			$70,000	$29,554		$124,554
Rhea County				$125,000			$125,000
Roane County					$25,000		$25,000
Robertson County				$120,500			$120,500
Rutherford County		$21,382		$125,000			$146,382
Murfreesboro		$13,042					$13,042
Scott County	$25,000			$50,000	$28,000		$103,000
Sequatchie County				$125,000			$125,000
Sevier County	$12,100						$12,100
Shelby County		$43,429					$43,429
Arlington		$553					$553
Bartlett		$9,681					$9,681
Collierville		$5,175					$5,175
Germantown		$11,799					$11,799
Lakeland		$432					$432
Memphis		$218,935					$218,935

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage Facility	Conv. Centers	Education	Regional Plan Dev t	Total
Millington		$6,409					$6,409
Smith County				$125,000			$125,000
Spring Hill, City of	$13,059						$13,059
Stewart County				$119,966			$119,966
Sullivan County		$17,378					$17,378
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
Surgoinsville, City of	$16,250						$16,250
Trousdale County			$10,000	$125,000			$135,000
Warren County	$5,000			$75,000			$80,000
Washington County		$12,606		$70,000	$30,000		$112,606
Johnson City		$15,623					$15,623
Jonesborough		$978					$978
Wayne County	$22,740				$25,000		$47,740
White County				$125,000			$125,000
Williamson County	$14,200				$35,000		$49,200
Wilson County	$11,946						$11,946
James Dev't Center	$18,731						$18,731
Madisonville High	$7,450						$7,450
N. Central Recycling	$25,000						$25,000
Tri-County Center	$21,000						$21,000
East Tennessee Development District						$50,000	$50,000
First Tennessee Development District						$50,000	$50,000
Greater Nashville Regional Council						$50,000	$50,000
Memphis Area Association of Governments						$50,000	$50,000
Northwest Tennessee Development District						$50,000	$50,000

Local Government	Recycling Equipment	Recycling Rebates	Waste Tire Storage Facility	Conv. Centers	Education	Regional Plan Dev t	Total
South Central Tennessee Development District						$50,000	$50,000
Southeast Tennessee Development District						$50,000	$50,000
Southwest Tennessee Development District						$50,000	$50,000
Upper Cumberland Development District						$50,000	$50,000

Source: Division of Solid Waste Assistance

Grants Offered in FY 1993-94

Local Government	Recycling Equipment	Waste Tire Storage Facility	Recycling Rebates	Planning Grants	Convenience Centers	Total
Bedford County				$15,000		$15,000
Bledsoe County				$20,000		$20,000
Blount County			$12,340	$15,000		$27,340
Alcoa			$1,308			$1,308
Maryville			$3,927			$3,927
Bradley County				$20,000		$20,000
Campbell County				$15,000		$15,000
Cannon County	$17,000	$4,950				$21,950
Carter County				$20,000		$20,000
Cheatham County				$15,000	$50,000	$65,000
Chester County		$4,600			$50,000	$54,600
Claiborne County		$5,000				$5,000
Clay County				$15,000	$50,000	$65,000
Columbia, City of	$13,330					$13,330
Cookeville, City of	$15,500					$15,500
Crockett-Dyer-Gibson Counties	$16,000			$20,000		$36,000
Cumberland County	$17,000			$15,000		$32,000
Davidson County			$349			$349
Belle Meade			$799			$799
Berry Hill			$450			$450
Goodlettsville			$3,156			$3,156
Lakewood			$565			$565
Nashville			$137,369			$137,369
Oak Hill			$1,210			$1,210
Decatur County				$15,000		$15,000
DeKalb County	$17,000			$15,000	$18,440	$50,440
Dickson County	$17,500			$15,000		$32,500
Dyer County				$20,000		$20,000
Englewood, City of	$17,000					$17,000
Fayette County				$15,000		$15,000
Fentress County				$15,000	$50,000	$65,000
Gibson County				$20,000		$20,000
Grainger County	$19,376					$19,376
Greene County		$5,000		$15,000		$20,000
Grundy County				$20,000		$20,000
Hamblen County				$15,000		$15,000

