



**BLOUNT COUNTY
SOLID WASTE MANAGEMENT PLAN**

Prepared for:

BLOUNT COUNTY SOLID WASTE AUTHORITY

Prepared by:

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FOREWORD

In recent years, our society has given increased attention to the issues of solid waste management. This results from increased concerns about the potential environmental impacts of solid waste management practices, the increasing costs of management, and increased commitment to waste reduction and conservation of natural resources.

One consequence of this increased attention has been the enactment of more stringent federal and state regulations governing the land disposal of solid waste. At the same time, decision-makers have begun to realize the need for clear and comprehensive planning in order to put complex solid waste management issues into better perspective. One challenge to many governmental entities (at all levels) is determining feasible approaches to integrated solid waste management that not only protect human health and the environment, but also that can be carried out in a cost effective and efficient manner.

In response to increasing concerns about solid waste management issues, the State of Tennessee began in 1989 to develop a plan to improve management of its municipal solid wastes. A series of "round-table meetings" involving all parties interested in MSW were convened to identify the issues, to develop realistic goals and objectives, and to propose possible programs. Those efforts resulted in the passage of the Tennessee Solid Waste Management Act of 1991 by the State Legislature. This Act and subsequent regulations outline the actions and responsibilities for implementation of a comprehensive solid waste management program throughout the State.

As stated in the Act, each county is required to be part of a solid waste region; Blount County has formed a single-county region. Consequently, the Blount County government was empowered to form a Blount County Region Solid Waste Board, which includes representation from the Blount County Commission, the cities of Maryville and Alcoa, the incorporated cities in the county with solid waste collection services; private citizens; and local industry.

Under the current laws, each Region has responsibility for developing and implementing a solid waste management plan that can reach the following general goals:

- Assure a ten-year disposal capacity;
- Achieve a 25 percent per capita reduction in the amount (by weight) of solid waste disposed between 1989 and 1995;
- Assure access to collection services for at least 90 percent of the residents;
- Provide recycling programs for the region;
- Provide educational programs on proper management of solid waste;
- Maintain accurate records pertaining to waste disposal;
- Use a uniform accounting system that shows the true costs of solid waste management;
- Use fees for waste management services that reflect the actual costs of providing those services.

The County formed a solid waste study group in 1991 to advise on developing legislation and to start developing a framework for solid waste programs in Blount County. As that effort progressed, the Blount County government and the cities of Maryville and Alcoa formed (by resolution in October 1992) the Blount County Solid Waste Authority, which was charged with administering solid waste programs in Blount County. The Solid Waste Authority was also designated to serve as the Blount County Region Solid Waste Board.

The Authority is responsible for developing a solid waste management plan for ~~Blount County that will meet the goals and criteria laid out by the State. The plan must be submitted to the State for approval, after which the approved plan must then be implemented by the Authority and the local governments.~~

This document will serve as the solid waste management plan for the Blount County Region. It is important to understand that the ultimate responsibility for plan implementation rests with the Blount County Executive, the Blount County Commission, and the municipalities providing solid waste management services. Appropriate actions will be necessary to assure that all elements of the plan are effectively managed in order to meet the designated goals. State law provides potential penalties for failure to accomplish the goals of the approved plan. In addition, the plan is to be reviewed annually and revised to reflect changing conditions.



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PART I
EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

Description of the Blount County Solid Waste Management Plan

Under the Tennessee Solid Waste Management Act of 1991 (T.C.A. 68-211-801 *et. seq.*), each county in the state must be part of a municipal solid waste region, which has the responsibility of developing solid waste management plans that: a) ensure a ten year disposal capacity; and b) outline a strategy for achieving a 25 percent reduction in the per capita amount of waste disposed between 1989 and 1995.

The Blount County Solid Waste Management Plan (the Plan) will serve as the ten-year plan for the Blount County Region. Part I of the Plan is this Executive Summary, and Part II is the main Plan, which is divided into 13 chapters, according to guidelines developed by the Tennessee State Planning Office. Part III includes Appendices appropriate to the development and implementation of the Plan by the Region.

Chapters 1 and 2 provide a description of the existing solid waste management system in the Blount County Region (the Region), as well as specific demographic and economic information relevant to waste generation trends. Chapter 2 also includes a summary of the Region's goals and needs for effective solid waste management activities. Chapter 3 projects trends in solid waste generation and disposal, based on demographic and economic factors, as well as expected waste reduction activities. Chapter 4 summarizes the planned waste reduction activities that will allow the Region to achieve the 25 percent per capita reduction goal.

The strategy for implementing each aspect of future solid waste management is contained in Chapters 5 through 10, with Chapter 11 serving as an overall summary of the planned system and Chapter 12 outlining responsibility for plan implementation. The implementation strategy includes planned activities, expected costs, staffing needs, and possible sources of revenue. The strategy addresses issues associated with the following key solid waste management elements:

- Waste collection and transportation;
- Recycling programs and markets;
- Composting activities;
- Disposal capacity;
- Public information and education; and
- Problem wastes.

Chapter 13 of the Plan includes a general discussion of flow control and permit application review of proposed solid waste management facilities.

Definition of the Blount County Solid Waste Planning Region

As municipal solid waste regions were being developed, it was determined that the solid waste management systems of unincorporated Blount County (the County), the City of Alcoa, and the City of Maryville were of such a nature that allows for the formation of a single county region. The total quantity of waste handled by both public and private entities, as well as the flow of waste within the County and the two cities, were deemed sufficient to warrant the single county approach. Therefore, on October 19, 1992, Blount County and the Cities of Maryville and Alcoa signed a joint resolution establishing a Solid Waste Region.

In the joint resolution, it was also established that the Blount County Solid Waste Authority, which had been established on June 27, 1991, would administer the activities of the Region. In accordance with the Act, the Authority established a Regional Board to develop the solid waste management plan. Currently, the members of the Authority are serving as the Regional Board.

Summary of Regional Needs and Goals

As a result of the planning process and the assessment of the existing solid waste management system, several primary goals and needs were identified for the Blount County Region:

Waste Collection and Transportation

One characteristic of the existing solid waste collection system is that although collection service is *available* to a large portion of the residents in the unincorporated County (through private haulers), some households choose not to subscribe to collection service. Future solid waste collection and transportation systems in the region must:

- Ensure that solid waste collection is accessible and convenient for all residents and businesses.
- Ensure that illegal dumping is discouraged through the enforcement of illegal dumping laws.
- Ensure that fees paid for collection services are representative of the actual cost of providing the service and provide residents and businesses incentive to participate in waste reduction programs.

Source Reduction and Recycling Systems

Existing waste reduction programs, although not currently achieving the 25 percent per capita reduction goal, establish a solid foundation for future recycling activities. In terms of integrated solid waste management, this foundation is a strength of the current system. The current disposal system already diverts yard waste and construction debris from



the Class I area to the Class IV area. In light of the existing diversion, this plan will address the reduction of the total waste stream disposed at the entire landfill. However, in order to reach the 25 percent per capita reduction goal, the Region has several needs:

- Expand residential recycling programs to maximize waste reduction, including programs such as drop-off and curbside collection.
- Consider strengthening commercial and industrial opportunities for waste reduction.
- Develop solid waste collection fee structures that encourage source reduction.
- Examine marketing opportunities to maximize use of secondary materials.
- Develop public education programs that encourage waste reduction by residential and commercial/industrial generators.
- Consider public and private sector capabilities for processing and marketing of recyclable materials.
- Consider the development of a waste exchange program.

Waste Processing, Composting, and Incineration Systems

The Blount County Region has not identified a need for solid waste processing facilities for its management system. However, in the area of yard waste, there are some specific needs for either mulching, composting, or burning of materials in order to meet the 25 percent per capita reduction goal. Existing leaf storage sites in Alcoa and Maryville serve as a foundation to future composting efforts. The primary needs for the Region as a whole include:

- Consider composting and mulching programs to decrease, and potentially eliminate, yard waste entering disposal facilities.
- Consider the potential for burning yard waste as a waste reduction measure in the context of Tennessee requirements.

Disposal Facilities

In terms of available landfill capacity, the Blount County landfill has sufficient airspace to allow for continued disposal for over ten years. However, federal and state regulations will require the Region to upgrade the existing facility. Therefore, the primary needs for the Region are:

- Ensure that the landfill capacity is sufficient for solid waste disposal for at least ten years.
- Ensure compliance with State and Federal regulations, including upgrading the existing facility to meet new regulations.
- Consider methods of discouraging illegal dumping.
- Determine owner/operator options for the existing and future disposal facilities.

- Continue to educate residents about the changing costs of waste disposal.
- Ensure that the landfill's data collection system can reflect the types, sources, and quantities of waste being disposed.
- Ensure that all landfill upgrades are conducted in a cost-effective and efficient manner.

Public Information and Education Programs

Through the efforts of Beautiful Blount and the Cities of Alcoa and Maryville, a solid foundation for public education has been established. In the future, these efforts will need to be expanded, as each of these entities works with the Authority to ensure that public education addresses all aspects of an integrated solid waste management system. The primary needs for public education include:

- Ensure that public education programs inform and involve residents on the full range of solid waste management issues.
- Ensure that public education programs inform residents and businesses on proper disposal methods.
- Ensure that public education programs effectively support all waste reduction programs.
- Conduct public education efforts in a manner that effectively utilizes the existing resources of the news media, including newspapers, radio, and television.
- Ensure that all educational materials (e.g. pamphlets, newsletters, etc.) clearly and comprehensively address solid waste management issues.
- Ensure that public education efforts provide information to residents and businesses on the true costs of managing a comprehensive solid waste management system.
- Continue to involve citizens in specific waste reduction activities.
- Use state and area-specific resources, as appropriate, to develop solid waste education programs for local schools.

Costs and Revenues of Solid Waste Management Programs

One of the most important aspects of the solid waste management system is an understanding of the actual costs and financing options for existing and future programs. Although the use of the tipping fee is a strength in the area of disposal, the absence of user fees for collection may hinder a truly integrated (and self-sufficient) solid waste management system. As the Blount County Region implements an integrated solid waste management system, it will have the following primary needs:

- Ensure that intergovernmental cooperation occurs to allow for shared responsibility for costs of some waste management programs (e.g. disposal, waste reduction, etc.).



- Ensure that each governmental entity's budgeting system allows for the accurate documentation of the full costs of solid waste management programs.
- Ensure that all financing systems in the cities and the County are sufficient to implement and expand solid waste management programs.
- Base user fees on the real costs of solid waste management, which could include charging variable (volume-based) rates for collection and disposal of solid waste and could promote source reduction and recycling.

Implementation Schedule and Responsibilities

According to the needs and goals set forth for each Plan element, an implementation schedule has been developed for the efficient future management of the solid waste system. For each element in the Plan, a summary table has been developed that includes planned implementation actions, the schedule for each activity, responsible parties, estimated costs, and expected funding sources. Tables E-1 through E-6 include summary information for each element of the solid waste management system.

Figure 1 shows the expected flow of waste generated in the region by the December 31, 1995 target date of 25 percent per capita waste reduction.

Figure 1

Projected Waste Flow, 1995

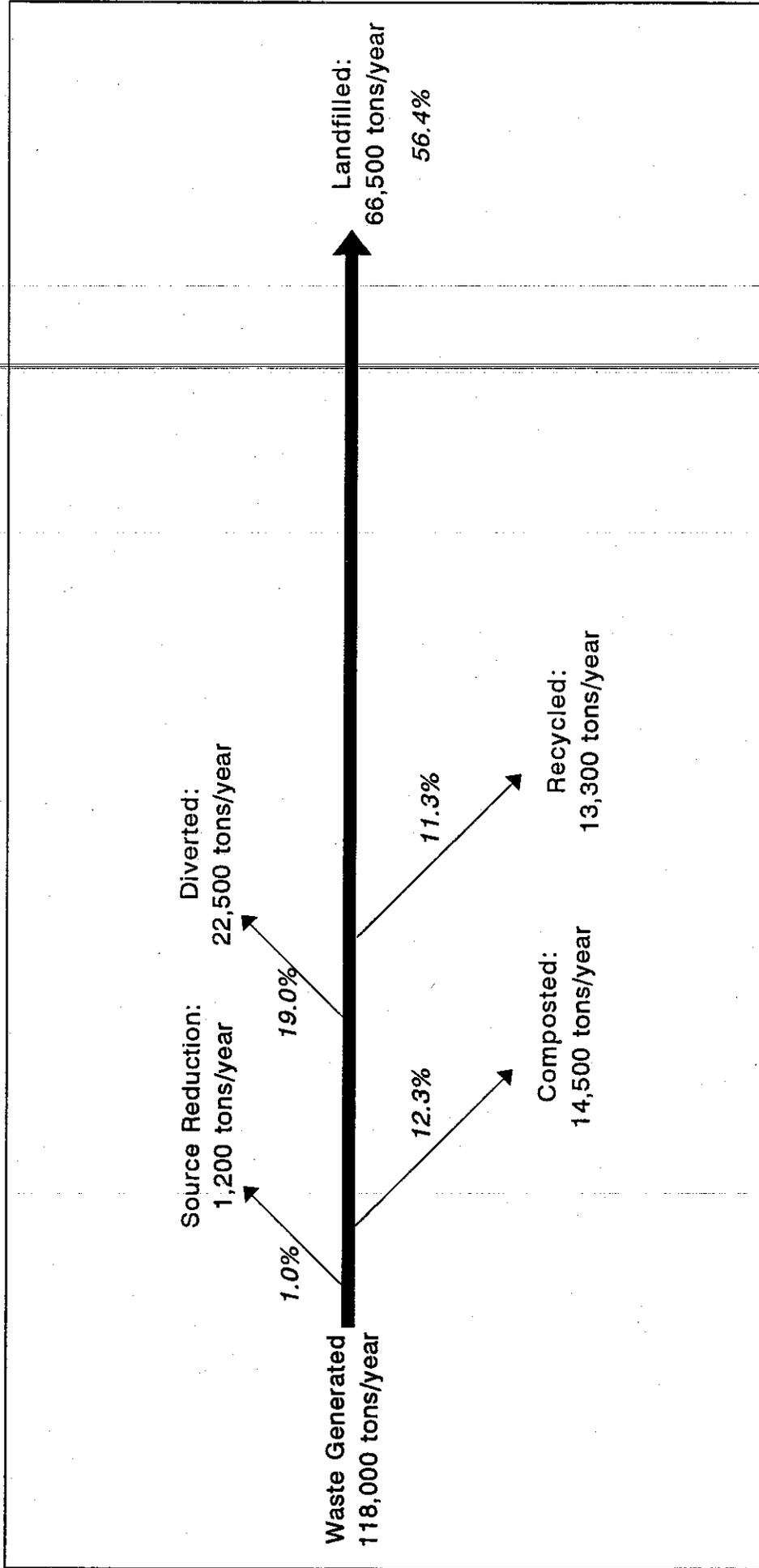


TABLE E-1
TEN YEAR IMPLEMENTATION SCHEDULE FOR SOLID WASTE COLLECTION

Solid Waste Collection Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Communicate with private haulers to expand existing solid waste collection service areas.	•											Authority/ County	--	--
2. Enforce local regulations that discourage illegal dumping.	•											County	--	--
3. Establish standards for solid waste collection by private haulers.	•											Authority/ Haulers	--	--
4. Conduct a second hauler survey for comparison of households served.		•										Authority	\$2K	Tipping Fees/ County General Funds
5. Consider alternative options for collection (if needed).		•										Authority/ County	--	--
6. Develop one or more convenience centers for solid waste (if needed).		•										County or Private Firm	\$25K/site	County General Funds
7. Operate convenience centers (if needed).		•										County or Private Firm	\$15K/site	User fee
8. Continue to provide solid waste collection service to residents and businesses in the City of Alcoa.												City of Alcoa	\$900K + 4.5%/yr.	General Fund (short term)/User Fees

TABLE E-1 (CONTINUED)

TEN-YEAR IMPLEMENTATION SCHEDULE FOR SOLID WASTE COLLECTION

Solid Waste Collection Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
9. Investigate alternative collection methods in Alcoa (recyclables pick-up, variable rates, etc.) through the advisory committee.	•												--	--
10. Alter collection methods in Alcoa based on advisory committee recommendations, if necessary.		•											\$50K	General Fund (short term)/user fee
11. Operate updated collection services.		•											Depends on option chosen	General Fund (short term)/user fee
12. Continue to provide solid waste collection service to residents and businesses in the City of Maryville.													\$1.1 mil + 4.5%/yr.	General Fund (short term)/user fee
13. Investigate opportunities for implementing collection fees and variable rate structures in Maryville.													--	--
14. Update collection services in Maryville, if necessary.		•											\$50K	General Fund (short term)/user fee

TABLE E-1 (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR SOLID WASTE COLLECTION

Solid Waste Collection Action	Year (July 1 - June 30)										Responsible Party	Funding Source	
	94	95	96	97	98	99	00	01	02	03			
15. Consider showing residents and businesses the costs of providing collection services on utility bills (prior to use of collection fees) in Alcoa and Maryville.	•											Alcoa/Maryville	--

TABLE E-2

TEN-YEAR IMPLEMENTATION SCHEDULE FOR RECYCLING AND SOURCE REDUCTION

Recycling and Source Reduction Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Determine ways of expanding current drop-off programs, including new sites and staffing methods.	•											Authority/County/Cities	--	--
2. Expand existing drop-off sites to accept wider range of materials.	•											Maryville/Alcoa	\$5-10K/site (cap & op)	General Fund/Solid Waste Collection Fee
3. Closely monitor drop-off site usage and staff stations, as necessary.	•											Authority/Cities/County	--	--
4. Develop new sites for residential drop-off program.	•											Authority/County/Cities	\$10K/site (cap & op)	General Fund/Solid Waste Collection Fee
5. Consider curbside collection of residential recyclables.												Maryville/Alcoa	--	--
6. Implement residential curbside program in Cities, as needed.		•										Maryville/Alcoa	\$120K/yr	SW or Recyclable Collection Fee
7. Consider variable rate structures for residential and commercial solid waste collection.	•											Maryville/Alcoa	--	--
8. Develop variable rate standards for private haulers.												Authority/Haulers	--	--

TABLE E-2 (CONTINUED)

TEN-YEAR IMPLEMENTATION SCHEDULE FOR RECYCLING AND SOURCE REDUCTION

Recycling and Source Reduction Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
9. Implement variable rate structures for solid waste collection, as needed.			*									Maryville/Alcoa	\$100K	SW Collection Fee
10. Develop recycling programs in local schools.												Beautiful Blount/Schools	-	Donated Equipment
11. Match waste generating businesses with recyclers.	*											Authority/Beautiful Blount/Cities	part of SW Manager salary	Tipping Fee
12. Coordinate a solid waste exchange for local industries and businesses, including a database.	*											Authority/Beautiful Blount	part of SW Manager salary	Tipping Fee
13. Evaluate opportunities for office paper recycling program.	*											Authority/Cities	part of SW Manager salary	Tipping Fee
14. Provide technical assistance to businesses that generate wood pallets.	*											Beautiful Blount/Authority	part of SW Manager salary	Tipping Fee
15. Provide public education to residents and businesses.												Beautiful Blount	\$25K	General Funds/Donations Tipping Fee

TABLE E-2 (CONTINUED)

TEN-YEAR IMPLEMENTATION SCHEDULE FOR RECYCLING AND SOURCE REDUCTION

Recycling and Source Reduction Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
16. Continue to use the processing capability of the Vocational Rehabilitation Center.													---	---
17. Join and participate in the Recycling Marketing Cooperative of East Tennessee.													---	---
18. Pursue additional markets for recovered materials as additional programs are developed.													---	---
19. Establish and maintain communication with the Office of Cooperative Marketing.													---	---

TABLE E-3

TEN-YEAR IMPLEMENTATION SCHEDULE FOR COMPOSTING

Composting Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Develop and distribute public education materials to encourage back-yard composting.	•												\$2K	Tipping Fee
2. Require all collectors of solid waste to separate bulky items from yard waste.	•												--	--
3. Set aside a sorting area at the landfill for bulky items and yard waste.	•												--	--
4. Set aside a drop-off area at the landfill for bulky items and yard waste for use by residents.	•												--	--
5. Begin yard waste mulching operation for short-term yard waste management.	•												\$40K/yr	Tipping Fee
6. Develop markets for mulched and/or composted material.	•												--	--
7. Determine feasibility of burning yard waste.	•												--	--
8. Determine need and feasibility of a central yard waste composting facility.	•												--	--

TABLE E-3 (CONTINUED)

TEN-YEAR IMPLEMENTATION SCHEDULE FOR COMPOSTING

Composting Action	Year (July 1 - June 30)										Responsible Party	Funding Source		
	94	95	96	97	98	99	00	01	02	03				
9. Design, permit, and construct yard waste composting facility.		•										Authority/Cities/County	\$450K	Tipping Fee
10. Operate yard waste composting facility.			•									Landfill Operator	\$65K/year + 4.5%	Tipping Fee
11. Ban yard waste and bulky items from landfill disposal.			•									Landfill Operator	--	--
12. Continue leaf composting operations until central facility is developed.												Alcoa/Maryville	Included in Collection	General Funds

TABLE E-4

TEN-YEAR IMPLEMENTATION SCHEDULE FOR DISPOSAL

Disposal Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Continue to operate Class I area of landfill within current guidelines.													\$800K/yr.	Tipping Fee
2. Hire a Solid Waste Manager.	•												\$58K/yr.	Tipping Fee
3. Hire a Landfill Technician for the landfill.	•												\$37K/yr.	Tipping Fee
4. Apply for permit to upgrade landfill													\$25K	Tipping Fee
5. Construct upgrade of Class I area of the landfill, according to Subtitle D standards.		•											\$2.1 mil	Tipping Fee
6. Dispose of waste in upgraded areas.			•										\$1.2 mil (1996) + 4.5%/yr.	Tipping Fee
7. Continue with current administrative arrangement for ownership and operation of the landfill (see actions below).													-	--
8. Consider transferring ownership of the landfill to the Authority.		•											-	--
9. Apply for new Class IV permit		•											\$10K	Tipping Fee

TABLE E-5

TEN-YEAR IMPLEMENTATION SCHEDULE FOR PUBLIC EDUCATION

Public Education Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Continue to provide general information on waste reduction, littering, and beautification.													\$38K + 4.5/yr.	Tipping Fee/Volunteers
2. Contract with Beautiful Blount for education on specific solid waste management issues.	•												Depends on program	Tipping Fee/General Funds
3. Contribute funds toward the hiring of an additional staff person to work with Beautiful Blount.	•												Included in budget	Tipping Fee
4. Work with the landfill operator to establish public education center at the landfill.	•												Included in budget	Tipping Fee
5. Operate public education center at the landfill.		•											Included in budget	Tipping Fee
6. Target audiences for solid waste education programs.													--	--
7. Continue to develop school system programs to educate students on solid waste management.													Included in budget	--

TABLE E-5 (CONTINUED)

TEN-YEAR IMPLEMENTATION SCHEDULE FOR PUBLIC EDUCATION

Public Education Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
8. Help coordinate development of recycling programs in local schools.	•											Beautiful Blount	Included in budget	Tipping Fee/Private
9. Provide technical assistance to schools for recycling programs, as needed.		•										Beautiful Blount	--	--
10. Develop programs to inform citizens about drop-off programs and efficient waste management.												Beautiful Blount	Included in budget	Tipping Fee
11. Develop materials for specific education programs, as needed.												Beautiful Blount	Included in budget	Tipping Fee/Donations
12. Continue to develop programs to assist businesses and industries with recycling/reuse/reduction.												Beautiful Blount	--	--

TABLE E-6
TEN-YEAR IMPLEMENTATION SCHEDULE FOR PROBLEM WASTES

Problem Wastes Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source		
	94	95	96	97	98	99	00	01	02	03					
1. Coordinate household hazardous waste collection with state's mobile units.	•												Authority	--	--
2. Develop a work plan arranging for a specific household hazardous waste collection day.	•												Authority	\$2K	Tipping Fee
3. Hold household hazardous waste collection event.	•												Authority	\$5K	Tipping fee
4. Continue to store tires at landfill and utilize state's tire shredder.													Landfill Operator	--	--
5. Investigate uses for used tires other than disposal.	•												Authority/ Landfill Operator	--	--
6. Coordinate alternative use for tire management.		•											Authority/ Landfill Operator	\$/tire	Tipping fee
7. Continue waste oil/battery collection drop-off in Maryville.													Maryville	\$	General Fund
8. Work with City of Maryville to determine feasibility of using existing oil/battery collection site for all residents in County.	•												Authority	\$	Tipping Fee
9. Develop at least one additional site for used oil and batteries, if necessary.		•											Authority	\$5K	Tipping Fee

TABLE E-6 (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR PROBLEM WASTES

Problem Wastes	Year (July 1 - June 30)										Responsible Party	Funding Source	
	94	95	96	97	98	99	00	01	02	03			\$\$
10. Contract with private companies for recycling/disposal of used oil and batteries.		•											--
11. Continue and expand litter control and clean-up efforts.												Beautiful Blount	State Grant/Tipping Fee

- **Action** = summary of the activity to be undertaken.
- **Year** = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994).
- **Shading** = individual or multiple years in which the activity will take place.
- **Dots** = start-up of the activity.
- **Responsible Party** = who will carry out the activity.
- **\$\$** = estimated cost of the activity.
- **Funding Source** = how the activity will be funded.
- -- = no additional costs anticipated.



PART II

BLOUNT COUNTY SOLID WASTE MANAGEMENT PLAN



CHAPTER 1

DESCRIPTION OF THE MUNICIPAL SOLID WASTE REGION

1.1 General Description

The Blount County Region (the Region) is located in the eastern portion of Tennessee on the border with North Carolina. There are six incorporated municipalities, including the cities of Maryville, Alcoa, Louisville, Friendsville, Rockford, and Townsend. The Region has a land area of 558.6 square miles.

Figure 1-1 shows the Blount County Region, including political boundaries, major roads, and waterways.