Local Government	Recycling Equipment	Waste Tire Storage Facility	Recycling Rebates	Planning Grants	Convenience Centers	Total
Hamilton County		$5,000	$18,725	$20,000		$43,725
Chattanooga			$33,621			$33,621
Collegedale			$1,113			$1,113
East Ridge			$4,653			$4,653
Lookout Mtn.			$419			$419
Red Bank			$2,717			$2,717
Signal Mtn.			$1,634			$1,634
Hardeman County	$14,200			$15,000		$29,200
Hardin County					$50,000	$50,000
Harrogate, City of	$19,794					$19,794
Hawkins County	$20,000			$15,000		$35,000
Haywood County				$20,000		$20,000
Henderson County				$15,000		$15,000
Hickman County				$15,000	$50,000	$65,000
Houston County				$15,000		$15,000
Humphreys County	$20,000				$50,000	$70,000
Jackson County		$5,000				$5,000
Jefferson County				$15,000		$15,000
Johnson County	$19,650			$20,000	$50,000	$89,650
Knox County			$27,838	$15,000		$42,838
Farragut			$2,256			$2,256
Knoxville			$29,123			$29,123
Lake County				$20,000		$20,000
Lauderdale County				$20,000		$20,000
Lawrence County	$12,480			$15,000		$27,480
Lawrenceburg, City of	$7,614					$7,614
Lewis County				$15,000	$50,000	$65,000
Livingston, City of	$17,000					$17,000
Loudon County				$15,000		$15,000
Madison County			$6,868	$15,000	$50,000	$71,868
Jackson			$11,580			$11,580
Marion County				$20,000		$20,000
McMinn County				$20,000		$20,000
Meigs County				$20,000		$20,000
Monterey, City of	$4,300					$4,300
Montgomery County			$20,098			$20,098
Moore County				$15,000		$15,000
Niota, City of	$6,000					$6,000
Obion County				$20,000		$20,000
Overton County				$15,000		$15,000

Local Government	Recycling Equipment	Waste Tire Storage Facility	Recycling Rebates	Planning Grants	Convenience Centers	Total
Perry County		$5,000		$15,000		$20,000
Polk County				$20,000		$20,000
Putnam County				$15,000		$15,000
Rhea County				$20,000		$20,000
Roane County	$20,000			$15,000		$35,000
Rutherford County			$14,254			$14,254
Murfreesboro			$8,695			$8,695
Scott County				$15,000		$15,000
Sequatchie County				$20,000		$20,000
Sevier County				$15,000		$15,000
Shelby County			$28,954			$28,954
Arlington			$369			$369
Bartlett			$6,454			$6,454
Collierville			$3,450			$3,450
Germantown			$7,866			$7,866
Lakeland			$288			$288
Memphis			$145,956			$145,956
Millington			$4,272			$4,272
Smith County	$19,800			$20,000		$39,800
Spring City, City of	$5,000					$5,000
Sullivan County			$11,585			$11,585
Bluff City			$195			$195
Bristol			$3,292			$3,292
Kingsport			$5,112			$5,112
Sumner County			$8,113			$8,113
Gallatin			$3,256			$3,256
Hendersonville			$5,577			$5,577
Mitchellville			$33			$33
Portland			$895			$895
Surgoinsville, City of	$12,500					$12,500
Tipton County	$17,000			$20,000		$37,000
Trousdale County	$17,000					$17,000
Unicoi County				$20,000		$20,000
Union County	$9,000					$9,000
Van Buren County				$15,000		$15,000
Warren County	$20,000				$50,000	$70,000
Washington County			$8,404	$20,000		$28,404
Johnson City			$10,415			$10,415
Jonesborough			$652			$652
Weakley County				$20,000		$20,000

Local Government	Recycling Equipment	Waste Tire Storage Facility	Recycling Rebates	Planning Grants	Convenience Centers	Total
White County				$15,000		$15,000
Williamson County				$15,000		$15,000
Wilson County				$15,000		$15,000
Greenhill Utility District	$16,500					$16,500
James Development Center	$20,000					$20,000
Waves Inc.	$6,428					$6,428
East Tennessee Development District				$50,000		$50,000
First Tennessee Development District				$37,500		$37,500
Greater Nashville Regional Council				$50,000		$50,000
Memphis Area Association of Governments				$37,500		$37,500
Northwest Tennessee Development District				$50,000		$50,000
South Central Tennessee Development District				$50,000		$50,000
Southeast Tennessee Development District				$50,000		$50,000
Southwest Tennessee Development District				$37,500		$37,500
Upper Cumberland Development District				$50,000		$50,000

Source: Annual Report for FY 1993-94, Division of Solid Waste Assistance.