1.2 Rationale for Region Formation

Under the Tennessee Solid Waste Management Act of 1991 (T.C.A. 68-211-801 *et seq.*), each county must be part of a municipal solid waste region, which must consist of either one county or two or more contiguous counties. These municipal solid waste regions have the responsibility of developing solid waste management plans that: a) ensure a ten year disposal capacity; and b) outline a strategy for achieving a 25 percent reduction in the per capita amount of waste disposed between 1989 and 1995.

Prior to the regional planning process, each Development District in the state prepared a Needs Assessment for each county. This document, prepared by the East Tennessee Development District for Blount County, contains data and information about solid waste management for use in the Region's Plan.

During the development of the Needs Assessment, it was determined that the solid waste management systems of Blount County, the City of Alcoa, and the City of Maryville were of such a nature that allows for the formation of a single county region. The total quantity of waste handled by both public and private entities, as well as the overall flow of waste within the County, was deemed sufficient to warrant the single county approach. Therefore, on October 19, 1992, Blount County and the Cities of Maryville and Alcoa signed a joint resolution establishing a Solid Waste Region.

In the joint resolution, it was also established that the Blount County Solid Waste Authority would administer the activities of the Region. The Authority had been designated on June 27, 1991 to address the issues of solid waste management and administer programs.

In accordance with the Act, the Authority established a Regional Board to develop the solid waste management plan. Currently, the members of the Authority are serving as the Regional Board. Appendix A includes information on the membership of the Authority.



The Authority is responsible for developing the solid waste management plan that will meet the goals and criteria laid out by the state. The plan must be submitted to the state for approval, after which the approved plan must be implemented by the Authority and local governments. In accordance with state directives, the responsibility for implementing programs described in the Plan ultimately falls to the Blount County government and the Cities of Alcoa and Maryville. State law provides potential penalties to the Region if the Plan is not implemented appropriately.

1.3 Institutional Structure

The Authority (acting as the Regional Board) is composed of three representatives of Blount County, two representatives from the City of Alcoa, two representatives from the City of Maryville, two citizens at-large, one private transporter representative, and one industrial representative. The officers selected by the Authority also serve as officers of the Regional Board. The terms of the 11-member Board have been staggered as follows: four members have two year terms; four members have four year terms; and three members have six year terms. Specific term information is included in Appendix A. As empowered by T.C.A 68-211-813 *et. seq.*, the Authority (acting as the Regional Board) has developed this solid waste region plan.

1.4 Demographics

An important part of the planning process is a determination of demographic trends in the region. An accurate assessment of the population allows the plan to more closely depict current and future waste generation and disposal trends.

The population of the Blount County Region in 1990 was 85,969. The population of each municipality was: Maryville - 19,208; Alcoa - 6,400; Louisville (incorporated after 1990) - 1,216; Friendsville - 792; Townsend - 329; and Rockford - 646. Between 1980 and 1990, the population of the County grew by approximately 10.5 percent (from 77,770 population in 1980). The population of Maryville grew by 9.9 percent, while the population of Alcoa decreased by approximately 6.8 percent.

Table 1-1 shows the land area and estimated population of the Blount County Region in Fiscal Year 1993. The land area of the entire County, including the Great Smoky Mountains National Park, is 558.6 square miles. Outside of the Park, the land area is approximately 406 square miles. Population projections were conducted by the University of Tennessee and adjusted to account for higher expected growth rates (see description in this section). For this table and subsequent population projections, FY 1993 is used. However, for tables where only Census data is available (from the Needs Assessment), the year 1990 is used.

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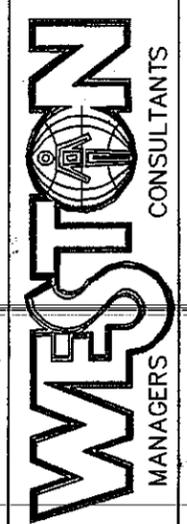
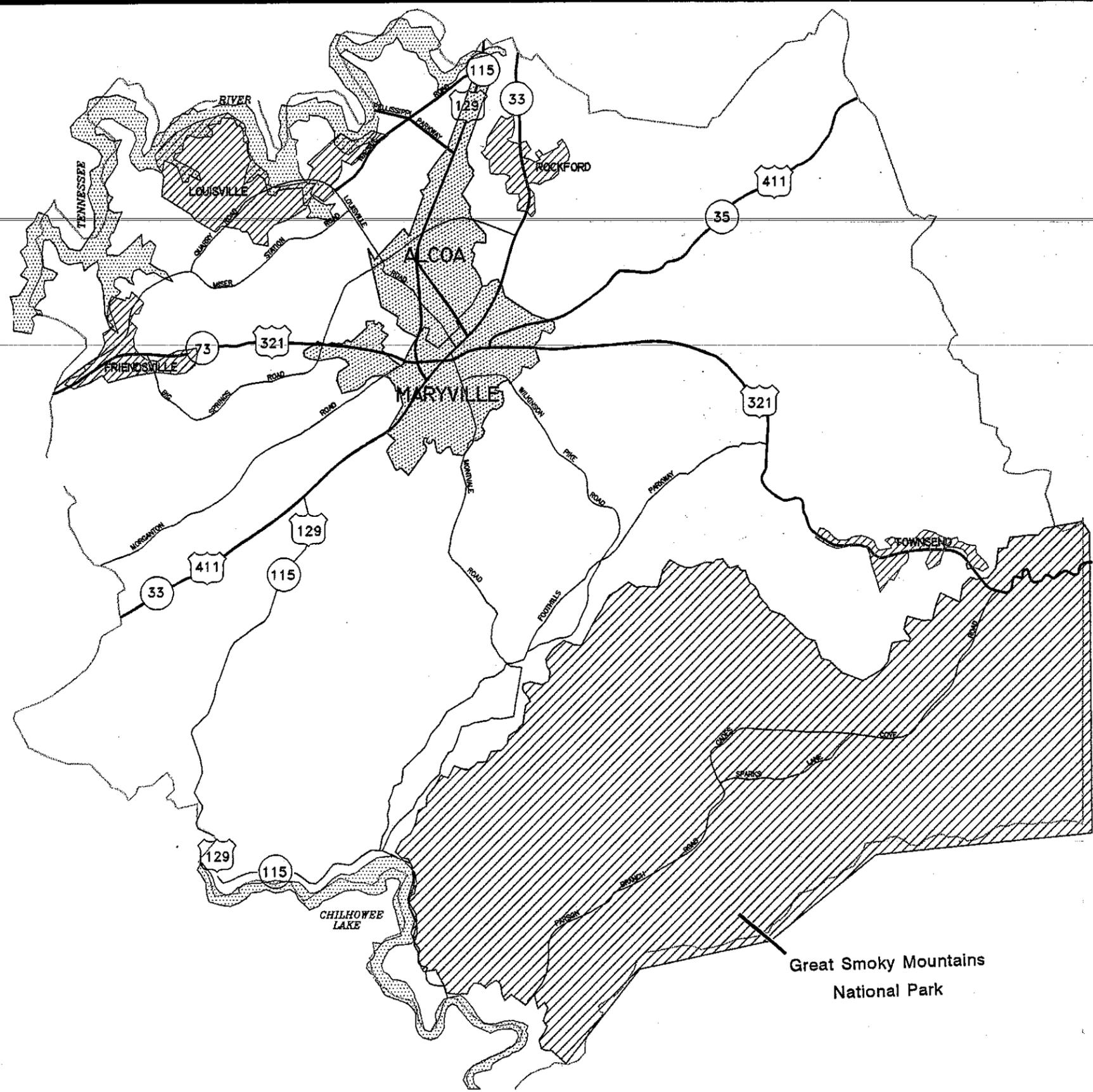


FIGURE 1-1
 BLOUNT COUNTY
 BLOUNT COUNTY, TENNESSEE



TABLE 1-1

Land Area and Population of Blount County Region, FY 1993

	Area (sq. miles)	Population	Population Density (Pop./Sq. Mile)
Blount County (including the National Park)	558.6	89,414 (est.)	158.1
Blount County (excluding the National Park)	406	89,414 (est.)	220

According to the 1990 Census and the District Needs Assessment, the County had a slightly larger urban than rural population (51.6 percent). Table 1-2 shows the estimated urban and rural populations for 1990, as developed by the Development District according to U.S. Census Bureau Criteria. During 1991, it is estimated that the urban population increased slightly to 44,849 people (51.7 percent of the total), and the rural population increased to 41,899 (48.3 percent of the total). For FY 1993, it is not expected that the percentages of urban and rural populations have changed significantly.

TABLE 1-2

Urban and Rural Population, 1990

County	Urban		Rural	
	Population	%	Population	%
Blount County	44,394	51.6	41,575	48.4
Source: District Needs Assessment/U.S. Census				

Table 1-3 shows the distribution of the Blount County Region's 1990 population by sex and age.



TABLE 1-3

Distribution of Population by Sex and Age, 1990

Age	Total	Male		Female	
		Number	%	Number	%
0 - 4	5,279	2,698	51.1	2,581	48.9
5 - 17	14,383	7,334	51.0	7,049	49.0
18 - 44	35,547	17,442	49.1	18,105	50.9
45 - 64	18,152	8,682	47.8	9,470	52.2
65+	12,608	5,123	40.6	7,485	59.4
Total	85,969	41,279	48.0	44,690	52.0

Source: District Needs Assessment/U.S. Census

Table 1-4 shows the distribution of the Blount County Region's population (25 years and older) by level of education.

TABLE 1-4

Distribution of Population by Education, 1990 (Age 25+)

	Number	%
Less than 9th Grade	8,878	15.3
9th-12th Grade, no diploma	9,410	16.2
High School Graduate	19,193	33.1
College, no degree	9,617	16.6
Associate Degree	2,595	4.5
Bachelor's Degree	5,517	9.5
Post Graduate/Professional Degree	2,773	4.8
TOTAL	57,983	100.0

Source: District Needs Assessment/U.S. Census

The 1990 Census estimated that there were approximately 33,624 households (occupied units) in the Blount County Region. Of the total occupied units, approximately 75 percent are single family detached; 11 percent are multi-family with units of between two



and 49; 11 percent are mobile homes or trailers; and the remainder are large multi-family units or single family attached units.

Projections of future population were developed in the District Needs Assessment. According to the population projections compiled by the University of Tennessee, the Blount County Region's population will increase by 9.3 percent between 1990 and 2000. However, the opening of the Pellissippi Parkway in 1993 was not taken into consideration in these projections. According to the Development District, growth in adjacent Knox County has historically occurred in the western part of the County and extended into northern Loudon County. With the opening of the Pellissippi Parkway, it is expected that growth will also extend into Blount County, meaning that overall population growth may be considerably larger than the figure of 9.3 percent.

Based on the Pellissippi Parkway development, improvements to the Knoxville Airport, improvements to U.S. 411 and additional development in the area, Blount County has relied on higher population projections that estimate a potential population of 98,000 people by the year 2000 (14.0 percent growth) and 108,000 people by 2010.

Since such an increase could have significant impact on waste generation, it is important to show the potential of both a low population growth scenario (UT population projections) and a high population growth scenario (projections used by the County).

Table 1-5 shows the distribution of households by population and occupancy for 1990.

TABLE 1-5

Distribution by Type of Housing and Occupancy, 1990

	Occupied Units	Owner	Rented
Single Family			
Detached	25,260	21,584	3,676
Attached	407	293	114
Multi-Family			
2	691	114	577
3 - 4	889	56	833
5 - 9	1,098	29	1,069
10 - 19	827	17	810
20 - 49	172	2	170
50+	303	8	295
Institutional	NA	NA	NA
Mobile Home/Trailer	3,697	2,793	904
Other	280	176	104
TOTAL	33,624	25,072	8,552
Source: District Needs Assessment/U.S. Census			

Table 1-6 shows population projections between 1994 and 2003, in both the low and high growth scenarios. Figure 1-2 compares the two projections graphically. For the remainder of this plan, both scenarios will be shown, with the higher growth case as the selected option for waste projections.

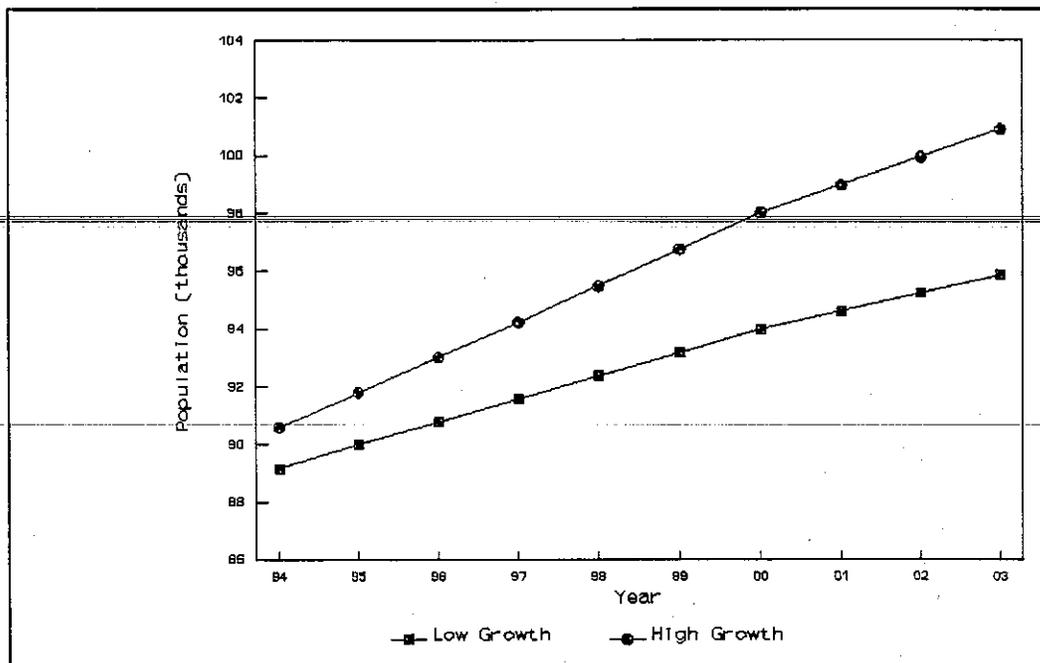
TABLE 1-6

Population Projections, 1994-2003

Growth Rate	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Low	89,167	89,984	90,765	91,570	92,367	93,166	93,963	94,596	95,222	95,851
High	90,593	91,788	92,998	94,224	95,466	96,725	98,000	98,957	99,923	100,899

Figure 1-2

Comparison of Low and High Population Growth Rates



1.5 Economic Activity

Another important factor in the calculation of waste projections is the amount of economic activity in the region. Any expected increases in the overall economic base would usually result in greater waste generation, depending on the nature of the activity and the types of waste produced.

The Blount County Region is located in the Knoxville Metropolitan Statistical Area. There are currently 102.85 miles of U.S. Primary Highways, as well as 79.38 miles of state highways, and 867.7 miles of county and municipal roads. The Pellissippi Parkway, which links Alcoa to Knoxville has been designated as Interstate 140.

The McGhee Tyson Airport, the primary aviation facility for Knoxville, is located adjacent to Alcoa. In addition, the Tennessee River runs through the northwestern portion of the County. The major rail routes include Norfolk Southern, whose terminal serves Rockford, Maryville, and Alcoa; and CSX, which serves Alcoa and Maryville.

Table 1-7 shows basic economic information for the Blount County Region, according to the Needs Assessment.

TABLE 1-7

Basic Economic Information, 1991

County	Population	MSA (y/n)	Employment	Earnings	Per Capita Income	% Below Poverty Line
Blount	85,969	Y	32,544	\$1,319,206,000	\$15,304	12.4%

Source: District Needs Assessment

The total number of non-agricultural employees in the County in 1990 was 32,544. The total number of agricultural employees was 1,488. Tables 1-8, 1-9, and 1-10 summarize this information.

TABLE 1-8

Total Non-Agricultural Employment, By Sector, 1991

Sector	Number Employed	Percent
Manufacturing	6,016	18.5
Construction	2,518	7.7
Trade	8,425	25.9
Finance, Insurance, Real Estate	2,001	6.1
Services	7,378	22.7
Transportation, Communication, and Public Utilities	1,416	4.4
Government	4,490	13.8
Other	300	0.9
TOTAL	32,544	100.0

Source: District Needs Assessment

TABLE 1-9

Total Agricultural Employment, 1991

County	Agricultural Employment
Blount	1,488
Source: District Needs Assessment	

TABLE 1-10

Firms by Employment Size Class, 1991

Industry	All Firms	1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000+
Ag., Forestry Fisheries	19	8	7	2	1	1				
Mining	3			1	1	1				
Construction	181	99	46	21	11	3	1			
Manufacturing	90	30	12	23	10	8	1	4	1	1
Trans., Comm., Util.	75	34	14	10	10	6	1			
Wholesale Trade	84	40	15	18	9	1	1			
Retail Trade	461	194	116	65	59	16	10	1		
Fin., Ins., R.E.	116	74	26	9	2	4	1			
Services	579	369	118	58	24	4	5		1	
Total	1,713	941	361	212	127	44	20	5	2	1
Source: District Needs Assessment										

Maryville College is the only major institution (other than health care facilities) that houses more than 100 persons at any given time. Table 1-11 summarizes this information.

TABLE 1-11

Institutions Housing More than 100 Persons

Institution	Type	Number of Student/Inmates/Residents	Estimated Quantity of Waste (Tons/year)
Maryville College	College	400	365
Source: District Needs Assessment			

There are several health care facilities in the Blount County Region that produce infectious wastes. Table 1-12 lists each of the health care facilities and the potential waste quantity based on the number of beds. Estimates of the amount of waste generated are based on the District Needs Assessment, which used a figure of 16 pounds per person per day for hospitals and five pounds per person per day for elderly care facilities.

TABLE 1-12

Summary of Major Health Care Facilities

Facility	No. of Beds	Infectious Waste Management		Estimated Quantity
		On-site/Off-site	Type Treatment	
Blount Memorial Hospital	334	On-site	Incineration	975
Peninsula Psychiatric Hospital	171	Off-site	BFI hauls	500
Asbury Acres Health Center and Retirement Home	294	On-site	Incineration	268
Colonial Hills Nursing Center	213	Off-site	Hauled off-site	194
Fairpark Healthcare Center	70	Off-site	BFI hauls	64
Hillhaven Maryville Convalescent	186	Off-site	BFI hauls	170
TOTAL	1,268	--	--	2,171
Source: District Needs Assessment				



Table 1-13 summarizes sources of local revenue for governments in the Blount County Region in FY 1993. Table 1-14 gives actual revenue from each source.

TABLE 1-13

Sources of Local Revenue, FY 1993

County	Property Tax	Local Sales Tax	Wheel Tax	Local Waste Collection Fee	User Fee/Tipping Fee	Other
Blount	Yes	Yes	--	--	Yes	--
Source: District Needs Assessment						

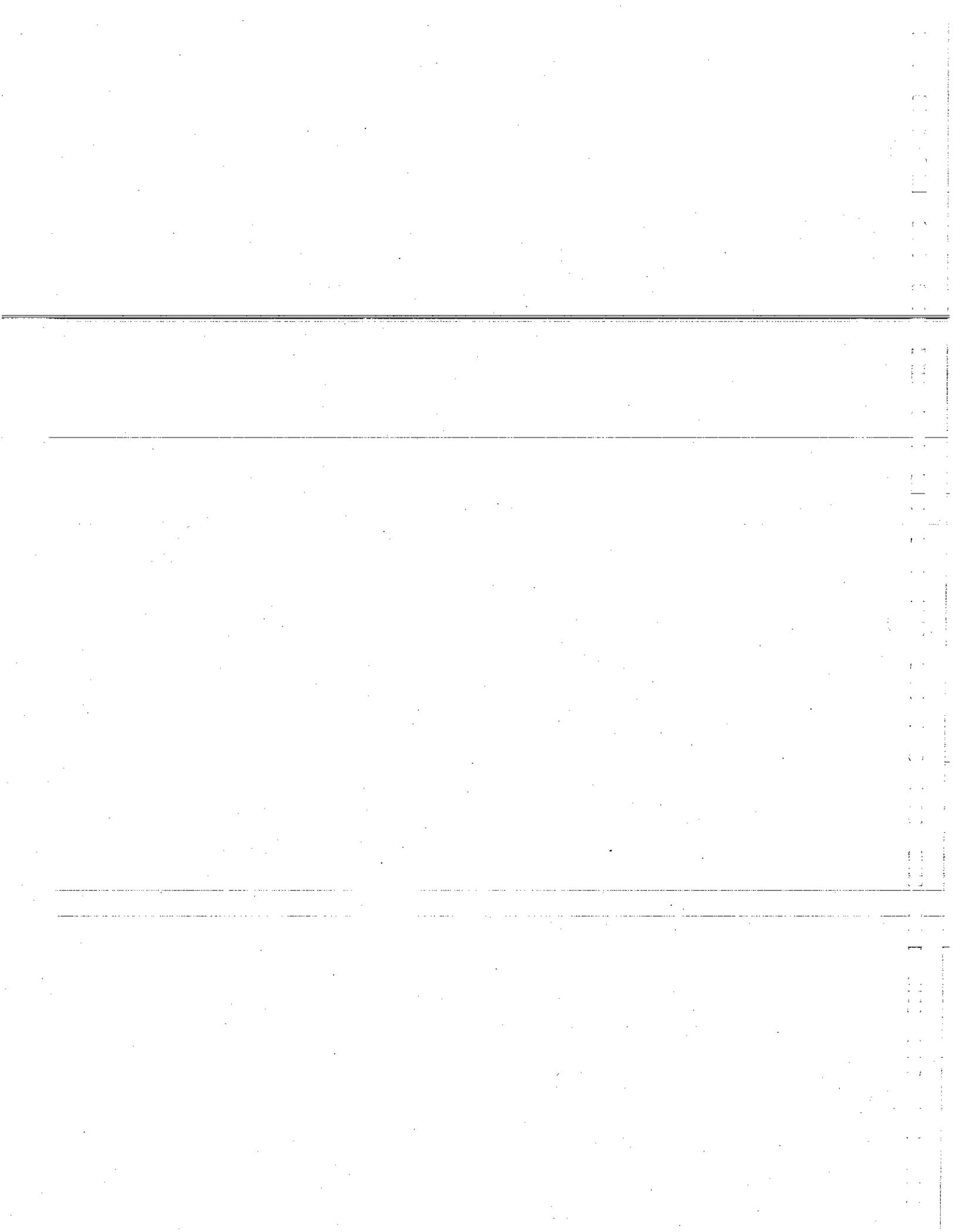
TABLE 1-14

Revenue Source Information (County and Cities), FY 1993

County	Total Assessed Property Value	Total Property Tax Revenue	Total Sales Subject to Sales Tax	Total Local Sales Tax Revenue	# Registered Vehicles	Total Wheel Tax Revenue
Blount	\$1,118,787,845	\$22,738,000	\$776,682,890	\$13,659,893	n/a	n/a
Source: District Needs Assessment/Blount County						

There are currently no precise figures regarding the expected economic growth rate in the Blount County Region over the next several years. The University of Tennessee Center for Business and Economic Research forecasts that the inflation adjusted gross state product will grow at a 3.2 percent compound annual rate between 1990 and 1999. For the purposes of waste projections, this average rate is used by Blount County.

However, the opening of the Pellissippi Parkway, improvements to the Knoxville Airport, and other activities could potentially result in an economic growth rate higher than the average 3.2 percent. This higher economic growth rate, although currently unknown, will likely result in a higher waste generation rate in the Region.





CHAPTER 2

ANALYSIS OF THE CURRENT SOLID WASTE MANAGEMENT SYSTEM

2.1 Waste Stream Characterization

2.1.1 Quantities and Sources

An important part of solid waste management planning is an understanding of both the quantity and composition of waste in the Region. Although it is not always possible to determine the actual composition of waste with a high degree of accuracy, a description of the amount and sources of waste have been developed through the District Needs Assessment, and national waste composition statistics can be applied to develop a planning level estimate of the types of waste being disposed in the Blount County Region.

Table 2-1 summarizes the quantity of waste disposed in the Region. It is important to include each of the three time periods in the table for the following reasons:

- Waste amounts from 1989 have been designated as the base quantities for measurement of the 25 percent per capita reduction goal.
- Waste amounts from 1991 were collected for the District Needs Assessment, and much of the discussion of waste characterization uses 1991 quantities.¹
- Waste amounts from FY 1993 are used for waste projections (Chapter 3), while they also show the Region's progress toward the reduction goal.

TABLE 2-1

Tons Disposed/Per Capita Disposal Rate for Blount County Region, 1989, 1991, and 1993

Year	Tons Disposed	Population	Disposal Rate (Tons/Person/Year)	Disposal Rate (Pounds/Person/Day)
1989 (Base year for reduction)	106,917	85,600	1.25	6.84
1991 (Base year for needs assessment)	110,169	87,102	1.26	6.93
FY 1993 (Base year for Region plan)	109,710	89,414	1.23	6.72

¹The Needs Assessment cited a total of 108,759 tons disposed in calendar year 1991. This quantity has been adjusted to reflect actual landfill records for the period.

As shown in Table 2-1, the overall disposal rate in the Blount County Region increased from 6.84 pounds/person/day in 1989 to 6.93 pounds/person/day in 1991 and decreased to 6.72 pounds/person/day in 1993. In order to meet the 25 percent reduction goal, the per capita disposal rate will need to be reduced by approximately 1.60 pounds per person per day, to 4.79 pounds per person per day, from the 1989 amount.

The majority of the waste disposed at the landfill in 1991 consisted of residential waste (58.9 percent), while non hazardous industrial waste comprised 22.0 percent, commercial and institutional waste was 16.4 percent of the waste stream, and special waste (ash, asbestos, etc.) made up 2.7 percent of the amount disposed. Table 2-2 summarizes the quantities of each category of waste disposed in 1991.