Grants offered in 1992-93

Local Government	Recycling Equipment	Waste Tire Storage Facility	Truck Scale	Regional Plan Development	Total
Adamsville, City of	$13,938				$13,938
Anderson County				$15,000	$15,000
Athens, City of	$15,800				$15,800
Bedford County		$5,000			$5,000
Benton County		$4,977		$20,000	$24,977
Bi-County S.W. System			$34,000		$34,000
Bledsoe County		$5,000	$34,000		$39,000
Blount County		$5,000			$5,000
Bradley County		$5,000	$34,000		$39,000
Campbell County	$20,000	$2,632			$22,632
Cannon County				$20,000	$20,000
Carroll County		$4,944		$20,000	$24,944
Carter County		$5,000			$5,000
Cheatham County		$4,982	$34,000		$38,982
Chester County				$20,000	$20,000
Claiborne County	$17,190		$34,000	$15,000	$66,190
Cocke County				$15,000	$15,000
Coffee County	$16,800	$5,000		$20,000	$41,800
Cumberland County		$5,000	$34,000		$39,000
Dandridge, City of	$13,080				$13,080
Davidson County		$5,000	$34,000		$39,000
Decatur County			$34,000		$34,000
DeKalb County		$5,000	$23,620		$28,620
Dickson Co.			$30,137		$30,137
Dyersburg, City of			$34,000		$34,000
Fayette County		$5,000	$33,071		$38,071
Fayetteville, City of	$20,000				$20,000
Franklin County	$19,800	$5,000		$20,000	$44,800
Giles County				$20,000	$20,000
Grainger County			$34,000		$34,000
Greene County	$18,900				$18,900
Hamblen County		$5,000			$5,000
Hancock County				$15,000	$15,000
Hardeman County		$5,000	$34,000		$39,000
Hardin County				$20,000	$20,000
Haywood County		$5,000	$34,000		$39,000
Henderson County			$34,000		$34,000
Henry County				$20,000	$20,000
Hickman County	$17,500	$5,000	$34,000		$56,500
Humphreys County		$5,000	$34,000		$39,000
Huntington, City of	$17,000		$28,583		$45,583
Jackson, City of			$34,000		$34,000
Jackson County	$19,000			$15,000	$34,000

Local Government	Recycling Equipment	Waste Tire Storage Facility	Truck Scale	Regional Plan Development	Total
Jefferson County			$33,724		$33,724
Johnson County		$4,650			$4,650
Lake City, City of	$16,774				$16,774
Lauderdale County		$5,000	$34,000		$39,000
Lewis County		$5,000			$5,000
Lincoln County				$20,000	$20,000
Loudon County	$11,076	$5,000	$34,000		$50,076
Macon County		$5,000	$32,250	$20,000	$57,250
Madison County		$5,000			$5,000
Marshall County				$17,500	$17,500
Maury County			$34,000	$17,500	$51,500
McKenzie, City of	$19,215				$19,215
McMinn County		$4,761	$34,000		$38,761
McNairy County			$34,000	$20,000	$54,000
Meigs County	$18,000				$18,000
Milan, City of			$34,000		$34,000
Monroe County		$5,000		$15,000	$20,000
Montgomery County		$5,000		$20,000	$25,000
Morgan County		$5,000	$34,000	$15,000	$54,000
Mount Juliet, City of	$17,485				$17,485
Overton County		$5,000	$34,000		$39,000
Paris, City of			$34,000		$34,000
Pickett County	$20,000	$4,937	$34,000	$15,000	$73,937
Polk County	$10,400				$10,400
Pulaski, City of	$19,700		$31,007		$50,707
Putnam County		$5,000	$34,000		$39,000
Rhea County	$12,800	$3,399	$34,000		$50,199
Robertson County		$4,198		$20,000	$24,198
Roane County			$31,485		$31,485
Rutherford County				$20,000	$20,000
Scott County		$5,000	$15,902		$20,902
Sequatchie County		$5,000			$5,000
Sevier County	$6,000	$5,000	$34,000		$45,000
Shelby County		$5,000		$14,991	$19,991
Smith County		$4,500			$4,500
Stewart County		$5,000		$20,000	$25,000
Sullivan County				$15,000	$15,000
Sumner County				$20,000	$20,000
Tipton County		$2,820			$2,820
Trousdale County				$20,000	$20,000
Union County		$5,000	$34,000	$15,000	$54,000
Van Buren County			$34,000		$34,000
Warren County		$4,369		$20,000	$24,369
Wayne County		$4,946		$20,000	$24,946
White County	$14,000	$4,610	$31,475		$50,085
White House, City of	$20,000				$20,000
Williamson County			$34,000		$34,000