TABLE 2-2

Sources of Solid Waste in Blount County Region, 1991

Source Sector	Tons/Year	Percent of Waste (1)
Residential	64,940	58.9
Commercial/Institutional	18,068	16.4
Non-hazardous Industrial	24,237	22.0
Special (2)	2,924	2.7
TOTAL	110,169	100.0
(1) Source of percentages: District Needs Assessment		
(2) Includes ash, asbestos, cotton waste, contaminated sludge, and oil filters		

2.1.2 Waste Composition

Determining the types of waste disposed can be an important way to identify future solid waste management needs and programs. Since there are no formal statistics regarding waste stream composition in the Blount County Region, national averages have been used to estimate quantities of each material in the municipal solid waste stream.

As stated earlier, 110,169 tons of waste were disposed in the Blount County Region in 1991, according to the Needs Assessment. However, the national averages developed by Franklin Associates for the U.S. Environmental Protection Agency only apply to a portion of this total waste, since such estimates include only the **municipal** solid waste stream. In the case of the Blount County Region, only the residential and commercial/institutional waste categories are defined as "municipal solid waste", while the non-hazardous industrial and the special waste categories are not applicable to the national averages for waste composition. In addition, the Franklin Associates data is municipal waste **generated**, yet the District Needs Assessment presents the waste **disposed**. Since there is currently no method to measure the difference between the composition of the waste generated and that of the

waste disposed (the difference would primarily be the amount reused, recycled, or composted) the national waste composition averages will be applied to the tons disposed. The total quantity of municipal solid waste disposed in 1991 was 83,008 tons, which has been broken down into individual waste categories in Table 2-3.

TABLE 2-3

Composition of Waste Disposed in the Blount County Region, 1991

Waste Category	% of Waste	Calculated Tons
Paper & Paperboard	39.9	33,094
Glass	7.0	5,787
Ferrous Metals	6.5	5,374
Aluminum	1.4	1,157
Other Non-Ferrous Metals	0.6	496
Plastics	8.0	6,614
Rubber & Leather	2.5	2,067
Textiles	2.1	1,736
Wood	3.6	2,976
Food Waste	7.4	6,118
Yard Waste	18.0	14,941 (3)
Misc. Inorganic Waste	1.5	1,240
Other	1.7	1,405
TOTAL MUNICIPAL SOLID WASTE (1)	100.2 (2)	83,008
(1) Includes only residential and commercial/institutional portion of the waste stream (from Table 2-2). (2) Adds to 100.2 due to rounding. (3) The landfill operator estimates a yard waste generation rate of 18 %.		

As part of the planning process, the state identified several additional materials that need to be managed. However, there is currently incomplete information on the specific amounts of these materials, which include construction and demolition debris, tires, and white goods. Thus, some general assumptions about the quantities of those wastes are made for planning purposes.

In the District Needs Assessment, it was stated that a total of 51,484 tons of yard waste, construction debris, and tires were placed in the demolition area of the Blount County Landfill in 1991. Since a breakdown of amounts of each material are not available, it was necessary to make several assumptions about the quantities of these materials. An estimate of the number of tires can be made based on industry averages of one tire generated per person per year. At 20 pounds per tire, this equals approximately 868 tons of tires generated in the County in 1991.

Therefore, approximately 50,616 net tons of yard waste and construction debris were disposed in 1991. ~~The landfill operator has estimated that the amount of yard waste being disposed is slightly higher than national averages, equalling approximately 18 percent of the municipal waste stream.~~ From this assumption, the amount of yard waste disposed in 1991 was 14,941 tons, which means that of the total 50,616 tons, 35,675 tons can be classified as construction and demolition debris. The amount of white goods entering the landfill is currently not known.

Table 2-4 summarizes the approximate quantities of these materials entering the landfill.

TABLE 2-4

Acceptance of Materials at the Alcoa/Maryville/Blount County Landfill

	Yard Waste		Sewage Sludge		Construction Demolition		Tires		White Goods	
	Y/N	Tons*	Y/N	Tons	Y/N	Tons*	Y/N	Tons*	Y/N	Tons
Alcoa/Maryville/Blount County Landfill	Y	14,941	Y	--	Y	35,675	Y	868	Y	--

* Tonnage estimated based on Needs Assessment figure of 51,484 total tons of yard waste, construction debris, and tires placed in the demolition area of the Alcoa/Maryville/Blount Landfill. Assumes tires are generated at the rate of one per person per year; the amount of yard waste is higher than national averages (18.0 percent).

In addition to residential and commercial/institutional wastes (MSW), the landfill also receives waste from industrial sources. Approximately 24.7 percent of the waste disposed in 1991 can be classified as either non-hazardous industrial or "special wastes," both of which are generated by industries.

Non-hazardous industrial wastes made up 22 percent of the material disposed in 1991. Sources of these wastes include Aluminum Company of America (fire brick, carbon powder, etc.); Nippondenso (aluminum); Gilded Mirror (glass waste); Rockford Manufacturing (cotton waste); and Master Craft (fiberglass).



In addition to the wastes described above, the Blount County Landfill also received approximately 2,924 tons of "special wastes" in 1991. These wastes are defined by Tennessee solid waste regulations as non-hazardous industrial wastes that may be buried in a landfill provided the generator receives consent of the landfill operator and the state.

Table 2-5 lists the major sources of special waste entering the landfill and the major component of each generator.

TABLE 2-5

Major Sources of Special Waste at the Blount County Landfill

Source	Major Component
Blount Memorial Hospital	Ash
ALCOA	Asbestos, Contaminated Soil, Sludge
Rockford Manufacturing	Cotton Waste
Nippondenso	Aluminum/Zinc Dust, Contaminated Soil
Gilded Mirrors	Copper and Iron Sludge
Kwik Oil, Inc.	Oil Filters

2.2 Waste Collection and Transportation Systems

Collection services are an essential part of efficient solid waste management, since waste must be collected or recovered before it can be disposed or recycled. In the planning process, an accurate assessment of current collection practices is a crucial component in developing a strategy for solid waste management.

2.2.1 Current Solid Waste Collection

Solid waste collection services for residents and businesses in the Blount County Region are provided by the following: the City of Maryville, the City of Alcoa, and 23 private haulers. The City of Maryville provides collection service to approximately 7,120 residences and 300 businesses within its City limits (1993), while the City of Alcoa provides service to 2,741 residences and 205 businesses. The combined service of the 23 private haulers includes approximately 14,562 residences and 427 businesses.

Table 2-6 summarizes the number of residential and commercial customers served by public and private haulers. Assuming that there were approximately 33,624 households in the Blount County Region (1990) and that the number of persons per household has remained constant (at 2.56 persons per household), the number of households in 1993 would

be 34,541. Therefore, it is estimated that 10,118 households, or 29 percent of the total, transport directly to the landfill or otherwise dispose of their waste.

Current municipal collection areas and waste flow patterns are shown on a composite map, in Figure 2-2 (Section 2.10).

TABLE 2-6

Solid Waste Collection in Blount County, 1993

Responsible Party	Number of Residences	Number of Businesses
Blount County	--	--
City of Maryville	7,120	300
City of Alcoa	2,741	205
Private Direct Contract	14,562	395
Individually Haul/Other	10,118	N/A

2.2.2 Private Haulers Operating in Blount County

In late 1992, the Blount County Solid Waste Management Authority conducted a survey of private solid waste haulers in the County to determine the approximate level of collection service. Of the 23 private solid waste haulers in the County, ten responded to the survey with information on the number of households and businesses served.

The survey also revealed that only two areas of the County do not have collection service available (i.e. none of the private haulers travel in these areas): in the northeastern (near the Seymour area) and southern (near the Tallassee area) portions of the County. However, there are currently no precise data about the number of unserved households in these two areas.

Table 2-7 summarizes each of the private haulers currently in operation in Blount County. Figures on the number of households and businesses served by each hauler were developed from information provided by both the District Needs Assessment and the hauler survey. For the survey respondents, an updated number of households served by each hauler was determined, while the remaining hauler figures come from the Needs Assessment.



TABLE 2-7

Private Solid Waste Haulers in Blount County

Private Hauler	Households Served ⁽¹⁾	Businesses Served
Blaines Garbage Service	400	5
Blount Garbage Service ⁽²⁾	500	7
Browning Ferris	1,493	13
Bud's Garbage Service	1,300	--
Calvin Young Garbage Service	300	--
Carl's Garbage Service ⁽²⁾	2,060	--
D & H Garbage Service	1,200	6
D & S Garbage Service	700	125
Eddie Bradburn, Jr.	13	--
Grace Dunlap Garbage Service	400	1
Heatons Garbage Service ⁽²⁾	825	--
Henry's Garbage Service ⁽²⁾	350	--
Jimmy Myers	40	--
Lloyd Cooper	38	--
Paines Mobile Home Park ⁽²⁾	152	--
Phillips Garbage Service ⁽²⁾	300	--
Rays Garbage Service	550	--
Ronald Dunlap ⁽²⁾	721	17
Stephen Yates ⁽²⁾	365	--
Teffteller and Sons	178	--
Townsend Garbage Service ⁽²⁾	352	11
Waste Management, Inc.	2,000	210
Willochs Garbage Service ⁽²⁾	325	--
TOTAL	14,562	395
<p>⁽¹⁾ Information on the number of households and businesses served was developed from both the Needs Assessment and the survey of private haulers.</p> <p>⁽²⁾ Responded to hauler survey.</p>		

2.2.3 Unmanaged Waste

In accordance with state guidelines, a part of the planning process is to compare actual waste disposal rates with potential waste generation rates for the purpose of estimating the quantity of unmanaged waste. In order to determine the potential per capita generation rate for the Blount County Region, it was necessary to make certain assumptions about population.

In the Needs Assessment, it was stated that the Blount County Region has a potential ~~waste generation rate of 6 lbs./person/day. This number was estimated by the Development~~ District as a product of statewide averages from the 1989 UT report *Solid Waste Planning for Tennessee*. According to the Development District, the figure of 6 lbs./person/day is the average of urban waste generation potential (7.35 lbs./person/day) and rural waste generation potential (4.5 lbs./person/day). The reason for this calculation is that the Blount County Region has both urban and rural characteristics.

However, the Blount County Solid Waste Authority has determined that the waste generation potential figure of 6 lbs./person/day may be higher than the actual for the region. For this reason, an alternate waste generation rate was calculated, using the following methodology:

1. For the purposes of this plan, the populations of the Cities of Alcoa and Maryville are considered to be "urban" in their waste generation rates. The populations of the remaining areas of Blount County are considered to be "rural."
2. The populations of Maryville and Alcoa are approximately 29 percent of the total County, while the remaining areas are approximately 71 percent.
3. A "weighted average" of 5.3 lbs./person/day was developed:

$$\text{Urban generation rate} = 29\% * 7.35 \text{ lbs./person/day} = 2.1 \text{ lbs/per/day}$$

$$\text{Rural generation rate} = 71\% * 4.5 \text{ lbs./person/day} = 3.2 \text{ lbs/per/day}$$

$$\text{Total Rate} = 2.1 \text{ lbs/per/day} + 3.2 \text{ lbs/per/day} = 5.3 \text{ lbs/per/day}$$

Table 2-8 shows the estimated amount of unmanaged waste in the Blount County Region, based on the following methodology (from the District Needs Assessment):

$$\text{Solid waste generation} = \frac{\text{population} \times \text{per capita generation} \times 365 \text{ days}}{2000 \text{ lbs/ton}}$$



TABLE 2-8

Potential Unmanaged Waste in the Blount County Region, 1991

	Potential Waste Generation (Tons)	Actual Waste Disposed (Tons)	Unmanaged Waste (Tons)	Percent of Potential Total
Blount County	84,249	83,008	1,241	1.5%

Based on the figure of 5.3 lbs./person/day, it is estimated that a potential 84,249 tons of **municipal** solid waste may have been generated during 1991 in the Blount County Region, assuming a population of 87,102 for the entire County. Given the actual tonnage of municipal solid waste disposed (83,008 tons), it is possible that approximately 1,240 tons of waste were unmanaged during 1991. Although it is not possible to accurately determine the exact amount of unmanaged waste through this calculation, this figure shows, for planning purposes, that there is a need to address the problem of unmanaged waste in the Blount County Region.

There are two primary problems in the identification of unmanaged waste using this methodology. First, the figure of 5.3 lbs/person/day is an average based on statewide data, and it may or may not accurately reflect potential generation in the Blount County Region. Second, the methodology does not take into account the quantity of waste that was recycled or reused, rather than disposed (although the amount recycled or reused is counted as part of the amount generated). However, since data is limited, the state's guidelines will remain in use for the purposes of this plan.

Between November 1992 and February 1993, Beautiful Blount conducted an inventory of illegal dump sites in the County through a hotline located at the Beautiful Blount office. Citizens used the hotline to report locations of illegal dumps, and the Blount County Sheriff's and Highway Departments also contributed information about known dump sites. The inventory revealed a total of 170 illegal dump sites of varying size and material content.

Figure 2-1 shows areas identified as having higher levels of illegal dumping. The survey found that 11.7 percent of the sites were on road rights-of-way, and five percent of the sites were on publicly owned property, such as the boat launch areas and scenic parking areas. The remaining 84.3 percent of the sites are assumed to be on private property, and it is not possible to accurately determine whether illegal dumping had taken place without each owner's knowledge or consent.

Through the work of Beautiful Blount and the Blount County Litter Control Officer, an estimate was made of the types and quantities of waste being illegally disposed. The Litter Control Officer and a volunteer photographed approximately 62 percent of the sites and estimated the total quantity as at least 250 tons.

Through both the telephone hotline and direct site assessments, it was found that the majority of sites contained more than one category of waste. Table 2-9 lists approximate unmanaged waste types and the percent of dumps containing each category of waste, as of early 1993.

TABLE 2-9

Types and Quantities of Illegally Dumped Waste in Blount County

Waste Category	Percent of Sites
Household Waste	44
Building Materials	36
Automobile Parts	31
Furniture/Bedding/Appliances	29
Brush	11
Litter	34
Animal Carcasses	4
Other	18

Many survey respondents also noted potentially hazardous materials in some of the dump sites, including used motor oil, automobile transmission fluids, and appliances possibly containing chlorofluorocarbons (CFC's).

As an initial deterrent to illegal dumping, the County has begun to notify persons whose identification is found in dumped waste that they may be required to clean up their materials. In addition, the sheriff's litter crew has removed materials from County road rights-of-way, and the County is considering a weekly cleanup of dump sites as a community service effort for individuals on probation.

2.3 Source Reduction and Recycling Systems

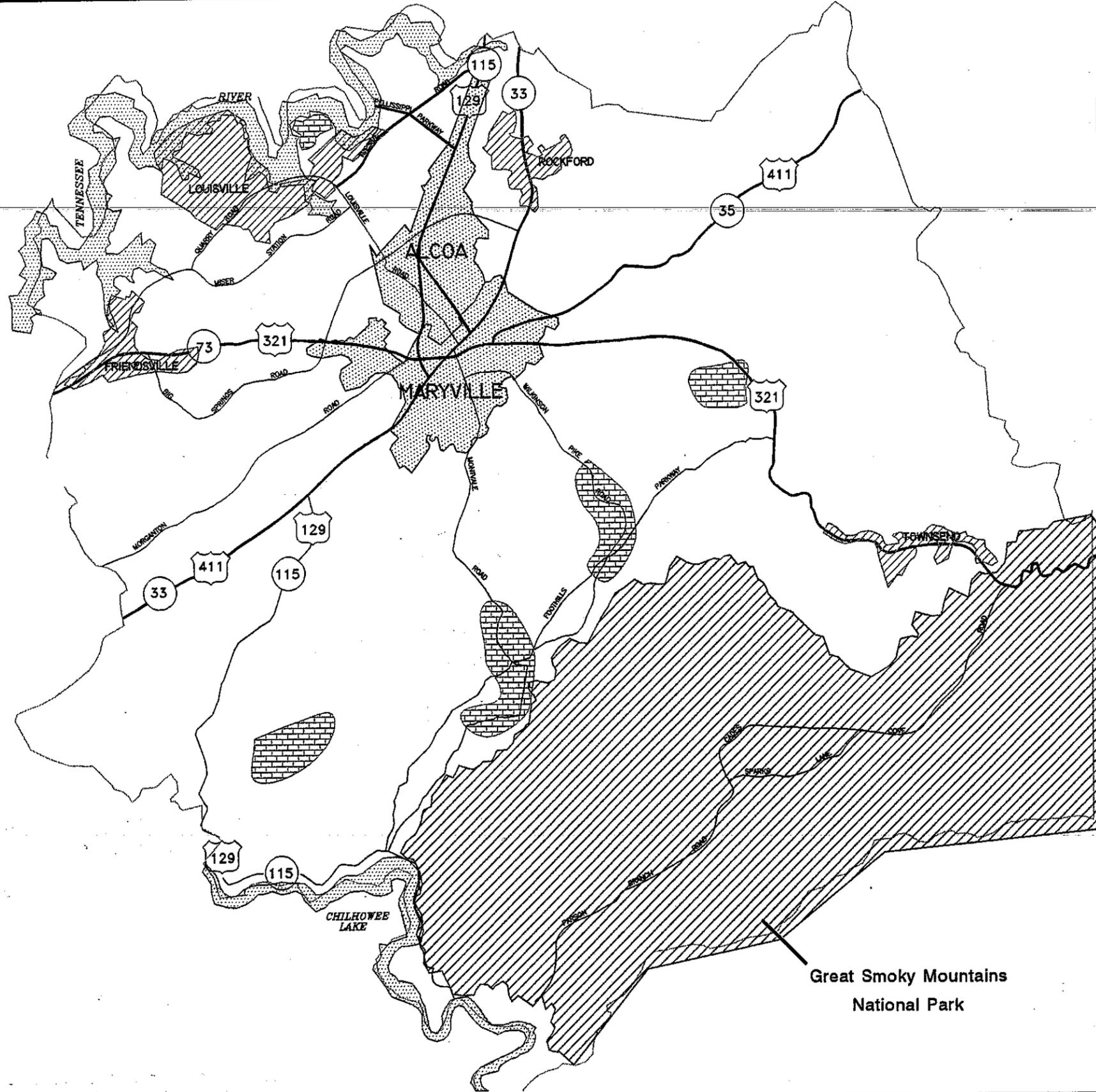
The Tennessee Solid Waste Management Act of 1991 establishes a goal of reducing the per capita amount of waste delivered to municipal solid waste disposal facilities by 25 percent between 1989 and 1995. If a region is unable to meet the goal, it can apply for a variance or be subject to sanctions by the State Planning Office. In addition, failure to reach the goal can result in a loss of eligibility for funds from the State Solid Waste Management Fund. An accurate assessment of existing source reduction and recycling activities is an important step toward developing a strategy to successfully reach this goal.



Figure 2-1, Areas With High Levels of Illegal Dumping

NOT TO SCALE

N



LEGEND

AREAS WITH HIGHER LEVELS OF ILLEGAL DUMPING

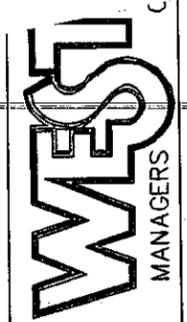


FIGURE 2-1
 AREAS WITH HIGH LEVELS OF ILLEGAL DUMPING
 BLOUNT COUNTY
 BLOUNT COUNTY, TENNESSEE

Great Smoky Mountains National Park

2.3.1 Existing Source Reduction and Recycling Programs

To the extent possible, the most desirable way to manage solid waste is to avoid producing it in the first place, which can be accomplished by generating less material (source reduction) or reusing a material in its existing form before it enters the waste stream. High levels of source reduction and reuse can be accomplished through three primary avenues of public and private sector activities: (1) public education; (2) economic initiatives; and (3) legislative initiatives. Historically, the only approach used in Blount County has been through public education.

It is difficult to specifically determine the level of diversion that has been achieved through source reduction in the Blount County Region. However, the Beautiful Blount program, which is affiliated with the "Clean Tennessee" system, has carried out a number of public education programs that include source reduction information (see Section 2.8).

For those materials that are used by residential, commercial, or industrial consumers, a certain portion can be diverted through recycling. An important step in the recycling process, either through the public or private sector, is the collection and processing of materials. Collection of residential recyclables through drop-off or curbside programs can be a valuable way to begin the recycling process. In addition, public education and involvement is an important tool in any waste reduction efforts.

Historically, recycling programs in the Blount County Region were operated almost exclusively by private and not-for-profit groups, with little involvement by the Cities or the County. During the past year, however, the Cities of Alcoa and Maryville have developed drop-off programs for the recovery of recyclable materials. These programs, along with recycling programs already in place in local schools, have greatly increased the level of municipal activity in the area of waste reduction.

The following is a description of the primary waste reduction activities currently operating in the Region.

- **Maryville and Alcoa Drop-off Programs.** The Cities of Maryville and Alcoa have developed four drop-off sites for residential recyclables. The sites currently accept aluminum cans, glass, plastic, and newspaper. The sites are located on East Broadway in Maryville; near East Lamar Alexander Parkway in Maryville; near Best Street in Maryville; and at the Springbrook Fire Station in Alcoa.

Each site includes one or more 30 cubic yard trailers or roll-offs with separate compartments for each material. Full containers are collected by each City and delivered to the Tennessee Vocational Training Center, where materials are processed and marketed. An additional drop-off site is operated by the

Center, and the monies received from the sale of all materials recovered through the drop-off programs go to the Center.

- **Leaf Collection and Composting.** The Cities of Alcoa and Maryville each collect leaves for composting. Both cities have dedicated composting sites for the materials, which are placed in static piles for later use.
- **Maryville Used Oil and Lead Acid Battery Drop-off.** In May 1993, the City of Maryville began a drop-off program for used motor oil and lead acid batteries. ~~The City added the program for use by "do-it-yourselfers" that do not utilize local automobile repair shops for oil changes and battery replacement.~~ Used oil is placed in a 500 gallon tank, while batteries are placed on a pallet. The City has contracted with private companies for the recycling of these materials. Maryville's and Alcoa's garages have historically collected oil and batteries in-house for recycling.
- **Blount Memorial Hospital.** The facility recycles paper, plastic, cardboard, glass, and aluminum. In addition, egg-crate mattresses are laundered and reused, old linens and surgical towels are used for cleaning rags, and a reclaimer removes metal from x-ray film for recycling. The program saves over 85 tons per year from the landfill.
- **Maryville College.** A recycling program at the college recovers between 8,000 and 10,000 aluminum cans per month.
- **School Drop-off Programs.** A number of local schools have areas for students and others to place recyclable materials. The school systems and the materials they recycle include: Blount County Schools/BFI (Cardboard), Maryville Schools (aluminum), and Alcoa Schools (Aluminum, glass, plastic, newspaper).
- **Commercial/Industrial Reduction Efforts.** A number of industries in Blount County have in-house recycling and reuse programs that divert waste from the landfill. These include: ALCOA (aluminum), Douglas Adult Cooperative (oil filters), Witherspoon Plastic (plastic), Nippondenso Tennessee, Inc. (cardboard, aluminum, oil scrap metal, paper, plastic), Sew Fine, Inc. (aluminum, textiles, scrap metal), and Rockford Manufacturing (cotton waste composting).
- **Telephone Book Recycling.** In January 1993, used phone books were collected at local schools and each of the four drop-off sites. Schools participated in a contest sponsored by local businesses and service groups to collect the most books. The collected material was transported to an end-user in Knoxville for recycling. The program is an annual event.

- **Christmas Tree Recycling.** The Maryville-Alcoa-Blount County Recreation and Parks Commission conducts an annual Christmas tree chipping program. Beautiful Blount volunteers distribute information about the program, while they also give away wooden pallets for use as compost bins in conjunction with the tree chipping program. Chipped material was used as mulch by the County and residents. During January 1993, the chipping program diverted over 1,500 trees from the landfill.

Current recycling programs are shown on the composite map (Figure 2-4).

2.3.2 Recyclables Processing Centers and Markets

The processing of recyclable materials in the Blount County Region has historically been carried out through private and not-for-profit organizations, including the Tennessee Vocational Training Center (the Center).

The Center, which trains mentally and physically handicapped persons in good work habits, serves several functions in the community, including recyclable materials processing. In November 1992, the Center expanded its processing capacity through grants received from the State (\$269,541), the City of Maryville (\$50,000) and the City of Alcoa (\$17,500). Currently, the Centers serves as both a drop-off site for recyclable (and reusable) materials and a processing center for materials recovered through the drop-off programs of Maryville and Alcoa. The Center processes aluminum, newsprint, plastic, and glass, as well as several additional materials that are processed for reuse.

Additional materials processors and end-users in the Blount County Region identified in the District Needs Assessment include the ALCOA Recycling Center, which uses aluminum cans, and Witherspoon Plastics, which uses certain types of recovered plastics for an industrial process.

2.3.3 Additional Markets for Recyclables

An important part of the planning process is an inventory and assessment of markets for recyclable materials. Without secondary materials markets and end-users, the recycling process cannot be completed, since collecting recyclable materials is only the first step in the overall recycling process. The District Needs Assessment identified several secondary materials markets and end-users in addition to those within the Blount County Region, most of which are located in neighboring counties and districts. Table 2-10 summarizes the information developed in the Needs Assessment for secondary materials markets, and Table 2-11 summarizes some of the primary end-users of materials in east Tennessee.

Solid Waste Authority representatives have participated in meetings to develop the Recycling Market Cooperative for East Tennessee. As the Cooperative evolves, the Authority will consider joining with surrounding regions to market its recovered materials.