Local Government	Recycling Equipment	Waste Tire Storage Facility	Truck Scale	Regional Plan Development	Total
Wilson County			$34,000		$34,000
Coffee Co. Beautification	$8,400				$8,400
East Tennessee Development District				$50,000	$50,000
First Tennessee Development District				$50,000	$50,000
Greater Nashville Regional Council				$50,000	$50,000
Memphis Area Association of Governments				$50,000	$50,000
Northwest Tennessee Development District				$50,000	$50,000
South Central Development District				$50,000	$50,000
Southeast Tennessee Development District				$50,000	$50,000
Southwest Tennessee Development District				$50,000	$50,000
Upper Cumberland Development District				$50,000	$50,000

Source: Annual Report for 1992-93, Division of Solid Waste Assistance.

Grants Offered in FY 1991-92

Local Government	Recycling Equipment	Waste Tire Storage Facility	Planning Grants	Total
Benton County		$5,000		$5,000
Bledsoe County		$5,000		$5,000
Bradley County	$8,600	$5,000		$13,600
Carroll County	$12,600			$12,600
Cheatham County	$15,424	$5,000		$20,424
Covington, City of	$19,200			$19,200
Dayton, City of	$12,000			$12,000
Etowah, City of	$16,900			$16,900
Fentress County	$6,230			$6,230
Hancock County	$10,800			$10,800
Hardeman County	$19,600	$5,000		$24,600
Humboldt Recycling Plant	$12,000			$12,000
Johnson County		$4,650		$4,650
Macon County	$20,000			$20,000
Maury County	$18,850			$18,850
Morgan County	$20,000			$20,000
Newport, City of	$13,495			$13,495
Norris, City of	$2,279			$2,279
Overton County	$5,950			$5,950
Perry County		$5,000		$5,000
Pickett County		$5,000		$5,000
Putnam County	$20,000			$20,000
Rhea County		$5,000		$5,000
Robertson County	$12,600	$5,000		$17,600
Savannah, City of	$19,336			$19,336
Scott County		$5,000		$5,000
Sequatchie County		$5,000		$5,000
Sevier County	$20,000			$20,000
South Pittsburg, City of	$16,900			$16,900
Tullahoma, City of	$20,000			$20,000
Tusculum, City of	$5,800			$5,800
White County		$4,850		$4,850
Williamson County	$18,850			$18,850
Wilson County	$15,000			$15,000
Cumberland Recyclers	$12,185			$12,185
Sewanee Community Chest	$12,760			$12,760
Volunteer Recyclers	$12,641			$12,641
East Tennessee Development District			$75,000	$75,000

Local Government	Recycling Equipment	Waste Tire Storage Facility	Planning Grants	Total
First Tennessee Development District			$75,000	$75,000
Greater Nashville Regional Council			$75,000	$75,000
Memphis Area Association of Governments			$75,000	$75,000
Northwest Tennessee Development District			$75,000	$75,000
South Central Tennessee Development District			$75,000	$75,000
Southeast Tennessee Development District			$75,000	$75,000
Southwest Tennessee Development District			$75,000	$75,000
Upper Cumberland Development District			$75,000	$75,000

Source: Annual Report for 1991-92, Division of Solid Waste Assistance.