TABLE 2-10

Secondary Materials Markets in Neighboring Districts

Recycler	Materials	Recycler	Materials	Recycler	Materials
Alcoa Recycling Center 600 N. Gay Street Knoxville, TN (615) 971-1907	Aluminum Cans	Inskip Recycling 210 Sylvia Drive Knoxville, TN (615) 688-4082	Multiple Materials	Knox Metals Corporation 822 Richards Avenue Knoxville, TN (615) 637-4353	Scrap iron, copper, brass, aluminum, steel
Knoxville Recycled Fiber 410 Frazier Knoxville, TN (615) 524-0309	Newspaper, mixed paper, cardboard, computer paper	Paper Stock Dealers, Inc. 1111 Mitchell Knoxville, TN (615) 524-0309	Computer paper, newspaper, aluminum cans, ledger paper	Southern Foundry 2826 N. Central Knoxville, TN (615) 524-2791	Metals
Safety-Kleen Corporation 826 Stewart Knoxville, TN (615) 522-2333	Oil, machine coolant, paint thinner, oil filters	Enterprise Waste Oil Co. Lexington Drive Knoxville, TN	Oil, oil filters	A-1 Wiping Rag Company 1942 Western Avenue Knoxville, TN (615) 521-6580	Aluminum cans, aluminum, metals
Reclamation Services Central Recycling 301 W. Quincy Knoxville, TN (615) 525-9775	Aluminum, copper, brass, batteries, metals	Industrial Oil Service Crosslane Road Knoxville, TN (615) 693-7627	Oil	David Joseph Company 2420 Schofield Avenue Knoxville, TN (615) 637-0683	Steel, auto and motor cast
Willy's Recycling 7220 Central Avenue Pike Powell, TN (615) 947-1442	Multiple Materials	David Witherspoon, Inc. 901 Maryville Pike Knoxville, TN (615) 577-1613	Metals	BFI Recycling Systems 2400 Chipman Street Knoxville, TN (615) 522-0078	Multiple materials
Waste Management, Inc. 2552 Western Avenue Knoxville, TN (615) 525-0529	Aluminum cans, plastic, glass, paper	Midsouth Paper Recycling 2810 Holt Avenue Knoxville, TN (615) 546-2912	Paper	Free Service Tire Company Kingston Pike Knoxville, TN	Tires

TABLE 2-10 (CONTINUED)

Secondary Materials Markets in Neighboring Districts

Recycler	Materials	Recycler	Materials	Recycler	Materials
R & R Batteries P.O. Box 5461 Knoxville, TN	Batteries	Alton Box Company Alton, GA	Cardboard	Rock Iron and Metal	Aluminum, non-ferrous metals
Seaton Iron and Metal Athens, TN	Scrap metal	Southern Alloys P.O. Box 688 Rockwood, TN	Scrap Metals	Southdown, Inc. Mt. Pleasant, TN	Oil
Dave's Recycling Route 3, Box 123 New Tazewell, TN 37825	Multiple Materials	Tidi Waste Morristown, TN	Glass, plastic, aluminum, steel cans	Sartens Scrap Metal 109 Grand Street Lenoir City, TN	Scrap Metal
Volunteer Refuse Loudon, TN	Aluminum Cans	McDonald's Recycling Lenoir City, TN	Aluminum cans, scrap metal	Lakeway Recycling New Market, TN	Multiple Materials
Southern Salvage Scrap Metals Lower Carter Street Harriman, TN	Scrap metals, aluminum	Phillips Salvage Rockwood, TN	Paper, cardboard	Joyner's Enterprises Highway 58 Kingston, TN	Scrap metals, aluminum
Brawner's Scrap Metal P.O. Box 98 Helenwood, TN 37756	Metals	Chattanooga Paperboard Corp. 1700 Central Avenue Chattanooga, TN	Paper	Chattanooga Recycled Fiber 2900 Home Drive Chattanooga, TN	Paper, Aluminum
Chattanooga Scrap Metals 411 W. 22nd Street Chattanooga, TN	Scrap metals	Circle Recycling, Inc. Cleveland, TN	Computer paper	Oliver Springs Recycling Center Route 1, Box 212 Wartburg, TN	Aluminum, scrap metals

TABLE 2-11

Regional End-Users within the District

End-User	Materials	End-User	Materials	End-User	Materials
IMCO Recycling, Inc. Rockwood, TN	Aluminum	Aluminum Corporation of America Alcoa, TN	Aluminum	Sonoco Newport, TN	Cardboard, Paper
Witherspoon Plastics, Inc. 3610 Wrights Ferry Road Louisville, TN	Scrap polymers	Bowater Calhoun, TN	Paper	Pallet Exchange 214 West Morelia Avenue Knoxville, TN	Wood Pallets

2.3.4 Evaluation of Existing Waste Reduction System

Current waste reduction activities have established an initial foundation for reaching the 25 percent reduction goal. However, expanded efforts will be necessary to successfully attain the goal. There are several areas that have the potential of increasing the amount of waste diverted from disposal, including expanded residential recyclables collection programs, additional commercial/industrial programs, and aggressive yard waste reduction efforts.

In late 1992 and early 1993, the Blount County Solid Waste Authority examined the issues regarding existing and future waste reduction programs. The result of the Authority's efforts was a specific strategy for implementation of waste reduction activities (see Chapters 4, 5, and 6). The Authority developed three key areas of focus, based on the waste stream in the Blount County Region and the potential for reaching the 25 percent reduction goal: the residential sector, the commercial/industrial sectors, and yard waste.

In the residential sector, there are several key approaches that have been considered by the Authority, including the following:

- Expanding the size and increasing the number of drop-off sites.
- Implementing curbside recyclables collection in Alcoa and Maryville.
- Charging variable rates for solid waste collection to encourage source reduction and recycling.

In the commercial/industrial sectors, the Authority has considered the following opportunities to strengthen waste reduction efforts:

- Developing at-the-source collection of some commercial recyclables.
- Establishing contracts with private haulers for commercial recyclables collection.
- Expanding drop-off sites to accept more commercially-generated materials.
- Expanding public education efforts to encourage commercial/industrial waste reduction.
- Developing a solid waste exchange to encourage commercial/industrial waste reduction.
- Offering direct technical assistance to businesses and industries.

In terms of yard waste, the Authority has considered the following approaches to help reach the reduction goal:

- Chipping of brush for mulch.
- Banning brush and bulky items from the landfill.
- Discouraging residents from disposing of certain types of yard waste.
- Developing a centralized composting operation.

- Continuing or expanding current leaf composting operations.
- Burning yard waste in an air curtain destructor.

Based on the issues listed above, the Authority developed a strategy for implementation to reach the 25 percent reduction goal, which is outlined in Chapter 4.

2.4 Waste Processing, Composting, and Waste-to-Energy/Incineration Systems

There are currently no municipal or non-hazardous solid waste processing facilities or incineration systems in the Blount County Region.

The Cities of Alcoa and Maryville have developed separate leaf storage sites. In each case, leaves are collected by City trucks and delivered to a dedicated storage area for later use. Historically, the leaves have been placed in static piles, with little general use of the compost product.

2.5 Disposal Facilities

The portion of the waste stream that is not recycled, composted, or reused must be disposed of in some manner. An accurate inventory of waste disposal is an important part of the planning process, since disposal activities have an impact on all other components of the solid waste management system.

The Tennessee Solid Waste Management Act of 1991 established that an important element of the planning process would be to ensure ten years of disposal capacity. In order to accurately determine the ability of landfill facilities to handle waste for at least ten years, it is first necessary to assess existing disposal facilities.

2.5.1 Existing Solid Waste Disposal in the Blount County Region

There is currently only one Class I Landfill located in the Blount County Region. The facility, located on Long Powers Road, is jointly owned by the City of Alcoa, the City of Maryville, and Blount County. The City of Alcoa operates the facility Monday through Saturday, 8:00 a.m.- 5:30 p.m., and accepts municipal solid waste, non-hazardous industrial waste, and special wastes from both public and private sources. Yard waste, construction debris, and tires are currently placed in a demolition area of the landfill (recently designated as Class IV). The Blount County Landfill received its original permit in 1974 with the permit number SNL 05-103-0105. Table 2-12 summarizes information about the landfill. Figure 2-4 (composite map) shows the location of the landfill.

There are currently no known quantities of waste imported into the Region from other counties or exported from the Region into other areas.



Table 2-12

Existing Municipal Solid Waste Landfills in the Blount County Region

Landfill	Location	Permitted Capacity (acres)	Current Rate of Waste Accepted (tons/day)	Remaining Capacity (acres)
Blount County Sanitary Landfill	Long Powers Road	237	340	237

The largest portion of the waste entering the landfill is classified as residential (58.9 percent in 1991), while the remainder is commercial (10.4 percent), institutional (6 percent), non-hazardous industrial (22 percent), and special waste (2.7 percent).

2.5.2 Existing Disposal Capacity

Based on the current rate of waste disposal, the Blount County Landfill has a remaining life of approximately 17 years, which means that the County and cities plan for the facility to remain open after 2003 (the end of the planning period). The landfill operator has applied for and received a permit to designate a portion of the facility as Class IV for the disposal of yard wastes and some construction debris, although these materials were also placed in a separate area of the landfill prior to the updated classification.

From information developed for the District Needs Assessment, it was determined that the total annual capacity for the facility is 109,200 tons. In addition, there are currently no plans to expand the annual capacity of the landfill prior to the end of the ten-year planning period, although the Class I areas will be upgraded to conform to Subtitle D standards. There are no plans to develop a new disposal facility within the next ten years.

It has been estimated that there are approximately 237 acres remaining on the site that can still be used for disposal.

Table 2-13 summarizes the expected annual landfill capacity in the Blount County Region, according to Tennessee planning guidelines.

Table 2-13

Existing and Planned Landfill Capacity in the Blount County Region

Fiscal Year (July 1 - June 30)	Tons per Year of Capacity		
	Existing	Planned	Total
1993	109,200	--	109,200
1994	109,200	--	109,200
1995	109,200	--	109,200
1996	109,200	--	109,200
1997	109,200	--	109,200
1998	109,200	--	109,200
1999	109,200	--	109,200
2000	109,200	--	109,200
2001	109,200	--	109,200
2002	109,200	--	109,200
2003	109,200	--	109,200

2.5.3 Disposal Costs and Revenues

Starting in Fiscal Year 1994, the tipping fee at the landfill is \$3.50 per ton for loads 500 pounds or less, and \$13.50 per ton for loads over 500 pounds.

During early 1993, the Blount County Solid Waste Authority investigated the tipping fees with respect to future solid waste management needs. As a result of a work session in March 1993, the Authority estimated that the fee would likely need to be raised to approximately \$24 per ton by 1996 in order to cover the true costs of solid waste management. A more detailed description of expected landfill tipping fee increases is shown in Chapter 8, Disposal Capacity. Historically, revenues from the tipping fee have been sufficient to cover the costs of facility operation.

2.6 Costs of the Current Solid Waste Management System

As part of the solid waste management planning process, it is important to understand the costs and funding mechanisms for public programs. By identifying the current costs of each component of the solid waste management system, the Region will be in a better position to plan future programs, which will likely have additional costs associated with them.



The City of Maryville has costs associated with several elements of solid waste management: 1) residential solid waste collection; 2) commercial solid waste collection; 3) brush and bulky items collection; 4) recyclable material collection; 5) leaf collection and composting; and 6) solid waste disposal. The City of Alcoa has costs associated with the following: 1) residential solid waste collection; 2) commercial solid waste collection; 3) brush and bulky item collection; 4) recyclable materials collection; 5) solid waste disposal and landfill operation; 6) leaf collection and composting. Blount County has costs associated with litter abatement.

In the unincorporated areas of the County, private haulers collect from some residents and businesses. Costs of providing this service are handled by each hauler, with revenues coming from user fees charged to each participating resident and business. The private haulers pay a per ton user fee at the landfill.

Table 2-14 summarizes the solid waste management costs for the City of Maryville for Fiscal Year 1993 (July 1, 1992 - June 30, 1993) and the current source of revenue.

Table 2-15 summarizes the solid waste management costs for the City of Alcoa for Fiscal Year 1993 (July 1, 1992 - June 30, 1993) and the current source of revenue.



Table 2-14

Solid Waste Management Costs, City of Maryville (FY 1993)

Activity	Cost	Source of Revenue
Residential Solid Waste Collection	\$348,008	General Fund
Operating	\$284,305	"
Administrative	\$31,403	"
Capital	\$32,300	"
Commercial Solid Waste Collection	\$247,499	General Fund
Operating	\$178,596	"
Administrative	\$31,403	"
Capital	\$37,500	"
Brush/Bulky Item Collection	\$259,997	General Fund
Operating	\$197,594	"
Administrative	\$31,403	"
Capital	\$31,000	"
Leaf Collection	\$130,000	General Fund
Recyclables Drop-off Program	\$43,000	General Fund
Disposal (1)	\$135,619	General Fund
TOTAL	\$1,121,123	--
(1) Includes payment of landfill tipping fee for materials collected from residential, commercial, and bulk/rubbish.		



Table 2-15

Solid Waste Management Costs, City of Alcoa (FY 1993)

Activity	Cost	Source of Revenue
Residential/Commercial Solid Waste Collection	\$726,879	General Fund
Public Works Supervision (1)	\$22,282	"
Buildings/Grounds (2)	\$95,569	"
Sanitation Supervision (3)	\$32,067	"
Sanitation Collection (4)	\$576,960	"
Industrial Solid Waste Collection	\$32,700	General Fund
Leaf Collection (5)	--	General Fund
Recyclables Drop-off Program (6)	\$3,633	General Fund
Disposal (7)	\$79,171	General Fund
Subtotal	\$842,383	--
Landfill Operation (8)	\$959,028	Tipping Fee
TOTAL	\$1,801,411	--

(1) Includes two employees with approximately 25 percent of effort towards solid waste management.
 (2) Includes three of eleven employees and proportional expenses towards solid waste management.
 (3) Includes one employee with approximately 60 percent of effort towards solid waste management.
 (4) All costs for solid waste management.
 (5) Leaf collection costs are included in residential/commercial collection.
 (6) Recyclables drop-off costs are approximately 10 percent of total industrial collection.
 (7) Landfill tipping fees paid by the City.
 (8) Landfill operation is handled through an enterprise fund, separate from other solid waste management costs in the City of Alcoa.

Table 2-16 shows the full costs of the Alcoa/Maryville/Blount County Landfill in Fiscal Year 1993. Costs are covered through the landfill tipping fee.



Table 2-16

Full Costs of Blount County Landfill, FY 1993

Category	Cost
Wages	\$250,813
Benefits	\$143,096
Equipment Operations	\$158,273
Annualized Capital Costs	\$139,866
Contracts	\$64,658
Insurance	\$17,339
General Operating Costs	\$150,131
Other Direct Costs	\$34,852
Total Landfill Costs	\$959,028

The County's costs in Fiscal Year 1993 included \$46,400 for litter clean-up, which was funded through the state litter grant.

Table 2-17 summarizes the full costs of solid waste management in the Blount County Region. Figure 2-2 shows this information graphically.

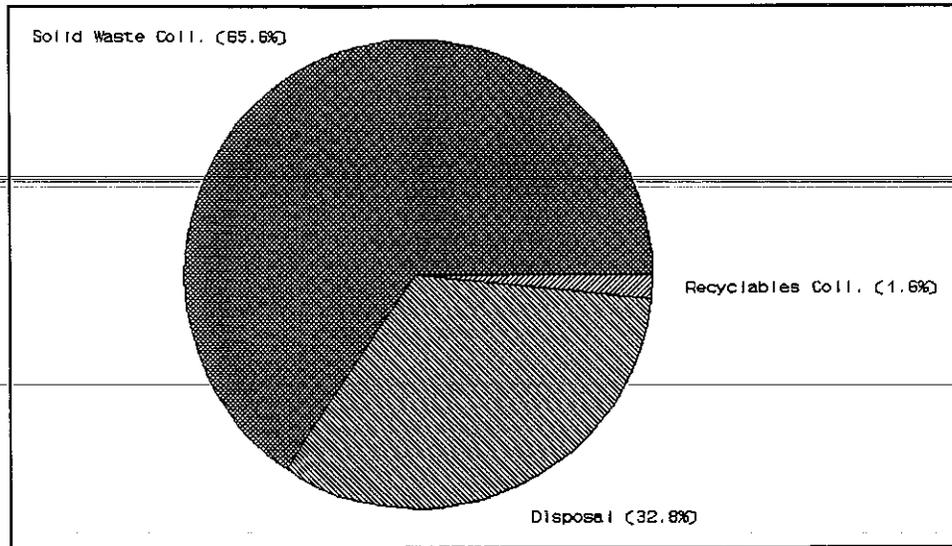
Table 2-17

Total Solid Waste Management Costs of Public Programs, FY 1993

Activity	Cost	Funding Source(s)
Solid Waste Collection	\$1,916,873	Alcoa General Fund Maryville General Fund
Solid Waste Disposal	\$959,028	Landfill Tipping Fee
Recyclables Collection	\$46,633	Alcoa General Fund Maryville General Fund
TOTAL	\$2,922,534	--

Figure 2-2

Solid Waste Management Costs of Public Programs, FY 1993



2.7 Revenues of the Current Solid Waste Management System

There are currently three primary revenue sources for the public solid waste management system: 1) the landfill tipping fee; 2) general funds of Maryville; and 3) general funds of Alcoa. In addition, state grant funds and the state recycling rebate have been used to fund portions of the solid waste management system. In the private sector, individual waste haulers charge user fees to residents and businesses for solid waste collection services.

Historically, revenues from the tipping fee have been sufficient to cover the costs of facility operation. Table 2-18 categorizes the primary sources of revenue for the landfill derived from the current tipping fee (which was \$8.85 per ton in FY 1993).

Table 2-18

Revenues from the Landfill Tipping Fee, FY 1993

Source	Receipts
Maryville	\$135,619
Alcoa	\$79,171
Permit Haulers	\$531,108
Miscellaneous	\$105,169
Fees	\$2,565
Sale of Materials	\$48
Total	\$853,680

For the Cities of Maryville and Alcoa, revenues for solid waste management are recovered through the respective general funds, which come from assessed property taxes and local sales taxes.

Table 2-19 summarizes the source of revenue for all components of the solid waste management system in the Blount County Region in FY 1993. Figure 2-3 shows this information graphically.

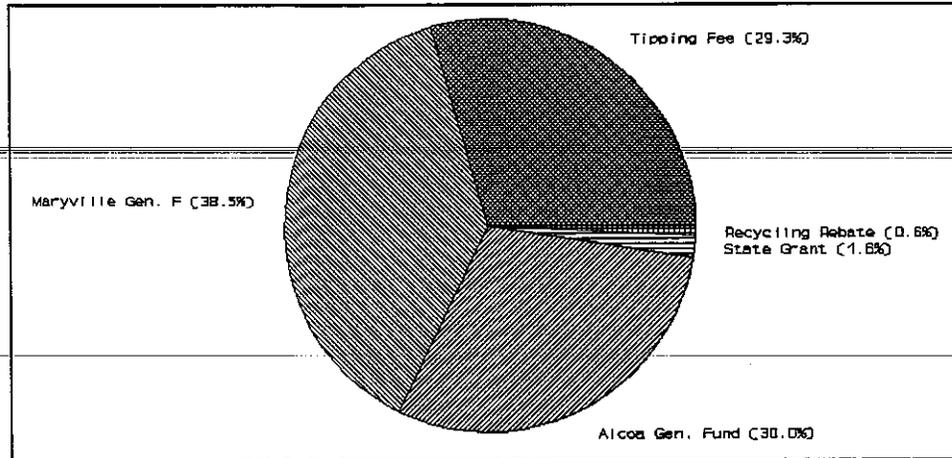
Table 2-19

Solid Waste Management Revenue Sources for Public Programs, FY 1993

Funding Source	Revenue	Activity Funded
Landfill Tipping Fee	\$853,680	Landfill operations/capital expenditures
Maryville General Fund	\$1,121,123	Solid waste collection/disposal Recyclables collection Leaf collection
Alcoa General Fund	\$842,383	Solid waste collection/disposal Recyclables collection Leaf collection
State Grants (2)	\$61,427	Litter abatement
Recycling Rebates	City of Alcoa \$1,308 City of Maryville \$3,927 Blount County \$12,340	drop-off center container waste oil recycling drop-off containers
(1) Revenue calculation based on matching of estimated costs for FY 1993. (2) Litter Grant: \$46,427; State Planning Grant: \$15,000		

Figure 2-3

Solid Waste Management Revenue Sources for Public Programs, FY 1993



2.8 Public Information and Education Programs

The success of solid waste management programs, especially in the area of waste reduction, depends heavily on effective public information and education programs. Within the context of the solid waste management planning process, public education programs must be examined to ensure that future efforts are implemented with maximum effectiveness. The greatest challenge for any public education program is to change the behavior of residents and businesses by targeting the right groups in the right way. People need to not only understand what the problem is, but also how they can help to solve it.

2.8.1 Current Public Information Programs

The primary entity responsible for public information and education in the Blount County Region is the Beautiful Blount program, which is affiliated with the "Clean Tennessee" system. Beautiful Blount engages in several public education and information activities aimed at litter abatement, recycling, and beautification. Along with many of these programs, Beautiful Blount develops and uses publications to target residents, businesses, students, and other specific groups in the community.

The following summarizes some of the key activities undertaken by the Beautiful Blount program and others:

- **Adopt-A-Mile.** In October 1992, Beautiful Blount began an Adopt-A-Mile program, which encourages businesses and community groups to participate in a county-wide litter clean-up effort. Sponsoring businesses have the responsibility to clean up specific roadside areas four times per year.
- **Office Waste Reduction Seminar.** In April 1993, Beautiful Blount sponsored a seminar for local businesses that focused on recycling methods in the workplace, with information ranging from the Solid Waste Management Act to a "how-to" for individual waste audits. The program highlighted local recycling efforts by Blount Memorial Hospital, Maryville College, and ALCOA. Future plans call for a follow up with the 18 participants in the seminar after six months to monitor progress and share results of individual programs.
- **Compost Demonstration Site.** Beautiful Blount developed a compost demonstration site at one of the Maryville recyclables drop-off centers. The site includes a bin made of used wood pallets and shows residents a sample home composting system in operation. Beautiful Blount has distributed information about the site, and has worked with local businesses to make used pallets available to those residents that want to start backyard composting.
- **Courthouse Landscaping.** Beautiful Blount has worked with the County to begin a landscaping effort for the Courthouse. A designer will be hired for the initial activity, after which volunteers will perform the labor, and prisoners will be responsible for the maintenance.
- **Little River Clean-Up.** Beautiful Blount co-sponsored the second annual event in May 1993, where approximately 60 volunteers worked to clean up a portion of the Little River near Townsend. Fliers were distributed to residents along the river, and the event recovered several types of waste both from the river and the shoreline.
- **Neighborhood Clean Sweep.** In this program, Beautiful Blount works with various community groups to help plan clean-up days, which may consist of litter pick-up, recycling, or other volunteer activities.
- **River Rescue.** Beautiful Blount sponsored a clean-up of areas along the Fort Loudon Lake in April 1993. Approximately 80 volunteers helped clean nearly four tons of waste during the effort. The program is planned as an annual event.
- **Litter Hotline/Inventory of Illegal Dumping Sites.** Beautiful Blount has actively worked to identify illegal waste dumping sites around the County. This effort included a survey in late 1992 and the use of a "Litter Hotline,"



which citizens can call to report illegal dumping activities. Currently, the program has identified approximately 175 separate sites. A number of sites have already been cleaned up through the efforts of the County's Litter Control Office. Beautiful Blount plans to help develop a core group of probationary community service workers to begin a dedicated clean-up of many of these sites.

Funding for public education through Beautiful Blount currently comes from several sources, including the City of Alcoa (tipping fee); private funding and state grant money. Remaining activities are volunteer oriented. The public contribution includes \$10,000 per year from Alcoa and \$12,000 from the litter grant.

2.9 Problem Wastes

The Solid Waste Management Act and subsequent Tennessee Planning Guidelines address the need for each region to develop a plan for handling specific kinds of "problem wastes," which include household hazardous waste (HHW), tires, oil, lead acid batteries, litter, and infectious waste.

The following summarizes existing handling programs for problem wastes:

- There is currently no publicly operated or sponsored household hazardous waste management program in Blount County Region, except for educational activities concerning these materials (Beautiful Blount).
- The Blount County Landfill operator stores whole tires for shredding by the state's mobile tire shredder. After shredding, the tires are disposed in the landfill.
- Beginning in May 1993, the City of Maryville has operated a drop-off site for used motor oil and lead acid batteries. The City has contracted with private businesses to collect and recycle these materials. All additional collection programs are handled through private businesses (e.g. automobile repair shops)
- Beautiful Blount and the County Sheriff's Department have carried out several efforts to control litter and illegal dumping (see Sections 2.2.3 and 2.8.1).

Further information about current and future problem waste programs is described in Chapter 10 of this plan.

2.10 System Map

Figure 2-4 is the composite map of the existing solid waste management system for FY 1993. This will serve as a composite for the information broken down in each of the remaining Chapters.

2.11 Strengths and Weaknesses of the Existing System

2.11.1 Tennessee Policy Statements

The Tennessee Solid Waste Management Act of 1991 includes three primary policy statements concerning the state's approach to solid waste management (Section 3 of the Act). The following is a summary of these solid waste management policies:

1. Section 3(a). ...to institute and maintain a comprehensive, integrated, state-wide program for solid waste management which will assure that solid waste facilities...do not adversely affect the health, safety, and well-being of the public and do not degrade the quality of the environment...and which...make maximum utilization of the resources contained in solid waste.
2. Section 3(b). ...to educate and encourage generators and handlers of solid waste 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.
3. Section 3(c). ...to promote markets for and engage in the purchase of goods made from recovered materials and goods which are recyclable.

With these primary policies as a base, it is the responsibility of each planning region to assess its solid waste management system and determine whether existing methods are sufficient. Through an examination of the strengths and weaknesses of the current system, the region will be able to successfully plan for future solid waste management activities.

2.11.2 Primary Needs for the Solid Waste Management System

During late 1992 and early 1993, the Blount County Solid Waste Authority met to assess the key strengths and weaknesses of the solid waste management system. The result of these activities was the development of a strategy for future management, which is outlined in subsequent chapters of this plan.

The Authority identified several key areas that need focus to allow the region to have an integrated solid waste management system. The following summarizes the primary needs identified for the Blount County Region:

Waste Collection and Transportation

One characteristic of the existing solid waste collection system is that although collection service is *available* to a large portion of the residents in the County outside of Maryville and Alcoa (through private haulers), some households choose not to subscribe to collection service. Future solid waste collection and transportation systems in the region must:

- Ensure that solid waste collection is accessible and convenient for all residents and businesses.
- Ensure that illegal dumping is discouraged through the enforcement of illegal dumping laws.
- Ensure that fees paid for collection services are representative of the actual cost of providing the service and provide residents and businesses incentive to participate in waste reduction programs.