Appendix D

Estimated 1996 Waste Reduction by Solid Waste Region

Sevier	70.0%
Loudon	59.0%
Bedford	46.0%
Hamblen	45.0%
Blount	43.6%
Anderson	43.0%
Henderson	41.0%
Campbell	39.0%
Lake, Obion, Weakley	38.0%
Lawrence	36.3%
Cocke	33.0%
Grainger	33.0%
Pickett	32.5%
Sumner	32.23%
Williamson	30.0%
Scott	29.0%
Jefferson	28.7%
Franklin, Giles, Lincoln	28.0%
Monroe	28.0%
White	27.5%
Shelby	27.0%
Cheatham	26.7%
Knox	26.53%
Wilson	26.2%
Claiborne	26.0%
Southeast (10 counties)	25.73%
Moore	25.4%
Carter, Johnson, Unicoi, Washington	25.0%
Chester, Hardin, McNairy, Wayne	25.0%
Clay	25.0%
Cumberland	25.0%
Fayette	25.0%
Fentress	25.0%
Greene	25.0%
Hardeman	25.0%
Hawkins	25.0%
Haywood, Lauderdale, Tipton	25.0%
Hickman	25.0%
Humphreys	25.0%
Jackson	25.0%
Lewis	25.0%
Macon, Smith, Trousdale	25.0%
Morgan	25.0%

Overton	25.0%
Perry	25.0%
Roane	25.0%
Sullivan	25.0%
Benton, Carroll, Henry	24.8%
Crockett, Dyer, Gibson	24.8%
Dickson	24.5%
Marshall, Maury	24.4%
Davidson	23.0%
Madison	22.05%
Stewart, Montgomery, Robertson	16.2%
Putnam	14.3%
Cannon, Coffee, Rutherford, Warren	14.0%
Decatur	14.0%
DeKalb	13.0%
Hancock	Unknown
Houston	Unknown
Union	Unknown
Van Buren	Unknown

Source: Regional plan information provided by the Division of Solid Waste Assistance.

Note: The regions listed as “unknown” did not outline estimated waste reduction percentages in their regional plans.

Appendix E

Funding of Tire Management Programs for Southern States

State	Program Summary
Alabama	Places a $1 surcharge on every new tire sold in the state. Money is used to establish tire collection sites, cover administrative costs, and fund stockpile remediation.
Arkansas	Places a $1.50 surcharge on each new tire sold in the state. The money is placed in a Waste Tire Management Fund to provide grants for tire cleanup, recycling and establishment of tire collection centers.
Florida	Places a $1 surcharge on each new tire sold in the state.
Georgia	Places a $1 surcharge on each new tire sold in the state. The money is used for grants and loans to local governments for tire pile abatement and enforcement as well as technology development.
Kentucky	Places a $1 surcharge on each new tire sold in the state. Money is placed in a waste tire trust fund and used for tire pile cleanup, fund grant programs, and fund collection and storage programs.
Mississippi	Places a $1 surcharge on each new tire sold in the state. The money is placed in an Environmental Protection Fund, 50% of which goes for waste tire management grants and tire pile abatement.
North Carolina	Places a 1% tax on each new tire sold in the state.
South Carolina	Places a $2 surcharge on each new tire sold in the state. $1.50 of each $2 goes to counties to fund tire collection, disposal, and recycling systems. Another 44¢ is placed in a Waste Tire Grant Trust Fund for use exclusively as grants for counties.
Tennessee	Places a $1 surcharge on each new tire sold at retail in the state. The money is placed in a solid waste management fund used to fund various types of grants.
Virginia	Places a 50¢ surcharge on each new tire sold in the state. Money is placed in a Waste Tire Fund.

Source: "State Scrap Tire Programs," Environmental Protection Agency, April 1993.