Source Reduction and Recycling Systems

Existing waste reduction programs, although not currently able to achieve the 25 percent per capita reduction goal, have established a solid foundation for future recycling activities. In terms of the integrated solid waste management, this foundation is a strength of the current system. However, in order to reach the 25 percent per capita reduction goal, the region has several needs:

- Expand residential recycling programs to maximize waste reduction, including programs such as drop-off and curbside collection.
- Consider strengthening commercial and industrial opportunities for waste reduction.
- Develop solid waste collection fee structures that encourage source reduction.
- Examine marketing opportunities to maximize use of secondary materials.
- Develop public education programs that encourage waste reduction by residential and commercial/industrial generators.
- Consider public and private sector capabilities for processing and marketing of recyclable materials.
- Consider the development of a waste exchange program.

Waste Processing, Composting, and Incineration Systems

The Blount County Region has not identified a need for solid waste processing facilities for its management system. However, in the area of yard waste, there are some specific needs for either mulching, composting, or burning of materials in order to meet the 25 percent per capita reduction goal. Existing leaf storage sites in Alcoa and Maryville serve as a foundation to future composting efforts. The primary needs for the Region as a whole include:

- ~~• Consider composting and mulching programs to decrease, and potentially eliminate, yard waste entering disposal facilities.~~
- Consider the potential for burning yard waste as a waste reduction measure in the context of Tennessee requirements.

Disposal Facilities

In terms of available landfill capacity, the Blount County landfill has sufficient airspace to allow for continued disposal for over ten years. However, federal and state regulations will require the region to upgrade the existing facility. Therefore, the primary needs for the Region are:

- Ensure that the landfill capacity is sufficient for solid waste disposal for at least ten years.
- Ensure compliance with State and Federal regulations, including upgrading the existing facility to meet new regulations.
- Consider methods of discouraging illegal dumping.
- Determine owner/operator options for the existing and future disposal facilities.
- Continue to educate residents about the changing costs of waste disposal.
- Ensure that the landfill's data collection system can reflect the types, sources, and quantities of waste being disposed.
- Ensure that all landfill upgrades are conducted in a cost-effective and efficient manner.



Public Information and Education Programs

Through the efforts of Beautiful Blount and the Cities of Alcoa and Maryville, a solid foundation for public education has been established. In the future, these efforts will need to be expanded, as each of these entities works with the Authority to ensure that public education addresses all aspects of an integrated solid waste management system. The primary needs for public education include:

- Ensure that public education programs inform and involve residents on the full range of solid waste management issues.
- Ensure that public education programs inform residents and businesses on proper disposal methods.
- Ensure that public education programs effectively support all waste reduction programs.
- Conduct public education efforts in a manner that effectively utilizes the existing resources of the news media, including newspapers, radio, and television.
- Ensure that all educational materials (e.g. pamphlets, newsletters, etc.) developed clearly and comprehensively address solid waste management issues.
- Ensure that public education efforts provide information to residents and businesses on the true costs of managing a comprehensive solid waste management system.
- Continue to involve citizens in specific waste reduction activities.
- Use state and area-specific resources, as appropriate, to develop solid waste education programs for local schools.

Costs and Revenues of Solid Waste Management Programs

One of the most important aspects of the solid waste management system is an understanding of the actual costs and financing options for existing and future programs. Although the use of the tipping fee is a strength in the area of disposal, the absence of user fees for collection in the two Cities may be a weakness that prevents a truly integrated (and



self-sufficient) solid waste management system. As the Blount County Region develops a strategy for the integrated solid waste management system, it will have the following primary needs:

- Ensure that intergovernmental cooperation occurs to allow for shared responsibility for costs of some waste management programs (e.g. disposal, waste reduction, etc.).
- Ensure that each governmental entity's budgeting system allows for the accurate documentation of the full costs of solid waste management programs.
- Ensure that all financing systems in the cities and the County are sufficient to implement and expand solid waste management programs.
- Base user fees on the real costs of solid waste management, which could include charging variable (volume-based) rates for collection and disposal of solid waste and could promote source reduction and recycling.
- Assure that County residents continue to be provided service that meets the Region's Plan, including the use of private haulers.



and the Authority will investigate the feasibility of developing a central composting facility.

- **"Problem Waste" Collection (Unknown percentage).** Problem wastes will be collected and disposed (or recycled).
- **Public Information and Education.** The Authority and Beautiful Blount will continue to develop materials for public information and education.

3.4 Evaluation Criteria for the Blount County Region

During the planning process and plan implementation, the Blount County Solid Waste Authority will evaluate each option or program based on a number of specific criteria. These criteria will include the following:

- The program's potential to fulfill one or more of the elements of the adopted Region Plan.
- Compatibility of planned programs with the existing solid waste management system.
- Number and size of proposed facilities to meet the needs of the Region.
- Number and convenience of markets for recovered materials.
- Costs of implementing and operating proposed programs.
- Regulatory and permitting requirements of proposed facilities and programs.
- Environmental impacts of proposed programs.
- Public acceptance of proposed programs.



CHAPTER 4

WASTE REDUCTION

4.1 Establishing a Base Year Quantity

Table 4-1 shows the quantity of waste disposed at the solid waste disposal facility in 1989, based on both the UT report *Managing Our Waste: Solid Waste Planning in Tennessee* and actual landfill records. All remaining discussions of the waste reduction goal will assume that landfill record information will be used to calculate the waste reduction goal (i.e. 1989 base year quantity disposed was 106,917 tons). Additional information on the adjustment of the 1989 base year quantities for the purposes of this Plan is shown in Appendix B.

TABLE 4-1

Population and Quantities of Waste Disposed of at Municipal Solid Waste Disposal Facilities, 1989

Source	Population, 1989	Waste Disposed, 1989	Disposal Rate (Tons/Person)
UT Report/ Needs Assessment	85,600	99,840	1.17
Landfill Records	85,600	106,917	1.25

For the base year 1989, the per capita disposal rate has been established using the following formula:

$$\frac{\text{Total waste disposed}}{\text{Regional population}} = \text{Average per capita disposal rate}$$

4.2 Target 1995 Per Capita Disposal Rate

The target per capita disposal rate for 1995 based on the 25 percent reduction goal was established using the following formula.

$$\begin{aligned} \text{Average 1989 per capita rate} & \times .25 = \text{Target 1995 reduction rate} \\ 1.25 \text{ tons/persons/year} & \times .25 = 0.31 \text{ tons/person/year} \end{aligned}$$

Using the per capita rate of reduction, the following formula determined the tonnage that will need to be reduced. The Blount County Region will rely on the "high population growth" projections developed in Chapter 1.



Target 1995 reduction rate x 1995 population = 1995 reduction (tons)

0.31 tons/person/year x 92,998 persons = 29,039 tons

Table 4-2 summarizes the target 1995 disposal information.

TABLE 4-2

Population and Target Quantities of Waste to be Reduced at
Municipal Solid Waste Disposal Facilities, 1995

County	Population, 1995	Waste Reduced, 1995	Reduction Rate (Tons/Person)
Blount	92,998	29,039	0.31

4.3 Strategy for Achieving the 25 Percent Reduction Goal

4.3.1 Waste Reduction Goals

The Blount County Region, based on the work of the Solid Waste Authority, has established several key quantitative goals for both short term and long term waste reduction activities:

1. Reduce by 25 percent the per capita amount of solid waste disposed at the Blount County Landfill by December 31, 1995.
2. Residential reduction will account for a 5 percent per capita reduction in total waste disposed by 1995.
3. Commercial and industrial reduction will account for a 5 to 7 percent per capita reduction in the total waste disposed by 1995.
4. Yard waste reduction will account for a 15 to 18 percent per capita reduction in total waste disposed by 1995.
5. Long term waste reduction activities will maintain or go beyond the 25 percent per capita reduction after 1995.

The following sections summarize the key activities to be undertaken to meet the stated goals. Further discussion of planned waste reduction activities is in Chapter 6, 7, and 9.

4.3.2 Reduction of Residential Solid Waste

The following key activities will be undertaken by the Authority, the County and the Cities to help the Blount County Region achieve the waste reduction goal through residential programs.

- Support the cost of solid waste collection in Alcoa and Maryville through fees rather than general funds.
- Implement alternative solid waste collection fees based on the true costs.
- Consider variable rate systems for solid waste collection in Alcoa and Maryville to encourage source reduction.
- Consider establishment of operating standards for private haulers that require variable rate structures for solid waste collection outside of Alcoa and Maryville.
- Consider expansion (for additional materials) and staffing of recyclables drop-off centers.
- Site additional drop-off centers for the collection of recyclables.
- Continue to evaluate and possibly implement curbside collection of recyclables in Maryville and Alcoa.
- Continue to conduct public education programs regarding residential source reduction and recycling.

4.3.3 Reduction of Commercial/Industrial Waste

The following key activities will be undertaken by the Authority, the County, and the Cities to help the Region achieve the waste reduction goal through commercial/industrial programs.

- Consider charging businesses for solid waste collection based on a variable rate structure.
- Match waste generating businesses with recyclers that will haul and market corrugated cardboard.
- Identify marketing opportunities for recyclable materials.
- Evaluate and implement (or sponsor) office paper recycling programs.

- Conduct ongoing public education and technical assistance effort to encourage source reduction and recycling by businesses and industries.
- Evaluate and implement (or sponsor) efforts for wood pallet reduction/reuse.
- Encourage and coordinate a solid waste exchange for local businesses and industries.
- Offer direct technical assistance to businesses and industries about reduction and recycling.

4.3.4 Reduction of Yard Waste/Bulky Items

The following activities will be undertaken by the Authority, County, and Cities to help the Region achieve the reduction goal.

- Sort bulky materials from brush at the landfill.
- Require private haulers to separate bulky items from brush prior to disposal.
- Coordinate recycling of white goods through private companies.
- Chip or burn brush, in accordance with Tennessee law.
- Ban brush and some bulky items from the landfill.
- Conduct public education efforts to encourage back yard composting and the reduction of grass clippings left for collection and disposal.
- Consider centralized yard waste composting facility.

4.3.5 Implementation Schedule

The specific strategy for waste reduction is included in Chapter 6 and Chapter 7 of this plan. The strategy includes descriptions of action items, allocation of responsibility, staffing, costs, and a ten-year implementation schedule.

4.3.6 Quantitative Allocation of Waste Reduction Goal

Table 4-3 shows the estimated quantities of waste to be diverted from the municipal solid waste stream in each of the planning years, based on Tennessee Planning Guidelines. Since waste projections are based on fiscal years, the Table assumes fiscal years also. For this reason, it is assumed that the target amount recovered/recycled in Calendar Year 1995



of 29,039 tons will be reached in the middle of Fiscal Year 1996. It should be noted that the amounts shown in Table 4-3 are planning level estimates only.

For the purposes of Table 4-3, it is assumed that all of the reduction goal can be achieved through recycling, composting, and source reduction. The "Recovered/Recycled" category addresses the materials recycled and composted. The diversion of waste to the Class IV area ("Alternative Disposal") is considered as an additional reduction, and it is assumed that the Region will continue to divert waste to the Class IV area under the existing and future permits throughout the ten year planning period. "Economic Incentives" includes reductions that can be achieved through source reduction or increased recycling rates due to incentives such as variable rate structures. For the purposes of these projections, it is assumed that economic incentives can divert one percent of the generated waste stream per year.

TABLE 4-3

**Estimated Quantities of Waste Diverted from the Waste Stream
(Tons/year)**

	Previous Reductions	Recovered/Recycled	Alternative Disposal	Economic Incentives	Total
1985-1989	--	--	--	--	--
1990	--	--	--	--	--
1991	--	5,400	--	--	5,400
1992	--	6,000	--	--	6,000
1993	--	10,000	--	--	10,000
1994	--	15,822	24,520	1,151	41,493
1995	--	21,763	23,428	1,166	46,357
Subtotal	--	58,985	47,948	2,317	109,250
1996	--	27,857	22,302	1,182	51,341
1997	--	28,223	22,613	1,199	52,035
1998	--	28,595	22,931	1,215	52,741
1999	--	28,971	23,252	1,232	53,455
2000	--	29,352	23,579	1,249	54,180
2001	--	29,638	23,834	1,262	54,734
2002	--	29,926	24,091	1,276	55,293
2003	--	30,217	24,353	1,289	55,859
Total	--	291,763	234,903	12,222	538,888

Table 4-4 estimates the quantity of each material recovered/recycled in 1995 (based on 29,039 tons), which will be achieved by each source sector. Table 4-5 estimates the quantity of the 1995 reduction, by source sector. Both quantitative allocation tables assume that the minimum 25 percent reduction will be achieved through recycling, composting, and source reduction. Any additional reduction (e.g. diversion to Class IV) is not included in the allocation.

Table 4-4

**Quantitative Material Allocation of 1995 Goal
(Tons/year)**

Material	Quantity of Waste Recovered/Recycled	Percent of Total
Paper (OCC, ONP, Office, etc.)	9,248	31.9
Glass	1,617	5.6
Aluminum Cans	632	2.2
Plastic	1,502	5.2
Ferrous Metals	1,539	5.3
Yard Waste	14,500	49.9
Total	29,039	100.0

Table 4-5

**Quantitative Source Sector Allocation of 1995 Goal
(Tons/year)**

Source Sector	Quantity of Waste Recovered/Recycled	Percent of Total
Residential	18,270	62.9
Commercial/Industrial	10,769	37.1
Total	29,039	100.0



CHAPTER 5

WASTE COLLECTION AND TRANSPORTATION

5.1 Regional Needs and Goals

One characteristic of the existing solid waste collection system is that although collection service is *available* to a large portion of the residents in the Region (through the Cities of Alcoa and Maryville and private haulers), some households outside the two Cities choose not to subscribe to collection service. Future solid waste collection and transportation systems in the region must:

- Ensure that solid waste collection is accessible and convenient for all residents and businesses.
- Ensure that fees paid for collection services are representative of the actual cost of providing the service and provide residents and businesses incentive to participate in waste reduction programs.

This Chapter compares the existing collection system to the standards developed by the State and describes the strategy for ensuring effective waste management in future collection programs.

5.2 Comparison of Existing System to State Standards

As was noted in Section 2.2.1, solid waste collection in the Blount County Region is handled by the City of Alcoa, the City of Maryville, and 23 private haulers. Based on information from the District Needs Assessment and the subsequent hauler survey, it was determined that approximately 24,423 households receive direct collection service. Assuming that there are approximately 34,541 households in the Blount County Region (1993), it is estimated that 10,118 households, or 29 percent of the total, transport directly to the landfill or otherwise dispose of their waste.

During the private hauler survey conducted in late 1992, each hauler was instructed to identify on a large map the routes covered through its business. This activity was done confidentially, and the results show an aggregate of the total routes in the County. Through that survey, it was revealed that all of the private haulers combined cover most of the roads with occupied homes in the Blount County Region.

In accordance with the Solid Waste Management Act of 1991, the State amended Rule 1200-1-7 to define the minimum level of service for household collection. Rule 1200-1-7-10(2)(a) states: "A county shall be deemed to have a minimum level of service if at least 90 percent of all residents have access to household collection." However, the precise definition of "access" has not been clarified by the State, and differing interpretations have

been developed. As the Blount County Region plans for collection, it must consider the different interpretations of "access" whether it is defined as availability of service or provision of service.

If the intent of the law is to have collection service available to 90 percent of the households, the service areas of all private haulers would likely satisfy the state requirement. In other words, it is likely that collection service is available to over 90 percent of the households, but many residents choose not to subscribe. In this case, convenience centers would not necessarily be required for Blount County. If the intent of the law is to have ~~collection service provided to 90 percent of the households, the intent is not met since 29~~ percent of the households transport directly to the landfill or otherwise dispose of their waste, rather than subscribe to household collection service.

5.3 Solid Waste Collection and Transportation Strategy

5.3.1 Municipal Collection Programs

The City of Alcoa will continue to provide solid waste collection services to residents in the City limits throughout the ten year planning period. The City of Alcoa has created an Advisory Committee to evaluate solid waste collection options. During the first year of plan implementation, the Advisory Committee will meet and develop recommendations about operational changes that could be made to Alcoa's collection system. The Committee will consider switching one of the two garbage pickups per week to recyclables collection; analyze different collection equipment for garbage service; examine necessary staffing; and evaluate the feasibility of implementing collection fees and variable rate structures. The Committee plans to make recommendations by the end of 1993. By the second year of plan implementation, the City will begin to make any necessary alterations to the collection system.

The City of Maryville will continue to provide solid waste collection services to residents in the City limits throughout the ten year planning period. During the first and second years of plan implementation, the City will investigate opportunities for implementing collection fees and variable rate structures. By the second year of the Plan, Maryville will begin to charge collection fees, if that option is chosen.

In anticipation of potentially charging residents for solid waste collection, both the City of Alcoa and the City of Maryville will consider showing each resident the cost of collection as a public education measure. The Cities will designate an area of existing utility bills to show each resident how much solid waste collection costs per household. The intent of this activity is to allow residents to understand that solid waste management has real costs associated with it, and that collection fees may be a necessary part of an integrated management system.

The Cities of Alcoa and Maryville will evaluate the feasibility of consolidating solid waste collection service. On a regular basis, the two Cities will consider the cost-effectiveness and public acceptability of joining their operations for solid waste collection.

5.3.2 Other Collection Systems

Private haulers will continue to operate in the unincorporated areas of Blount County. The County and the Authority will work with private haulers to ensure higher levels of collection service during the first year of plan implementation. The Authority will work with the County and the landfill operator to establish standards for residential solid waste collection by private haulers in the Region. The County and Authority will encourage residents to participate in door-to-door collection service with private haulers. The County will strengthen enforcement of illegal dumping laws to complement the extensive education effort on this issue.

By the end of the first year, the County and Authority will examine the success of these activities. The Authority will conduct a second survey to make a comparison of the number of households served by private haulers. In addition, Beautiful Blount will continue to track the amount of illegal dumping on a fairly regular basis. The County will continue to monitor the level of service provided by its network of private haulers. If subsequent surveys indicate flaws in the system or that the state's 90 percent access requirement is not being fulfilled, the County will consider options including licensing of haulers and implementation of specific hauler standards, franchising of service areas, and the operation (public or by contract) of staffed convenience centers.

5.3.3 Ten Year Staffing Needs

If the City of Alcoa designates one of its collection days for recyclables pickup, it will use existing staff to carry out the new duties. No additional staff is expected to continue solid waste collection.

The City of Maryville does not anticipate additional staffing needs for solid waste collection and transportation.

It is expected that the convenience centers, if developed and operated by the County, will be staffed by at least one person five or six days per week at each center. If a private firm is used for operation, no additional County staff will be required.

5.3.4 Ten Year Budget

Table 5-1 shows projected collection budgets for the County and the Cities of Alcoa and Maryville, based on the different scenarios shown above.

Table 5-1
Public Solid Waste Collection Costs (1)
FY 1993 - FY 2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MARYVILLE (CURRENT SYSTEM)											
Solid Waste Collection											
Operating	790,495	826,067	863,240	902,086	942,680	985,101	1,029,430	1,075,754	1,124,163	1,174,751	1,227,615
Administrative	94,209	98,448	102,879	107,508	112,346	117,402	122,685	128,205	133,975	140,004	146,304
Capital	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800
TOTAL COLLECTION	985,504	1,025,316	1,066,919	1,110,394	1,155,826	1,203,302	1,252,915	1,304,760	1,358,938	1,415,554	1,474,718
Disposal (2)	135,619	214,734	255,589	326,625	346,098	366,733	388,607	411,789	434,956	459,435	485,305
TOTAL COLLECTION/DISPOSAL COSTS	1,121,123	1,240,049	1,322,508	1,437,019	1,501,924	1,570,035	1,641,521	1,716,549	1,793,894	1,874,989	1,960,024
ALCOA (CURRENT SYSTEM)											
Solid Waste Collection											
Operating	737,297	770,475	805,147	841,378	879,240	918,806	960,152	1,003,359	1,048,511	1,095,693	1,145,000
Administration	22,282	23,285	24,333	25,427	26,572	27,767	29,017	30,323	31,687	33,113	34,603
Capital	--	61,540	107,770	117,000	125,000	95,000	86,000	--	--	--	--
Total Collection	759,579	855,300	937,249	983,806	1,030,812	1,041,574	1,075,169	1,033,682	1,080,198	1,128,807	1,179,603
Disposal (2)	79,171	115,409	137,367	175,545	186,011	197,101	208,857	221,316	233,767	246,924	260,828
TOTAL COLLECTION/DISPOSAL COSTS	838,750	970,709	1,074,616	1,159,351	1,216,823	1,238,675	1,284,027	1,254,998	1,313,965	1,375,730	1,440,431

(1) Anticipated collection costs for Alcoa and Maryville are shown. Collection costs in the unincorporated areas are covered by private waste haulers, which charge user fees to participating residents.

(2) Includes payment of landfill tipping fee, adjusted to account for anticipated increases.

5.3.5 Funding Sources

Both the City of Alcoa and the City of Maryville will consider the implementation of user fees for solid waste collection. If these fees are used, the rate structure will reflect of the costs of collection and are planned to cover all costs incurred. If these fee structures are not used, each City will continue to draw funding from the general funds.

If the County develops convenience centers, it will consider several funding options, including: 1) General funds; 2) user fees at the centers; and 3) state grant funds.

5.3.6 Integration with Other Elements of the Solid Waste System

Recyclables and problem waste collection will be handled separately from the normal solid waste collection systems in the Cities of Maryville and Alcoa, although the respective collection agencies will continue to have the responsibility of collecting each of these waste streams. In the County, the convenience centers will be designed to accept solid waste, recyclables, and certain problem wastes such as used oil and batteries, if necessary.

5.4 Implementation Schedule

Table 5-2 shows the ten-year implementation schedule for solid waste collection programs in the Blount County Region.

5.5 System Map

Figure 5-1 shows the planned collection, transportation and waste flows of solid waste in the Blount County Region on the composite system map.

TABLE 5-2
Waste Collection and Transportation
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source		
	94	95	96	97	98	99	00	01	02	03					
1. Communicate with private haulers to expand existing solid waste collection service areas.	•												Authority/County	--	--
2. Enforce local regulations that discourage illegal dumping.	•												County	--	--
3. Establish standards for solid waste collection by private haulers.	•												Authority/Haulers	--	--
4. Conduct a second hauler survey for comparison of households served.		•											Authority	\$2K	Tipping Fees/County General Funds
5. Consider alternative options for collection (if needed).		•											Authority/County	--	--
6. Develop one or more convenience centers for solid waste (if needed).		•											County or Private Firm	\$25K/site	County General Funds
7. Operate convenience centers (if needed).		•											County or Private Firm	\$15K/site	User fee
8. Continue to provide solid waste collection service to residents and businesses in the City of Alcoa.													City of Alcoa	\$900K + 4.5%/yr.	General Fund (short term)/User Fees

TABLE 5-2 (CONTINUED)

Waste Collection and Transportation
Ten-Year Implementation Schedule

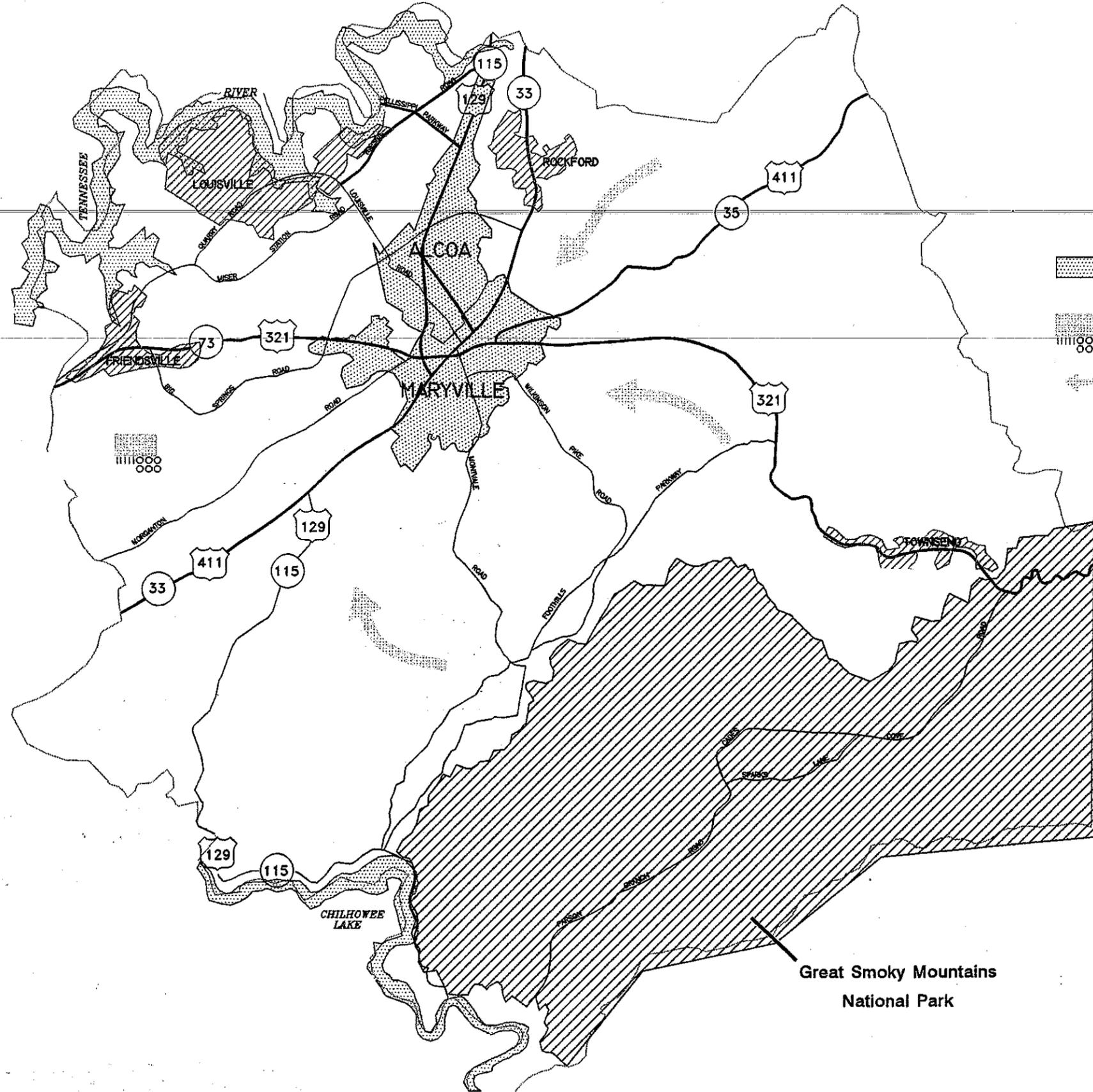
Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
9. Investigate alternative collection methods in Alcoa (recyclables pick-up, variable rates, etc.) through the advisory committee.	•											Alcoa Advisory Committee	--	--
10. Alter collection methods in Alcoa based on advisory committee recommendations, if necessary.		•										Alcoa	\$50K	General Fund (short term)/user fee
11. Operate updated collection services.		•										Alcoa	Depends on option chosen	General Fund (short term)/user fee
12. Continue to provide solid waste collection service to residents and businesses in the City of Maryville.												City of Maryville	\$1.1 mil + 4.5%/yr.	General Fund (short term)/user fee
13. Investigate opportunities for implementing collection fees and variable rate structures in Maryville.												Maryville	--	--
14. Update collection services in Maryville, if necessary.		•										Maryville	\$50K	General Fund (short term)/user fee

TABLE 5-2 (CONTINUED)

**Waste Collection and Transportation
Ten-Year Implementation Schedule**

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source
	94	95	96	97	98	99	00	01	02	03			
15. Consider showing residents and businesses the costs of providing collection services on utility bills (prior to use of collection fees) in Alcoa and Maryville.	•										Alcoa/Maryville	--	--
<ul style="list-style-type: none"> • Action = summary of the activity to be undertaken. • Year = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994). • Shading = individual or multiple years in which the activity will take place. • Dots = start-up of the activity. • Responsible Party = who will carry out the activity. • \$\$ = estimated cost of the activity. • Funding Source = how the activity will be funded. • -- = no additional cost anticipated. 													

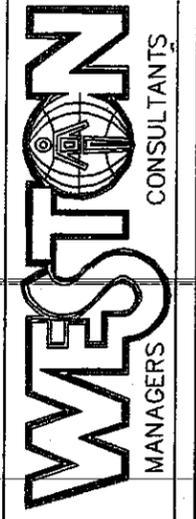
NOT TO SCALE



LEGEND

-  MUNICIPAL HOUSE-TO-HOUSE COLLECTION AREAS
-  DISPOSAL FACILITY
-  WASTE FLOW PATTERNS

FIGURE 5-1
 COLLECTION, TRANSPORTATION AND WASTE FLOWS
 BLOUNT COUNTY
 BLOUNT COUNTY, TENNESSEE



CHAPTER 6

RECYCLING AND SOURCE REDUCTION

6.1 Regional Needs and Goals

Existing waste reduction programs, although not currently sufficient to achieve the 25 percent goal, have established a solid foundation for future recycling activities. The Blount County Region has established four additional goals to complement the overall 25 percent goal, including: (1) Residential reduction will account for a 5 percent per capita reduction in total waste disposed by 1995; (2) commercial and industrial reduction will account for a 5 to 7 percent per capita reduction in total waste disposed by 1995; (3) yard waste reduction will account for a 15 to 18 per capita percent reduction in total waste disposed by 1995 (see Chapter 7); and (4) long term waste reduction activities will maintain or go beyond the 25 percent per capita reduction after 1995.

Additional needs for reaching and maintaining these reduction goals include:

- Expand residential recycling programs to maximize waste reduction, including programs such as drop-off and curbside collection.
- Consider commercial and industrial opportunities for waste reduction.
- Develop solid waste collection fee structures that encourage source reduction.
- Examine marketing opportunities to maximize use of secondary materials.
- Develop public education programs that encourage waste reduction by residential and commercial/industrial generators.
- Consider public and private sector capabilities for processing and marketing of recyclable materials.
- Consider the development of a waste exchange program.
- Implement aggressive recycling programs in all departments of the Blount County, Alcoa, and Maryville governments as an example to others.

This Chapter describes in greater detail the recycling and source reduction strategy (summarized in Section 4.3) for meeting the above needs. Chapter 7 includes additional waste reduction activities to be conducted through yard waste composting.

6.2 Recycling Strategy

6.2.1 Planned Residential Recycling Programs

In order to meet the 25 percent per capita reduction goal and maintain high levels of reduction in the long-term, the Blount County Region will expand existing recycling and reduction programs, as well as consider and implement additional efforts. In the area of recycling and source reduction, the Region will target two primary areas: the residential sector and the commercial/industrial sectors.¹ ~~The Authority, the County, and the Cities of Alcoa and Maryville will have the most specific responsibilities regarding the implementation of public recycling efforts.~~

The Cities of Alcoa and Maryville will continue to operate drop-off sites for the collection of recyclable materials. The Authority will assist the County in siting additional drop-off centers to ensure that recyclables collection is accessible to all citizens and businesses in the Region. The Authority will work with the Cities and the County to determine the best sites for the new centers, and each entity will contribute to the operation of the sites, as appropriate.

Each of the drop-off stations will continue to accept aluminum cans, glass, plastic, and newspaper. In addition, some or all of the recycling centers may be expanded to handle some commercial recyclables, such as office paper and corrugated cardboard. This will allow residents and businesses that generate smaller quantities of these materials to conveniently participate in waste reduction efforts.

During the first year of plan implementation, the Cities, the County and the Authority will closely monitor the amount of contamination taking place at the drop-off centers. If contamination becomes a problem, the Cities and the County will consider staffing the centers.

During the short-term, the Cities of Maryville and Alcoa will consider the feasibility of curbside collection of recyclable materials. Alcoa will work with its Advisory Committee on collection to determine the feasibility of moving from twice per week garbage collection to once per week garbage collection/once per week recyclables collection. By the second year of plan implementation, both Cities will be in a position to determine the need for curbside collection, based on costs, citizen opinion, and diversion potential beyond that of the drop-off centers. If the need for additional reduction is identified, the Cities may implement curbside recyclables collection.

As a means of encouraging source reduction, the Cities of Alcoa and Maryville will consider billing for residential solid waste collection through variable rate structures within

¹As noted in Chapter 4, the Region will also target yard waste/bulky item reduction. Information regarding program strategy is shown in Chapter 7.



the first two years of plan implementation. The charge for solid waste collection may be billed by the two Cities on their utility bills. Initially, the fee would be a flat rate, covering the full cost of residential collection, calculated by dividing the respective total cost of collection by the number of households served. As a means to encourage source reduction, the cities will consider the possibilities of variable rate structures for solid waste collection. Even if the two Cities do not charge for solid waste collection, they will consider showing the costs of solid waste collection on the utility bill to educate residents.

Several schools have recycling programs in place currently. Beautiful Blount plans to coordinate an effort to obtain additional equipment for use by these and other schools in the expansion of school recycling programs. At a minimum, it is expected that each school will have access to a collection bin (for material drop-off) at least one week per month. Although the collection of recyclables would be aimed primarily at the students and staff of the schools, citizens in the surrounding neighborhoods will have the ability to drop-off materials as well. Depending on the locations of individual schools and the quantities of materials collected, it may be determined that bins should be available for longer periods than one week per month. The initial effort by Beautiful Blount will be to try to find containers that can be donated to the program.

6.2.2 Planned Commercial/Industrial Recycling Programs

The Region has considered the potential for high levels of waste reduction through the commercial and industrial sectors. The Authority, the Cities and the County will undertake several direct and indirect activities designed to increase recycling, reuse, and source reduction by businesses and industries.

The Authority will work with Beautiful Blount to encourage and coordinate a solid waste exchange for local industries and businesses. This will allow for a more efficient use of waste materials that can be reused or recycled by local markets. Authority staff will maintain a database of generators and users of different types of industrial, commercial, and construction and demolition wastes.

The Authority, in conjunction with the Cities of Alcoa and Maryville, will evaluate the opportunities for an office paper recycling program with local businesses. The evaluation will include an analysis of the costs, potential recovery, and the possible administrative arrangements (public or private) for carrying out such a program. Based on this analysis, a specific office paper recovery program will be put in place.

Beautiful Blount will continue activities encouraging office waste reduction including efforts such as the seminar held earlier this year. Such seminars and similar activities will take place in the future.

The Authority and Beautiful Blount will provide technical assistance to businesses that generate wood pallets as part of their waste stream. The Authority will work with



private recyclers to determine the most feasible approach to reducing the quantity of these materials entering the landfill. Pallets will either be refurbished by private businesses or incorporated into yard waste handling operations (see Chapter 7).

The Authority, working in tandem with the efforts of Beautiful Blount, will provide public education and technical assistance to businesses and industries on reduction, reuse, and recycling. For example, the Authority will assist ALCOA in finding ways to process and reuse fire brick, which could reduce by as much as 10 percent the total amount of waste disposed in the landfill.

6.2.3 Planned Marketing Activities

The Authority, County and Cities will continue to utilize the processing capability of the Tennessee Vocational Training Center. The Center will continue to process the materials recovered through the Maryville and Alcoa residential drop-off programs.

As additional residential and commercial/industrial recyclables are collected through the programs listed above, it may become necessary for the Authority, Cities, County, and Beautiful Blount to investigate additional markets for processing. The Training Center will continue to be the first choice for processing. However, as new programs are developed, the Center may not have the processing capability, either because of larger quantities or material types.

In addition, the Authority will continue to participate in the development of the Recycling Marketing Cooperative of East Tennessee. After the Cooperative is formally created, the Blount County Region will actively participate. This will allow for a broader ability of the Region to market materials recovered through various recyclables collection programs.

6.2.4 Interaction with the Office of Cooperative Marketing

The Authority and Beautiful Blount (and possibly the East Tennessee Cooperative) will maintain contact with the Office of Cooperative Marketing for Recyclables in the Tennessee Department of Environment and Conservation. The Authority will provide any necessary information to the Office concerning future recycling programs in the Blount County Region, including data about program locations, types and volumes of materials handled, and recovered materials specifications. If necessary, the Authority will seek the Office's assistance in contract negotiations with end users to guarantee more efficient movement of materials to markets. In addition, the Authority will draw upon the technical resources of the Office to ensure that materials are being marketed and used with the most practical and cost-effective methods for all parties involved.

6.2.5 Planned Public Education Efforts

Beautiful Blount will continue to provide public education materials for recycling and source reduction programs. Future public education activities are described in more detail in Chapter 9.

6.2.6 Ten Year Staffing Needs

Under the current method of drop-off site operation, the Cities do not anticipate additional staffing needs. However, as the programs are being operated and expanded, the Cities will pay particularly close attention to the ways in which materials are being received. If it is determined that contamination and illegal dumping at the sites are minimal, the sites will continue to be unstaffed. If contamination reaches unacceptable levels, each of the Cities will take actions to 1) restrict entry to the sites to specific days and times and 2) place staff at the sites on either a paid or volunteer basis.

If staffing of the drop-off sites becomes necessary, the County and Cities will require at least one individual at each site on a full or part-time basis.

The Solid Waste Manager being sought by the City of Alcoa will be responsible for coordinating recycling activities throughout the Region, including processing, marketing and public education.

6.2.7 Ten Year Budget

Table 6-1 shows the projected 10-budget for publicly funded recycling and reduction programs in the Region.

6.2.8 Funding Sources

In the short term, the Cities of Alcoa and Maryville will continue to fund the drop-off program through general funds. The Cities and County will fund marketing and processing costs (if any) through the tipping fee, recyclables collection fees, and/or State grants.

6.2.9 Data Collection

The Solid Waste Authority, in cooperation with Maryville, Alcoa, and the County will ensure that sufficient information about the quantities of recovered materials is gathered for the state's annual reports. The Cities and the Authority will work with the Training Center to determine any additional needs for accurately recording data on quantities and material types.

**Table 6-1
Residential Reduction Costs (1)
FY 1993 - FY 2003**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MARYVILLE											
Drop-off Collection (Current System) (2)	43,000	44,935	46,957	49,070	51,278	53,586	55,997	58,517	61,150	63,902	66,778
Drop-off Collection (Additional Materials)	--	52,250	54,601	57,058	59,626	62,309	65,113	68,083	71,105	74,305	77,648
Drop-off Collection (One Additional Site)	--	62,700	65,051	67,508	70,076	72,759	75,563	78,493	81,555	84,755	88,098
Curbside Recyclables Collection Only (3)	--	--	65,790	68,751	71,844	75,077	78,456	81,986	85,676	89,531	93,560
Operating Capital (Debt Service)	--	--	87,600	87,600	87,600	87,600	87,600	87,600	87,600	87,600	87,600
Curbside Total	--	--	153,390	156,351	159,444	162,677	166,056	169,586	173,276	177,131	181,160
ALCOA											
Recyclables Collection (Current System) (2)	3,633	3,796	3,967	4,146	4,332	4,527	4,731	4,944	5,166	5,399	5,642
Drop-off Collection (Additional Materials)	--	4,100	4,285	4,477	4,679	4,889	5,109	5,339	5,580	5,831	6,093
Drop-off Collection (One Additional Site)	--	8,200	8,569	8,955	9,358	9,779	10,219	10,679	11,159	11,661	12,186
Curbside Collection (3)	--	--	33,500	35,008	36,583	38,229	39,949	41,747	43,626	45,589	47,640
Operating Capital (Debt Service)	--	--	33,080	33,080	33,080	33,080	33,080	33,080	33,080	33,080	33,080
Curbside Total	--	--	66,580	68,088	69,663	71,309	73,029	74,827	76,706	78,669	80,720

(1) Budget includes anticipated reduction activities of Alcoa and Maryville.

(2) Projects the costs of continuing with the current systems.

(3) Projections based on industry averages and include a 4.5 percent inflation rate each year.



The Authority, through the new Solid Wastes Manager, will coordinate annual reporting and data collection activities to ensure that an accurate depiction of the Region's waste handling and reduction activities is developed.

6.3 Private Sector Coordination

The Cities and the County will take advantage of the available resources of the Tennessee Vocational Training Center for processing of recyclable materials. The Authority and Beautiful Blount will explore market opportunities with private firms in the Region, in addition to the activities undertaken by the Training Center. The Authority and the County will encourage private collectors of solid waste to collect recyclables. As new programs are being developed, the Cities, County, and Authority will consider contracting specific services with private firms.

The Solid Waste Manager, in cooperation with Beautiful Blount, will work with the commercial and industrial sectors to encourage reduction since these sectors represent the largest potential for reducing waste.

6.4 Implementation Schedule

Table 6-2 shows the ten-year implementation schedule for recycling and source reduction programs in the Blount County Region.

6.5 System Map

Figure 6-1 shows the existing and planned recycling programs in Blount County.

TABLE 6-2
Recycling and Source Reduction
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Determine ways of expanding current drop-off programs, including new sites and staffing methods.	•											Authority/County/Cities	--	--
2. Expand existing drop-off sites to accept wider range of materials.	•											Maryville/Alcoa	\$5-10K/ site (cap & op)	General Fund/Solid Waste Collection Fee
3. Closely monitor drop-off site usage and staff stations, as necessary.	•											Authority/Cities/County	--	--
4. Develop new sites for residential drop-off program.	•											Authority/County/Cities	\$10K/ site (cap & op)	General Fund/Solid Waste Collection Fee
5. Consider curbside collection of residential recyclables.												Maryville/Alcoa	--	--
6. Implement residential curbside program in Cities, as needed.			•									Maryville/Alcoa	\$120K/yr	SW or Recyclable Collection Fee
7. Consider variable rate structures for residential and commercial solid waste collection.	•											Maryville/Alcoa	--	--
8. Develop variable rate standards for private haulers.			•									Authority/Haulers	--	--

TABLE 6-2 (CONTINUED)
Recycling and Source Reduction
Ten-Year Implementation Schedule

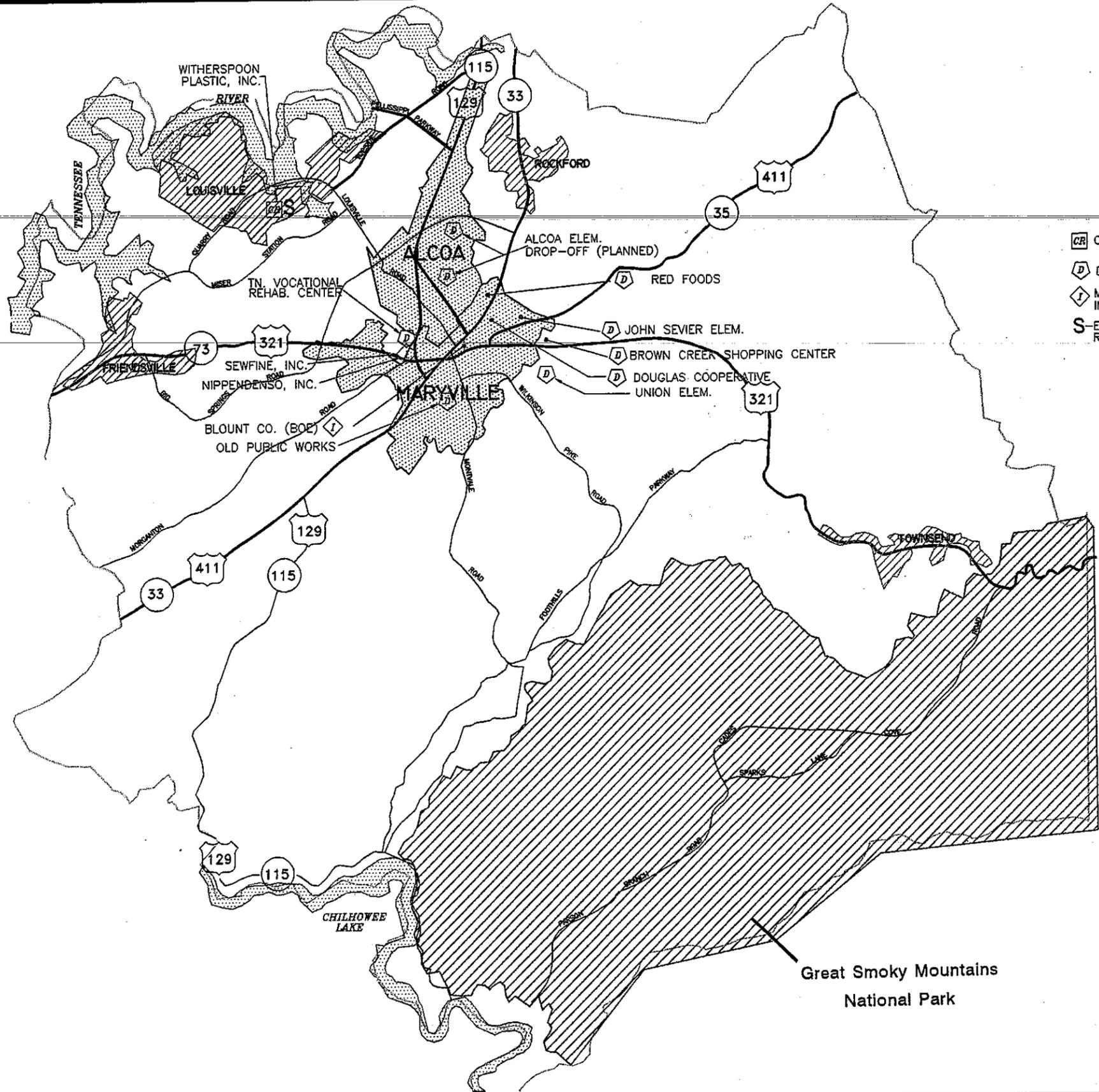
Action	Year (July 1 - June 30)										Responsible Party	Funding Source		
	94	95	96	97	98	99	00	01	02	03			\$\$	
9. Implement variable rate structures for solid waste collection, as needed.			•									Maryville/Alcoa	SW Collection Fee	\$100K
10. Develop recycling programs in local schools.												Beautiful Blount/Schools	Donated Equipment	--
11. Match waste generating businesses with recyclers.	•											Authority/Beautiful Blount/Cities	Tipping Fee	part of SW Manager salary
12. Coordinate a solid waste exchange for local industries and businesses, including a database.	•											Authority/Beautiful Blount	Tipping Fee	part of SW Manager salary
13. Evaluate opportunities for office paper recycling program.	•											Authority/Cities	Tipping Fee	part of SW Manager salary
14. Provide technical assistance to businesses that generate wood pallets.	•											Beautiful Blount/Authority	Tipping Fee	part of SW Manager salary
15. Provide public education to residents and businesses.												Beautiful Blount	General Funds/Donations Tipping Fee	\$25K
16. Continue to use the processing capability of the Vocational Rehabilitation Center.												Cities/County	--	--

TABLE 6-2 (CONTINUED)

**Recycling and Source Reduction
Ten-Year Implementation Schedule**

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
17. Join and participate in the Recycling Marketing Cooperative of East Tennessee.	•												--	--
18. Pursue additional markets for recovered materials as additional programs are developed.		•											--	--
19. Establish and maintain communication with the Office of Cooperative Marketing.	•												--	--
<ul style="list-style-type: none"> • Action = summary of the activity to be undertaken. • Year = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994). • Shading = individual or multiple years in which the activity will take place. • Dots = start-up of the activity. • Responsible Party = who will carry out the activity. • \$\$ = estimated cost of the activity. • Funding Source = how the activity will be funded. • -- = no additional costs anticipated 														

NOT TO SCALE



LEGEND

- CR** COMMERCIAL RECYCLERS
- D** DROP-OFF RECYCLING CENTER
- I** MAJOR IN-HOUSE/COMMERCIAL/INDUSTRIAL RECYCLING PROGRAM
- S** END USE INDUSTRY THAT PURCHASES RECOVERED MATERIALS DIRECTLY

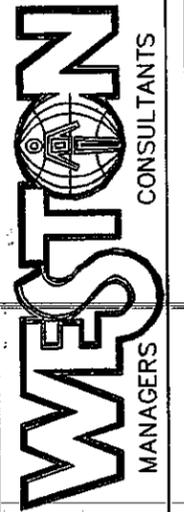


FIGURE 6-1
 EXISTING AND PLANNED RECYCLING ACTIVITIES
 BLOUNT COUNTY
 BLOUNT COUNTY, TENNESSEE

CHAPTER 7

COMPOSTING, SOLID WASTE PROCESSING, AND INCINERATION CAPACITY²

7.1 Regional Needs and Goals

As an additional means of reaching and maintaining a 25 percent reduction in the amount of solid waste landfilled, the Blount County Region will need to divert yard waste, a considerable portion of the material currently being disposed. By 1995, the Region plans that yard waste diversion will account for a 15 to 18 percent reduction in total waste.

The Blount County Region has the following key needs as it develops a strategy for reducing the amount of yard waste disposed:

- Consider composting and mulching programs to decrease, and potentially eliminate, yard waste entering disposal facilities.
- Consider the potential for burning yard waste as a waste reduction measure in the context of Tennessee requirements.

This Chapter describes the Region's planned approach to the handling of yard waste, through composting and/or burning.

7.2 Yard Waste Handling Strategy

7.2.1 Planned Yard Waste Handling Programs

Initial yard waste reduction efforts will target three primary areas prior to composting or burning: source reduction by residents; sorting of bulky items and yard waste by haulers; and sorting of bulky items and yard waste at the landfill.

Beautiful Blount will develop public education materials to encourage back-yard composting by residents. In addition, specific emphasis will be placed on discouraging residents from setting out grass clippings for collection.

Collectors of solid waste will be required to separate bulky items (white goods, furniture, etc.) from yard waste upon delivery to the landfill. A specific area will be set aside at the landfill for bulky items that can be recycled.

In the short term yard waste delivered to the landfill will be mulched and/or burned.

²The Region has no plans to develop solid waste composting, processing, or incineration facilities. Thus, the focus of this Chapter will be specifically on yard waste composting and other yard waste handling activities.

Assuming some or all of the yard waste is mulched, the Cities and the Authority will determine the most feasible use for the end-product. These will include public uses, such as landscaping material for parks and roadsides, and use by private citizens that want the materials.

The Cities, County, and the Authority will consider the feasibility of developing a central yard waste composting facility to serve the entire County. If it is determined that the need for such a facility exists, the Cities and the Authority will begin the siting, design, and permitting process. At the same time, they will determine the most feasible methods for constructing and operating the facility, as well as the parties responsible for each (i.e. public or private).

Until a decision is reached regarding the need for a central composting facility, the Cities of Alcoa and Maryville will continue to deliver leaves to current storage sites, while identifying potential markets for the materials. If a central composting site is developed, the Cities will deliver leaves to that site.

Once each of these reduction alternatives has been developed, the landfill operator will no longer accept yard waste for disposal at the landfill.

7.2.2 Planned Facilities

The Region has no plans to develop a **solid waste** composting facility, although it will consider the development of a central **yard waste** composting facility to serve the entire County. If such a facility is developed, the Authority will complete all siting and permitting requirements within the boundaries of state regulations.

During the first year of plan implementation, the Authority will determine the best site for the composting facility. Although a site for facility has not yet been selected, it is possible that it will be located at the existing landfill.

It is planned that the composting operation will be designed to handle all of the yard waste (uncontaminated) that currently enters the landfill, or about 15,000 tons per year. It is not planned that the facility will include any high level composting technologies. It will likely consist of necessary mulching equipment, windrows, and turning equipment, with the facility adhering to a "low tech" and cost effective approach for the Region's needs. Equipment needed for a low or medium level composting operation would include a front-end loader and windrow-turning equipment.

The facility will be set up to allow for delivery of separated yard waste by the Cities, private collectors, and individual residents.

7.2.3 Ten Year Staffing Needs

If the Region decides to mulch yard waste without a full composting facility, no additional staff will be needed.

However, if a composting facility is developed, two or three additional individuals may be hired to operate it. For a low level composting system, staff may include a site manager, a heavy equipment operator, and a laborer. If the composting operation is located at the landfill, the landfill director will be able to assume the responsibility as site manager.

7.2.4 Ten Year Budget

For planning purposes, it is assumed that the construction of a composting facility would cost approximately \$450,000. If the facility is developed, funding would begin by FY 1994 or FY 1995, with an annualized capital cost of approximately \$67,050 per year over ten years (at an interest rate of 8 percent). Operating costs would equal approximately \$62,550 per year, beginning in FY 1994 or FY 1995.

Without the addition of a composting facility, future composting costs would include the funding for the chipping of yard waste or the development of a burning area.

7.2.5 Funding Sources

Funding for the development and operation of a composting facility would come from landfill tipping fees. It has been estimated by the City of Alcoa that the construction of a composting facility would require an additional \$0.62 per ton to the tipping fee (assuming approximately 9,000 tons per month of waste disposed). In addition, operating costs would equal approximately \$0.58 per ton. The application of these costs could begin in FY 1994 or FY 1995.

If the composting facility is developed, it is anticipated that a very small portion of the revenues will come from the sale of compost.

7.2.6 Integration with Other Elements of the Solid Waste System

The Cities, County, and Authority will ensure that any centralized mulching and/or composting operation is in line with all other activities of the solid waste management system.

In the Cities, collection crews will keep yard waste separated and deliver it to the designated composting site. The landfill operator will begin to require that yard waste is separated from the rest of the municipal solid waste stream. After the composting/mulching facility is established, no hauler will be able to dispose of yard waste in the landfill, although they will be able to deliver separated yard waste to the composting facility.



Beautiful Blount will provide necessary public education to further the effectiveness of the yard waste reduction program. This will include encouraging citizens in all areas of the County to engage in backyard composting whenever feasible.

7.3 Implementation Schedule

Table 7-1 shows the ten-year implementation schedule for yard waste handling programs in the Blount County Region.

TABLE 7-1
Composting and Incineration
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)							Responsible Party	Funding Source	
	94	95	96	97	98	99	00			01
1. Develop and distribute public education materials to encourage back-yard composting.	•							Beautiful Blount	\$2K	Tipping Fee
2. Require all collectors of solid waste to separate bulky items from yard waste.	•							Landfill Operator	--	--
3. Set aside a sorting area at the landfill for bulky items and yard waste for use by collectors.	•							Landfill Operator	--	--
4. Set aside a drop-off area at the landfill for bulky items and yard waste for use by residents.	•							Landfill Operator	--	--
5. Begin yard waste mulching operation for short-term yard waste management.	•							Landfill Operator/Private Firm	\$40K/yr	Tipping Fee
6. Develop markets for mulched and/or composted material.	•							Authority/Landfill Operator	--	--
7. Determine feasibility of burning yard waste.	•							Landfill Operator	--	--
8. Determine need and feasibility of a central yard waste composting facility.	•							Authority/Cities/County	--	--

TABLE 7-1 (CONTINUED)

**Composting and Incineration
Ten-Year Implementation Schedule**

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source
	94	95	96	97	98	99	00	01	02	03			
9. Design, permit, and construct yard waste composting facility.		•										\$450K	Tipping Fee
10. Operate yard waste composting facility.			•									\$65K/year + 4.5%	Tipping Fee
11. Ban yard waste and bulky items from landfill disposal.			•									--	--
12. Continue leaf storage operations until central facility is developed.												Included in collection	General funds

- *Action* = summary of the activity to be undertaken.
- *Year* = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994).
- Shading = individual or multiple years in which the activity will take place.
- Dots = start-up of the activity.
- *Responsible Party* = who will carry out the activity.
- \$\$ = estimated cost of the activity.
- *Funding Source* = how the activity will be funded.
- -- = no additional cost anticipated

DISPOSAL CAPACITY

8.1 Regional Needs and Goals

In terms of available landfill capacity, the Blount County landfill has sufficient airspace to allow for continued disposal for over ten years. However, federal and state regulations will require the Region to upgrade the existing facility. Therefore, the primary needs for the Region relative to disposal are:

- Ensure that the landfill capacity is sufficient for solid waste disposal for at least ten years.
- Ensure compliance with State and Federal regulations.
- Consider methods to discourage illegal dumping.
- Determine owner/operator options for the existing and future disposal facilities.
- Continue to educate residents about the changing costs of waste disposal.
- Ensure that the landfill's data collection system can reflect the types, sources, and quantities of waste being disposed.
- Ensure that all landfill upgrades are conducted in a cost-effective and efficient manner.

This Chapter analyzes the supply and demand of landfill capacity and describes the specific strategy for ensuring the Region's ability to dispose of solid waste over the next ten years.

8.2 Regulatory Environment

Prior to a discussion of the supply and demand of solid waste for disposal in Blount County, it is important to outline the existing regulatory environment, since this is a particularly crucial factor in determining the ability of a local government to construct or operate a landfill.

The federal government issued the Resource Conservation and Recovery Act (RCRA) Subtitle D Final Rule for Municipal Solid Waste Landfills on October 9, 1991. These regulations address a number of landfill design and operating issues, and they have been a primary driver behind the development of the State of Tennessee's landfill

regulations over the last two years. The Subtitle D rules have the following key components for municipal solid waste landfills: location restrictions, operating criteria, design criteria, groundwater monitoring, closure and post-closure care, and financial assurance.

Depending on the date of initial closure of a particular landfill, some or all of the Subtitle D criteria are required. For the Blount County landfill, it should be noted that the entire Subtitle D Rule applies, since the facility will continue to operate after October 9, 1993, the effective date of the Final Rule.

The following sections briefly describe the requirements of Subtitle D and subsequent rules of Tennessee.

8.2.1 Location Restrictions

Existing landfills must meet certain tests pertaining to their locations, including their proximity to airports, floodplains, unstable areas, and karst terrain. Any facility that fails to meet these tests must close by October 9, 1996. New facilities (operating after October 9, 1993), must meet siting criteria concerning airports, floodplains, wetlands, fault areas, seismic impact zones, and unstable areas.

8.2.2 Operating Criteria

Landfills must meet specific operating requirements to comply with the Subtitle D Final Rule. These include the following:

- Random inspections of incoming loads to ensure that no hazardous waste is entering the facility.
- Quarterly monitoring of explosive gases and any corrective actions if specified levels are exceeded.
- Air quality compliance (according to the Clean Air Act), that includes the banning of open burning of solid waste, except infrequent burning of agricultural wastes or land clearing debris. (Although the Rule currently allows for some open burning, there is the potential that the federal government will ban open burning of any solid waste).
- Surface water control that protects landfills from run-on from the 25-year storm and requires containment of water from the 24-hour, 25-year storm.
- Detailed record keeping that includes information on location restrictions, inspection records, gas monitoring, groundwater monitoring, closure and post-closure care, and financial assurance.

8.2.3 Design Criteria

The Subtitle D Final Rule gives landfill owners and operators two basic design options:

- A composite liner system consisting of compacted clay and a flexible membrane liner.
- A site-specific design approved by the State.

The composite liner must contain the following components:

- A leachate collection system designed to maintain less than 30 cm of leachate over the liner.
- A 30-mil flexible membrane liner (60-mil if high density polyethylene) installed in direct and uniform contact with the compacted soil.
- A minimum of two feet of compacted soil with hydraulic conductivity of no more than 1×10^{-7} cm/sec.

8.2.4 Groundwater Monitoring

Groundwater monitoring for the landfill is to be conducted throughout the active life and post-closure care period. The schedule for compliance with the monitoring requirements range from one to three years from the effective date (October 9, 1993), depending on the facility's distance from a drinking water intake. The major elements of the groundwater provisions include:

- Sampling and analysis of groundwater monitoring wells for 62 chemical constituents.
- Expansion of chemical constituents lists where concentrations are significantly higher than background water quality levels.
- Assessment of remediation strategy where chemical constituents are detected at significantly high levels.
- Implementation of remediation measures to protect human health and the environment.

8.2.5 Closure and Post-Closure Care

The Subtitle D Final Rule establishes final cover systems, post-closure maintenance, and post-closure monitoring of municipal solid waste landfills. Closure activities are to begin within 30 days after the last receipt of waste and to be completed within 150 days thereafter. In addition, the owner/operator must conduct post-closure care and monitoring to ensure continued compliance with state and federal regulations.

8.2.6 Financial Assurance

Owners and operators of municipal solid waste landfills are required to establish financial assurance programs for closure, post-closure, and corrective actions. Detailed written cost estimates must be prepared and adjusted annually for inflation.

8.2.7 Regulatory Effect on the Blount County Region

The Blount County Landfill will continue to operate after the October 9, 1993 deadline. The primary result of this activity will be that all federal and state requirements will need to be met. The current rules do not allow lateral expansion of existing landfills without composite liners after October 9, 1993. However, state regulations allow for vertical filling within the permitted plan until October 9, 1996, assuming that the establishment of a footprint is done within current operating procedures.

In the case of Blount County, the operator expects that the landfill will be able to operate in the current footprint until 1996. However, it is planned that the facility will be upgraded to meet federal and state guidelines, beginning in mid-1994. By mid-1995, it is expected that the facility will begin accepting waste in accordance with the Subtitle D Final Rule.

8.3 Supply and Demand of Waste Disposal

In Chapter 2 of this Plan, it was noted that the Blount County Landfill has an expected life of approximately 17 years. Based on information developed for the District Needs Assessment, it was also determined that the total annual capacity for the facility is 109,200 tons per year, and there are no plans to expand or cut this annual capacity in the future. However, the landfill operator plans to upgrade the facility to meet federal and state guidelines (without any expected expansion of capacity).

As part of the planning process, it is necessary to identify the supply and demand of solid waste for disposal. Based on this analysis, the Region will be in a position to determine the expected capacity and lifespan of the existing facility.

Table 8-1 shows the planned supply and demand of waste for disposal between 1994 and 2003, shown in accordance with state planning guidelines. The demand of waste is

based on waste projections from Chapter 3. Table 8-1 compares the annual surplus/shortfall of the facility based on the high population growth scenario described in Chapters 1 and 3, both with and without reduction (Table 3-2B and Table 3-2C respectively).

Although Table 8-1 depicts the possibility of a surplus or shortfall in capacity in any given year, there is in reality a need to examine capacity further than what is shown above. In either of the two cases depicted in Table 8-1, **the likely result will not necessarily be a surplus or shortfall in any specific year, but rather a change in the total expected life of the facility.** For example, assuming that the facility has approximately 17 years of life remaining at 109,200 tons per year, the total number of tons that could be accepted at the facility would be 1,856,400 tons. **The lack of reduction activities would reduce the total life of the landfill, rather than create a shortfall in each specific year. Effective reduction activities will extend the total life of the landfill rather than create a surplus in each specific year.** In other words, the capacity of the facility in any specific year will usually meet or exceed the amount of waste being disposed.

The reason for this is that the landfill operation allows for flexibility in the amount of waste received per year, unlike other types of processing facilities that cannot receive more than the designed capacity on a daily (or yearly) basis. Since landfill capacity is more a function of cubic yardage than total tons, the above table, while useful, may not depict the full scope of disposal capacity.

TABLE 8-1

Supply and Demand for Waste Disposal (Tons/year)

Fiscal Year	SUPPLY	DEMAND (No Reduction)	Surplus (+)/ Shortfall (-)	DEMAND (25% Goal)	Surplus (+)/ Shortfall (-)
1994	109,200	115,053	-5,853	98,080	+11,120
1995	109,200	116,638	-7,438	93,709	+15,491
1996	109,200	118,246	-9,046	89,207	+19,993
1997	109,200	119,877	-10,677	90,455	+18,745
1998	109,200	121,533	-12,333	91,723	+17,477
1999	109,200	123,213	-14,013	93,009	+16,191
2000	109,200	124,917	-15,717	94,316	+14,884
2001	109,200	126,234	-17,034	95,334	+13,866
2002	109,200	127,567	-18,367	96,365	+12,835
2003	109,200	128,916	-19,716	97,410	+11,790

For this reason, Table 8-2 is included to describe the remaining capacity of the landfill in cubic yards. For the purposes of this analysis, it is assumed that landfill operations allow for a compaction ratio of 1,000 pounds of waste per cubic yard. It is also estimated that there are 3,474,212 cubic yards remaining for disposal as of Fiscal Year 1994. This is based on a design fill volume for the upgraded areas developed in 1991. The bottom-line total in Table 8-2 is a cumulative amount expected to remain at the end of the ten year planning period with or without planned waste reduction activities.

TABLE 8-2

Remaining Capacity of the Blount County Landfill

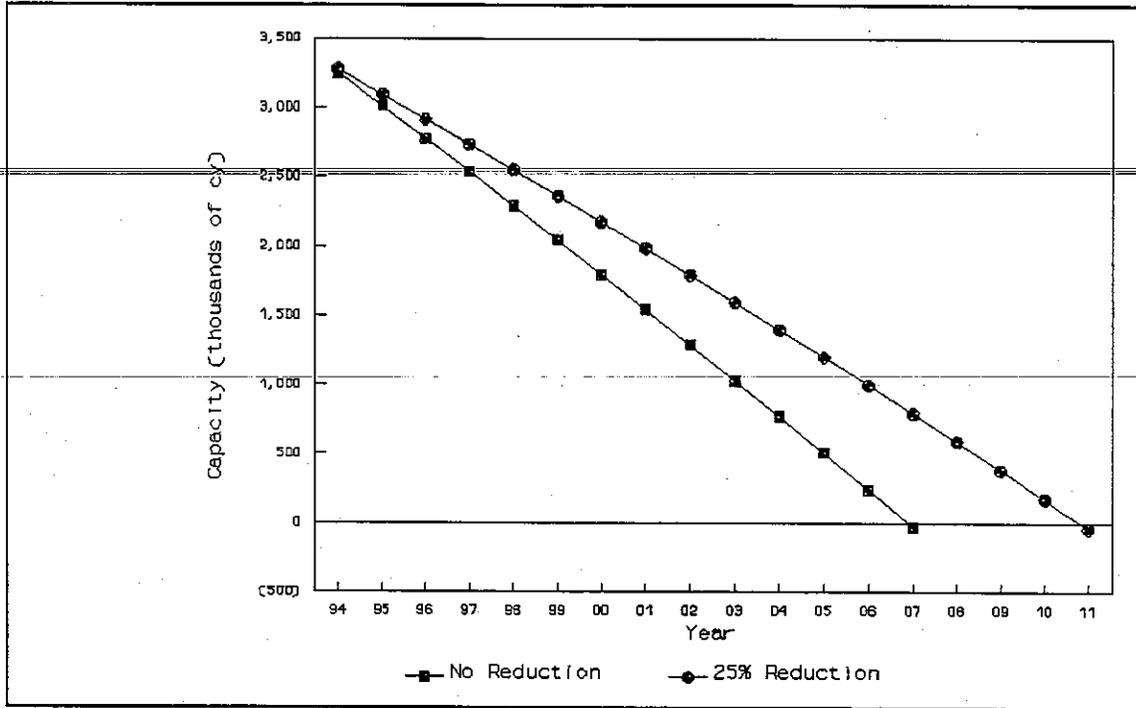
Fiscal Year	Disposed - No Red. (tons)	Disposed (cy)	Remaining Capacity (cy)	Disposed - 25% Red. (tons)	Disposed (cy)	Remaining Capacity (cy)
1994	115,053	230,105	3,244,607	98,080	196,159	3,278,553
1995	116,638	233,275	3,011,331	93,709	187,417	3,091,135
1996	118,246	236,492	2,774,839	89,207	178,413	2,912,722
1997	119,877	239,755	2,535,085	90,455	180,911	2,731,812
1998	121,533	243,066	2,292,019	91,723	183,446	2,548,366
1999	123,213	246,425	2,045,594	93,009	186,019	2,362,347
2000	124,917	249,834	1,795,760	94,316	188,631	2,173,716
2001	126,234	252,467	1,543,293	95,334	190,667	1,983,048
2002	127,567	255,133	1,288,159	96,365	192,730	1,790,319
2003	128,916	257,832	1,030,328	97,410	194,819	1,595,500
	Capacity Remaining		1,030,328	Capacity Remaining		1,595,500

Based on this analysis, it is expected that the landfill has sufficient capacity for approximately 14-17 years, meaning that the Blount County Region will be able to dispose of waste in the existing landfill beyond the current 10-year planning period.

Figure 8-1 shows the projected lifespan of the landfill, based on the two scenarios above.

Figure 8-1

Remaining Landfill Capacity



8.4 Solid Waste Disposal Strategy

8.4.1 Upgrade of Existing Facility

Although the current landfill has sufficient capacity for more than ten years, it will be necessary for the County and Cities to upgrade the facility to meet federal and state regulatory requirements (see Section 8.2).

During the second year of plan implementation (mid-1994), the Class I area of the Blount County Landfill will be permitted and upgraded to conform to federal Subtitle D and state standards.

The facility has gone through the permitting process to designate an area as Class IV for disposal of yard waste and some construction debris. The City of Alcoa will work with the state in the short-term to determine the allowable period in which the Class IV area may continue to operate under the existing permit.

While the Class I area is being developed to meet state and federal standards, the landfill will continue to operate in its existing footprint. This will allow for disposal under current procedures until 1996, although it is anticipated that the initial area in compliance with Subtitle D will begin accepting waste in mid-1995 (beginning of FY 1996).

When the existing Class IV permit expires, the landfill operator will apply for a new permit that allows for Class IV disposal in a portion of the existing landfill.

The current administrative arrangement for the facility will continue, at least in the short-term. ~~The County and the Cities of Alcoa and Maryville will continue to jointly own the facility, and operation will be carried out through the contract with the City of Alcoa.~~

Throughout this plan, responsibilities are often assigned to the "landfill operator." Although this entity is currently the City of Alcoa, the three governments will examine the feasibility of transferring ownership to the facility to the Blount County Solid Waste Authority. Chapter 13 of this Plan includes a discussion of the possibilities for exercising flow control in the Region by the Authority to protect existing disposal capacity.

8.4.2 Future Facilities

Blount County does not plan to site or permit any additional disposal facilities within the ten-year planning period. However, there are plans to adjust the tipping fee to account for future purchase and development of disposal facilities beyond the ten-year planning period (see Section 8.4.5).

8.4.3 Ten Year Staffing Needs

In the short term, the City of Alcoa has identified two key staffing needs for disposal, both of which will be filled during the first year of plan implementation. The City will hire a Solid Waste Manager to oversee landfill operations, conduct some public education and reduction efforts, and serve as staff to the Solid Waste Authority. After the first year of employment, it is anticipated that the Manager will devote half of his/her time to managing the Solid Waste Authority. The City of Alcoa will also hire a landfill technician to oversee environmental compliance and safety programs. No additional staffing needs are anticipated for the operation of the landfill at this time.

8.4.4 Ten Year Budget

Table 8-3 shows a projected ten-year budget of activities to be funded through the tipping fee. For planning purposes, the budget includes all direct landfill operational and capital costs, indirect costs, and other costs. The composting facility costs have been included, because funding would come from the tipping fee.

Table 8-3
Blount County Disposal Costs (1)
FY 1993 - FY 2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
DIRECT COSTS											
Wages	250,813	325,311	339,950	355,248	371,234	387,939	405,397	423,639	442,703	462,625	483,443
Benefits	143,096	185,599	193,951	202,679	211,800	221,331	231,290	241,699	252,575	263,941	275,818
Equipment Operations	158,273	165,396	172,838	180,616	188,744	197,237	206,113	215,388	225,080	235,209	245,793
Annualized Capital Costs	139,866	214,866	226,866	226,866	226,866	226,866	226,866	226,866	226,866	226,866	226,866
Contracts	64,658	93,692	97,909	102,315	106,919	111,730	116,758	122,012	127,502	133,240	139,236
Insurance	17,339	18,119	18,935	19,787	20,677	21,608	22,580	23,596	24,658	25,768	26,927
General Operating Costs	150,131	190,326	198,891	207,841	217,194	226,968	237,181	247,855	259,008	270,663	282,843
Other Direct Costs	34,852	--	--	--	--	--	--	--	--	--	--
Total Direct Costs	959,028	1,193,310	1,249,340	1,295,351	1,343,433	1,393,679	1,446,185	1,501,054	1,558,393	1,618,312	1,680,927
INDIRECT COSTS											
Administration	--	25,000	26,125	27,301	28,529	29,813	31,155	32,557	34,022	35,553	37,152
Education (2)	--	25,000	26,125	27,301	28,529	29,813	31,155	32,557	34,022	35,553	37,152
Total Indirect Costs	--	50,000	52,250	54,602	57,058	59,626	62,310	65,114	68,044	71,106	74,304
OTHER COSTS											
Landfill Expansion	--	85,140	85,140	170,280	170,280	170,280	170,280	170,280	170,280	170,280	170,280
Land Acquisition	--	70,080	70,080	70,080	70,080	70,080	70,080	70,080	70,080	70,080	70,080
Closure/Post-Closure	--	242,360	727,080	969,440	969,440	969,440	969,440	969,440	969,440	969,440	969,440
Total Other Costs	--	397,580	882,300	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800
COMPOSTING FACILITY COSTS (2)											
Operating Costs	--	65,365	68,306	71,380	74,592	77,949	81,456	85,122	88,952	92,955	97,138
Capital Costs	--	67,050	67,050	67,050	67,050	67,050	67,050	67,050	67,050	67,050	67,050
Total Composting Costs	--	132,415	135,356	138,430	141,642	144,999	148,506	152,172	156,002	160,005	164,188
TOTAL ANNUAL COSTS	959,028	1,748,305	2,293,121	2,670,882	2,723,404	2,778,290	2,835,646	2,895,383	2,958,217	3,023,669	3,092,067

(1) Projections assume an average of 4.5 percent inflation each year.

(2) Costs not directly associated with the landfill are included because it is expected that they will derive funding from the tipping fee.

8.4.5 Funding Sources

It is anticipated that all disposal activities will be funded through the landfill tipping fee. As was noted in Chapter 2, the Blount County landfill currently bases its tipping fee on the quantity of waste delivered. For loads 500 pounds or less, the fee is \$3.50. For loads over 500 pounds, the fee is currently \$13.50 per ton.

During early 1993, the Authority and the City of Alcoa investigated the current tipping fee with respect to future solid waste management needs. As a result of a work session in March 1993, the City found that the fee would likely need to be raised to approximately \$24 per ton by 1996 in order to cover the true costs of disposal consistent with new regulations.

Table 8-4 summarizes the activities and costs that will result in increased tipping fees. Costs for each activity were estimated by the City of Alcoa, and a per ton cost was assigned to each, based on an average of 9,000 tons per month.

8.5 Implementation Schedule

Table 8-5 shows the ten-year implementation schedule for solid waste disposal in the Blount County Region.

8.6 System Map

Figure 8-2 shows the location of the Blount County Landfill and private on-site industrial landfills (not affected by this solid waste management plan) in the Region.



TABLE 8-4

Calculation of Planned Tipping Fee
Blount County Landfill, FY 1994-FY 1996

Item	Annual Cost	Cost per ton
Current Tipping Fee		\$8.85
FY 1994		
Hiring of solid waste manager	\$58,000	\$0.54
Hiring of lead worker	\$37,000	\$0.34
Landfill heavy equipment	\$75,000	\$0.69
Additional landfill road	\$12,000	\$0.11
Slope stabilization and erosion	\$20,000	\$0.19
Public education	\$25,000	\$0.23
Additional consulting services	\$25,000	\$0.23
Landfill expansion (phased in	\$170,280	\$0.79
Composting operation	\$129,610	\$1.20
Adjustment from FY 1993	(\$10,000)	(\$0.09)
Additional property purchase	\$43,000	\$0.40
MINIMUM FY 1994 TIPPING FEE		\$13.48
FY 1995		
Landfill expansion (phased in	(see above)	\$0.79
Light equipment replacement	\$12,000	\$0.11
Accrual for future landfill site	\$70,080	\$0.65
Accrual for closure/post-closure	\$969,440	\$2.25
MINIMUM FY 1995 TIPPING FEE		\$17.28
FY 1996		
Accrual for closure/post-closure	(see above)	\$6.73
MINIMUM FY 1996 TIPPING FEE		\$24.01

TABLE 8-5
Solid Waste Disposal
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Continue to operate Class I area of landfill within current guidelines.													\$800K/yr.	Tipping Fee
2. Hire a Solid Waste Manager.	•												\$58K/yr.	Tipping Fee
3. Hire a Landfill Technician for the landfill.	•												\$37K/yr.	Tipping Fee
4. Apply for permit to upgrade landfill	•												\$25K	Tipping Fee
5. Construct upgrade of Class I area of the landfill, according to Subtitle D standards.		•											\$2.1 mil	Tipping Fee
6. Dispose of waste in upgraded areas.			•										\$1.2 mil (1996) + 4.5%/yr.	Tipping Fee
7. Continue with current administrative arrangement for ownership and operation of the landfill (see actions below).													--	--
8. Consider transferring ownership of the landfill to the Authority.		•											--	--

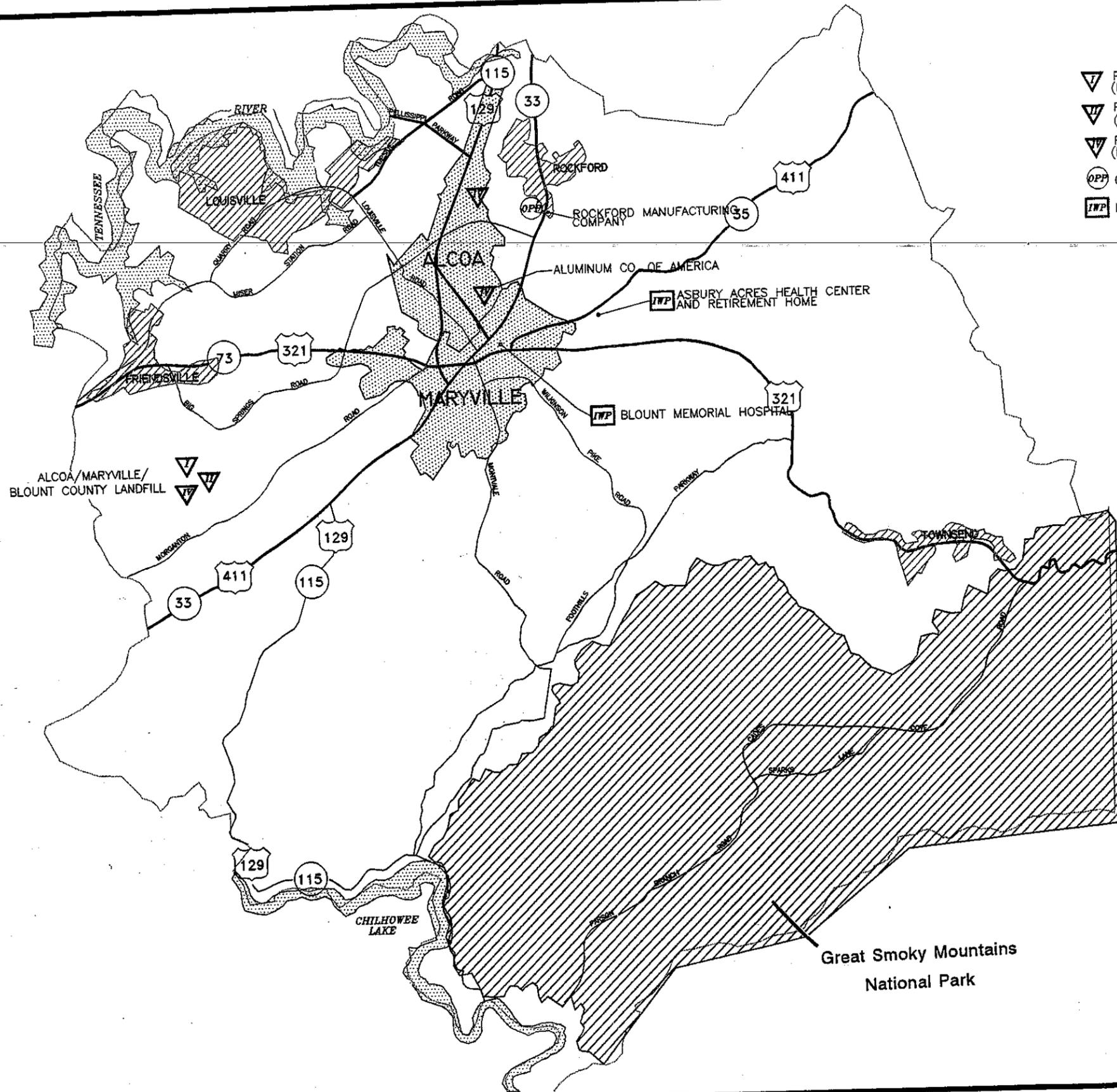
TABLE 8-5 (CONTINUED)

**Solid Waste Disposal
Ten-Year Implementation Schedule**

Action	Year (July 1 - June 30)										Responsible Party	Funding Source	
	94	95	96	97	98	99	00	01	02	03			
9. Apply for new Class IV permit		•									Alcoa	\$10K	Tipping Fee
<ul style="list-style-type: none"> • <i>Action</i> = summary of the activity to be undertaken. • <i>Year</i> = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994). • <i>Shading</i> = individual or multiple years in which the activity will take place. • <i>Dots</i> = start-up of the activity. • <i>Responsible Party</i> = who will carry out the activity. • <i>\$\$</i> = estimated cost of the activity. • <i>Funding Source</i> = how the activity will be funded. • <i>--</i> = no additional costs anticipated. 													

DWG. NO. 09023004 FILE NO. 09023-001

NOT TO SCALE



LEGEND

- PERMITTED CLASS I LANDFILL (MUNICIPAL SOLID WASTE)
- PERMITTED CLASS II LANDFILL (INDUSTRIAL)
- PERMITTED CLASS IV LANDFILL (DEMOLITION)
- OTHER PERMITTED PROCESSING CENTER
- INFECTIOUS WASTE PROCESSING FACILITY

WESTON
MANAGERS
CONSULTANTS

FIGURE 8-2
DISPOSAL FACILITIES
BLOUNT COUNTY
BLOUNT COUNTY, TENNESSEE

CHAPTER 9

PUBLIC INFORMATION AND EDUCATION

9.1 Regional Needs and Goals

Through the efforts of Beautiful Blount, a solid foundation for public education on solid waste issues has been established. In the future, these efforts will need to be expanded, as each local government works with the Authority to ensure that public education addresses all aspects of an integrated solid waste management system. The primary needs for public education include:

- Ensure that public education programs inform and involve residents on the full range of solid waste management issues.
- Ensure that public education programs inform residents and businesses on proper disposal methods.
- Ensure that public education programs effectively support all waste reduction programs.
- Conduct public education efforts in a manner that effectively utilizes the existing resources of the news media, including newspapers, radio, and television.
- Ensure that all educational materials (e.g. pamphlets, newsletters, etc.) developed clearly and comprehensively address solid waste management issues.
- Ensure that public education efforts provide information to residents and businesses on the true costs of managing a comprehensive solid waste management system.
- Continue to involve citizens in specific waste reduction activities.
- Use state and area-specific resources, as appropriate, to develop solid waste education programs for local schools.

This chapter describes the Region's strategy for providing public information and education on solid waste management issues.

9.2 Public Information and Education Strategy

9.2.1 Planned Programs

Beautiful Blount will continue to provide public information and education on waste reduction, littering, and beautification. Through the planning process, the Authority has identified a need for additional public education activities that address the full range of solid waste management issues.

The Blount County Solid Waste Authority and the Cities will also contract with Beautiful Blount for the provision of specific public information services. For example, the Cities will work with Beautiful Blount to develop necessary literature for solid waste collection services, in addition to information on waste reduction through methods such as the drop-off programs. Plans are in place for the development of fliers about solid waste management to be sent to each solid waste collection customer in the City of Maryville.

During the first or second year of plan implementation, Beautiful Blount will work with the City of Alcoa to develop a "Learning Center" at the landfill. The Center is envisioned as an open, covered area large enough to hold small to moderately sized groups. The Center will have visual displays about the structure of the landfill and will be located in an area that allows for direct viewing of landfill operations. Tours will be given on a fairly regular basis to school and community groups. Currently, it is planned that the Solid Waste Manager will have direct involvement in the operation of the Center. The purpose of the Learning Center will be to give members of the community, especially students, a better understanding of solid waste management options and an appreciation of the need for source reduction, recycling, and composting as viable ways of reducing the amount of waste landfilled.

Beautiful Blount will also continue to develop special displays at the various drop-off sites. There is currently a display on backyard composting at one of the drop-off sites in Maryville, and it is planned that additional displays on solid waste management issues will be developed for other drop-off sites in the Region.

Beautiful Blount will continue to work with schools to encourage waste reduction and recycling activities. In addition to conducting workshops that educate local teachers about the Keep America Beautiful curricula (e.g. *Waste In Place* and *Waste: A Hidden Resource*), Beautiful Blount will also work with schools to set up recyclables collection programs. Currently, ten of the 26 schools in the County have aluminum can recycling programs, and several schools periodically collect newspaper. However, it is planned that active recovery programs will exist in all of the 26 schools to collect materials such as aluminum cans, newspapers, cardboard, white paper and textbooks.

Beautiful Blount will also continue to work with local businesses and industries to encourage source reduction, recycling and reuse. Workshops such as the office waste



reduction seminar held in early 1993 will be developed. These workshops will provide focus on waste reduction opportunities and the value of existing resources in the work place. Current plans include a follow-up to the waste reduction seminar within the next year to update businesses on the success of individual programs. Following this, Beautiful Blount plans to hold additional follow-up sessions on a fairly regular basis (possibly every six months) to chart progress and allow opportunities for expansion.

In addition to the planned programs described above, the following activities will continue in the future:

- Adopt-A-Mile (will be expanded to include a larger base of business and community groups).
- Clean-up days (includes Little River Clean-Up, River Rescue, Neighborhood Clean Sweep, etc. Beautiful Blount will work with volunteer groups to increase participation in each of these programs).
- Litter Hotline (will continue to identify illegal dumping sites in the County).
- Local recycling market identification.
- Surveys of individuals using drop-off centers and other recycling opportunities.
- Development of audio-visual materials on recycling and source reduction.
- Telephone directory recycling.
- Christmas tree recycling.
- Traveling Trash Can (school education activity).
- Participation in special events (such as the Dogwood Arts Festival).
- Utilization of existing educational resources (developed by KAB or other organizations).

9.2.2 Public Education Materials

For each of the programs described above, Beautiful Blount will determine the most appropriate materials to effectively convey the desired message. Since each situation demands a different approach to public education, it is difficult to accurately determine the specific methods that will be used over a long period of time. However, the planning process allows for the development of some general directions that the public education effort will take.

Beautiful Blount will make a conscious effort to examine alternative education materials. Although the use of brochures and flyers will be useful in some circumstances, Beautiful Blount feels that other materials, such as litter bags, can more effectively convey a message and give citizens a useful item. In situations where Beautiful Blount will sponsor giveaways, the use of these litter bags and items such as recycled paper notepads will be more prevalent than the use of paper products such as brochures. If, on the other hand, there is a need to distribute materials through the mail (e.g. along with a utility bill), fliers and brochures will be used.

Beautiful Blount will also help develop billboards for specific events and utilize the news media as much as possible.

9.2.3 Target Audiences

As the public education program is expanded, it is planned that appropriate information on reduction, recycling, and littering will reach every citizen in the Region. In the short-term, the following primary groups will be targeted as part of the solid waste management system:

- Students in the 26 schools in the County.
- Over 7,000 households in the City of Maryville that receive regular garbage pickup.
- Over 2,700 households in the City of Alcoa that receive regular garbage pickup.
- Approximately 26,000 people in the Cities of Maryville and Alcoa that have convenient access to the drop-off sites.
- The additional population of the County that will need access to drop-off sites and possibly convenience centers.
- Businesses and industries that can reduce, reuse, or recycle their waste streams.

Given the large scope of educational needs in the Region, it is anticipated that Beautiful Blount will require at least one additional staff member to effectively meet these needs.

9.2.4 Staffing Needs

Current staffing levels for Beautiful Blount are not sufficient to effectively carry out the needed activities. For this reason, the Cities of Alcoa and Maryville and the County will



contribute to the hiring of at least one additional staff person for Beautiful Blount to fill the need for expanded public education. Funding will possibly come from the landfill tipping fee, which is already expected to provide partial funding to the public education program.

9.2.5 Ten Year Budget

Table 9-1 shows the expected 10-year budget for educational activities to be carried out by Beautiful Blount. During FY 1993, total expenses for the organization equalled \$23,000, which included operating, staffing, and program costs. Revenue sources included a portion of the litter grant (\$12,000), the tipping fee (\$10,000), and private donations (\$1,000).

For the 10-year budget, it has been assumed that basic operating expenses will remain similar to costs in FY 1993, with a 4.5% inflation rate applied to each year. Staff expenses will increase according to the need for additional personnel. For individual programs, it is difficult to predict with any accuracy the amount to be spent on individual action items for a ten year period. For this reason, it has been assumed that program expenses will remain similar to historical amounts, with inflation factors taken into account and additional revenue expected from the tipping fee applied to both staff and program costs.

9.2.6 Funding Sources

Funding for the public education program will continue to come from several different sources. It is anticipated that the costs of additional staff will be shared between the County and the Cities of Alcoa and Maryville (indirectly through contracts with Beautiful Blount). Other sources of revenue will include the landfill tipping fee, private donations, and state grant money (currently only includes litter grant).

9.3 Implementation Schedule

Table 9-2 shows the ten-year implementation schedule for public information and education in the Blount County Region.

Table 9-1
Public Information and Education Costs (1)
FY 1993 - FY 2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Operating Costs (2)	7,400	7,733	8,081	8,445	8,825	9,222	9,637	10,070	10,524	10,997	11,492
Staff Expenses (3)	8,600	24,662	25,772	26,932	28,143	29,410	30,733	32,116	33,562	35,072	36,650
Program Expenses (4)	7,000	7,315	7,644	7,988	8,348	8,723	9,116	9,526	9,955	10,403	10,871
Total	23,000	39,710	41,497	43,364	45,316	47,355	49,486	51,713	54,040	56,472	59,013

- (1) 10-year budget includes projections based on FY 1993 budget for Beautiful Blount.
- (2) Assumes future costs will be similar to current costs, with a 4.5% inflation rate applied.
- (3) Assumes an additional staff person will be added to Beautiful Blount in year 1 (1994).
- (4) Assumes similar program costs in future years, with increases based on a 4.5% inflation rate.

TABLE 9-2
Public Information and Education
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Continue to provide general information on waste reduction, littering, and beautification.												Beautiful Blount	\$38K + 4.5%/yr.	Tipping Fee/Volunteers
2. Contract with Beautiful Blount for education on specific solid waste management issues.												Authority/Beautiful Blount	Depends on program	Tipping Fee/General Funds
3. Contribute funds toward the hiring of an additional staff person to work with Beautiful Blount.												Alcoa/Maryville/County	Included in budget	Tipping Fee
4. Work with the landfill operator to establish public education center at the landfill.												Beautiful Blount	Included in budget	Tipping Fee
5. Operate public education center at the landfill.												Landfill Operator	Included in budget	Tipping Fee
6. Target audiences for solid waste education programs.												Beautiful Blount	--	--
7. Continue to develop school system programs to educate students on solid waste management.												Beautiful Blount	Included in budget	--

TABLE 9-2 (CONTINUED)

**Public Information and Education
Ten-Year Implementation Schedule**

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source
	94	95	96	97	98	99	00	01	02	03			
8. Help coordinate development of recycling programs in local schools.	•											Included in budget	Tipping Fee/Donations
9. Provide technical assistance to schools for recycling programs, as needed.		•										--	--
10. Develop programs to inform citizens about drop-off programs and efficient waste management.												--	--
11. Develop materials for specific education programs, as needed.												Included in budget	Tipping Fee/Donations
12. Continue to develop programs to assist businesses and industries with recycling/reuse/reduction.												--	--

- **Action** = summary of the activity to be undertaken.
- **Year** = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994).
- **Shading** = individual or multiple years in which the activity will take place.
- **Dots** = start-up of the activity.
- **Responsible Party** = who will carry out the activity.
- **\$\$** = estimated cost of the activity.
- **Funding Source** = how the activity will be funded.
- **--** = no additional costs anticipated.



CHAPTER 10

PROBLEM WASTES

The Solid Waste Management Act and subsequent Tennessee Planning Guidelines address the need for each region to develop a plan for handling specific kinds of "problem wastes," which include household hazardous waste (HHW), tires, oil, lead acid batteries, and litter. This Chapter describes the Blount County Region's strategy for handling problem wastes in the ten year planning period.

10.1 Household Hazardous Waste (HHW)

10.1.1 Existing Program and Needs

There are currently no publicly operated or sponsored household hazardous waste management programs in the Blount County Region. This presents an immediate need for the collection, storage, packaging, and disposal of these materials.

According to the Tennessee Department of Environment and Conservation's Division of Solid Waste Assistance, an estimated 252.18 tons of household hazardous waste are generated in Blount County each year. The largest portion of this waste is probably used paint, motor oil, and flammable materials. Other wastes include aerosols, poisons, lawn and garden chemicals, alkaline batteries, automobile batteries, antifreeze, acids, alkalis, and other materials.

10.1.2 Regulatory Environment

As part of the Solid Waste Management Act of 1991 (T.C.A § 68-211-829), the Tennessee Department of Environment and Conservation (TDEC) is required to establish a program for the mobile collection and disposal of household hazardous waste. In addition, state law requires that each county have at least one collection center for automotive fluids, tires, and lead-acid batteries by January 1, 1995. The Division of Solid Waste Assistance (DSWA) of TDEC has the responsibility of assisting counties with the creation of collection centers that will also accept household hazardous wastes.

According to the DSWA and state law, each county in Tennessee must arrange for household hazardous waste Collection Events and a service site for such events. For rural areas of the state, household hazardous waste collection will be handled through mobile collection units. For metropolitan areas, household hazardous waste will be handled through permanent collection sites. One of the four permanent household hazardous waste collection site will be located in Knoxville.

After the waste is initially collected through the permanent sites or through the mobile collection units, a collection contractor, hired by the state, will transport and dispose of the household hazardous waste in accordance with all applicable regulations.

According to the Division of Solid Waste Assistance, the intent of the household hazardous waste collection program will be to properly handle several categories of waste, including household cleaners, automotive products, home maintenance and improvement products, lawn and garden products, and other miscellaneous household wastes. According to the division, it is not the intent of the program to accept empty containers that formerly contained HHW.

10.1.3 Strategy for Household Hazardous Waste Program

Although the responsibility for transport to ultimate disposal will be handled by the state-hired private contractor, the responsibility for arranging initial collection falls to each County. The Blount County Solid Waste Authority will arrange for designated household hazardous waste collection days and take advantage of the mobile collection units as provided by the state. The Authority will maintain communication with the DSWA to establish the procedure for household hazardous waste management needs.

During the first year of plan implementation, the Authority will develop a work plan for the Blount County Region's first household hazardous waste collection day. The Authority will coordinate with the state to determine the optimal date for the event to ensure that waste disposal through the state-contracted hauler is handled in a timely and effective manner.

The Authority will select a centralized site for the event that allows for minimum driving time for residents within the County. The selected site will require convenient access by residents and good lighting conditions, as well as sufficient open space for a collection working area, equipment, vehicles delivering waste, and segregated temporary storage of respective materials.

The Authority will work with Beautiful Blount to develop public education materials for the collection day. Public education surrounding the event will include informational pamphlets or similar items, public notices, public service announcements, and press releases.

An additional part of the collection day work plan will be the identification of staffing and volunteer needs for the event. The Authority will rely on volunteer efforts as much as possible, while some coordinating staff will be drawn from Beautiful Blount, the County, and the Cities of Alcoa and Maryville.

10.2 Waste Tires

10.2.1 Existing Tire Storage/Processing Programs and Needs

Under state law (T.C.A. § 68-211-866), no solid waste disposal facility will accept whole waste tires, effective January 1, 1995. In addition, each County will provide directly, by contract, or through a solid waste authority at least one site to receive and temporarily store waste tires.

The Blount County Landfill operator currently stores whole tires in a special area for ultimate shredding by the state's mobile tire shredder at the landfill. The shredder operates in Blount County approximately twice per year. Since the program began, (April 1993) the shredder has processed approximately 5,000 tires. It is expected that the shredder will process approximately 10,000 tires per year at the Blount County Landfill. Currently, the tires are being disposed in the Class IV area of landfill after processing.

There are currently no known large illegal tire dump sites in the Blount County Region.

The primary need for tire management is the continuation of the shredding program or the identification of recycling/reuse markets for these materials.

10.2.2 Strategy for Tire Management

The landfill operator will continue to utilize the state's mobile tire shredder and, for at least the short term, dispose of the materials in the landfill. However, the landfill operator and the Authority will work with private businesses and the state's Office of Cooperative Marketing to investigate opportunities for recycling or reusing waste tires.

If a market can be found for either whole or shredded tires, the landfill operator will pursue this opportunity, rather than continuing to place these materials in the landfill.

As part of the ongoing effort to identify and clean up illegal dump sites, the Authority and Beautiful Blount will identify and inventory illegal tire piles in the Region. Currently, there are no large dump sites in the County, and it is expected that the smaller sites containing tires can be cleaned up, with tires transported to the storage area for shredding.

10.3 Waste Oil

10.3.1 Existing Waste Oil Programs and Needs

Under state law (T.C.A. § 68-211-866), no solid waste disposal facility will accept used automotive fluids, effective January 1, 1995. In addition, each County will provide

directly, by contract, or through a solid waste authority at least one site to receive and temporarily store these fluids.

Historically, waste oil collection and recycling were handled primarily through private businesses (e.g. automobile repair shops), industries, and in-house governmental agencies in Blount County. In May of 1993, the City of Maryville opened a waste oil and used battery recycling site at the City's Operations Center. Since the program began, approximately 1,120 gallons of oil have been collected. Assuming similar recovery rates in the future, it is expected that the Center will recover between 7,000 and 8,000 gallons of oil each year.

The used oil recycling center is intended primarily for use by residents of the City, or "do-it-yourselfers" as defined in the Tennessee Used Oil Collection Act of 1993. The site includes a 500-gallon tank to hold the waste oil, which residents can pour directly into a receptacle that leads to the tank.

A primary need will be for the Authority to arrange for a used oil collection site to serve the entire County, either in conjunction with Maryville's site or separately.

10.3.2 Strategy for Waste Oil Management

The City of Maryville will continue to provide a waste oil drop-off site for residents. The Authority will assess the need for an additional site or work with the City of Maryville to encourage residents throughout the County to use the existing site.

If the Authority determines that convenience centers are needed for the unincorporated areas and that additional oil collection sites are necessary, it will provide an area at each center for the collection of used oil. If convenience centers are not necessary, the County will provide at least one site for residents in the unincorporated areas, in accordance with state requirements, in the event that an additional site is needed. The County will contract with a private company for the provision of this service, if necessary.

10.4 Lead Acid Batteries

10.4.1 Existing Waste Battery Programs and Needs

Under state law (T.C.A. § 68-211-866), no solid waste disposal facility will accept lead-acid batteries, effective January 1, 1995. In addition, each County will provide directly, by contract, or through a solid waste authority at least one site to receive and temporarily store lead-acid batteries.

The City of Maryville established a collection site for lead acid batteries in May of 1993. Citizens of the City can bring the batteries to the site at the City's Operations Center.

Since the program began, approximately 40 batteries have been collected. Assuming similar recovery rates, it is expected that between 400 and 500 batteries will be recovered each year.

There are currently no additional public programs in the Region that collect waste batteries.

10.4.2 Strategy for Waste Battery Management

The City of Maryville will continue its waste battery recycling program. The Authority will assess the need for an additional site or work with the City of Maryville to encourage residents throughout the County to use the existing site. If the County determines that convenience centers and a battery collection site are needed for the unincorporated areas, it will provide an area at each center for the collection of waste lead acid batteries. If convenience centers are not necessary, the County will provide at least one site for residents in the unincorporated areas, in accordance with state requirements. This site will likely be the same as the used oil site identified above. The County may contract with a private company for the provision of this service.

10.5 Litter

10.5.1 Existing Litter Control Programs and Needs

Through the efforts of Beautiful Blount and the Blount County Sheriff's Department, several litter control and clean-up efforts have been put in place. Specific programs sponsored by Beautiful Blount include Adopt-A-Mile, Little River Clean-Up, River Rescue, and Neighborhood Clean Sweep. In addition, Beautiful Blount has an active role in the designation of state Litter Grant monies to ensure that litter clean-up programs are handled effectively.

The identification of the 175 illegal dumping sites and subsequent clean-up effort have established a foundation for future litter control and abatement programs.

The primary needs for handling litter in the Blount County Region include: 1) additional public education efforts to decrease the amount of littering; 2) expansion of a volunteer base to conduct clean-ups in established programs; and 3) continued coordination of litter abatement and clean-up by Beautiful Blount.

10.5.2 Strategy for Litter Control

Beautiful Blount will continue to sponsor programs that address the problem of litter and illegal dumping. In addition to existing efforts, Beautiful Blount will work with the Sheriff's Department to develop a core group of community service workers (in addition to the litter crews) to handle some of the more extensive illegal dump sites.



Beautiful Blount will continue to identify illegal dumping and litter control problems, and develop appropriate public education materials. Beautiful Blount will also coordinate efforts with local community and school groups to expand the volunteer base for clean-up activities.

10.6 Implementation Schedule

Table 10-1 shows the ten-year implementation schedule for problem waste handling in the Blount County Region.

TABLE 10-1

Problem Wastes
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source		
	94	95	96	97	98	99	00	01	02	03					
1. Coordinate household hazardous waste collection with state's mobile units.	•												Authority	--	--
2. Develop a work plan arranging for a specific household hazardous waste collection day.	•												Authority	\$2K	Tipping Fee
3. Hold household hazardous waste collection event.	•												Authority	\$20K	Tipping fee
4. Continue to store tires at landfill and utilize state's tire shredder.													Landfill Operator	--	--
5. Investigate uses for used tires other than disposal.	•												Authority/ Landfill Operator	--	--
6. Coordinate alternative use for tire management.		•											Authority/ Landfill Operator	\$/tire	Tipping fee
7. Continue waste oil/battery collection drop-off in Maryville.													Maryville	\$	General Fund
8. Work with City of Maryville to determine feasibility of using existing oil/battery collection site for all residents in County.	•												Authority	\$	Tipping Fee

TABLE 10-1 (CONTINUED)

Problem Wastes
Ten-Year Implementation Schedule

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
8. Develop at least one additional site for used oil and batteries, if necessary.		•											\$5K	Tipping Fee
9. Contract with private companies for collection of used oil and batteries.		•											--	--
9. Continue and expand litter control and clean-up efforts.													\$45K/year	State Grant/Tipping Fee

- **Action** = summary of the activity to be undertaken.
- **Year** = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994).
- **Shading** = individual or multiple years in which the activity will take place.
- **Dots** = start-up of the activity.
- **Responsible Party** = who will carry out the activity.
- **\$\$** = estimated cost of the activity.
- **Funding Source** = how the activity will be funded.
- **--** = no additional costs anticipated.

IMPLEMENTATION SCHEDULE, STAFFING AND FUNDING

11.1 Primary Needs for the Solid Waste Management System

This Chapter summarizes the needs, goals, and strategies identified in Chapters 5 through 10 of the plan. The following recapitulates the primary needs identified for the Blount County Region.

Waste Collection and Transportation

- Ensure that solid waste collection is accessible and convenient for all residents and businesses.
- Ensure that fees paid for collection services are representative of the actual cost of providing the service and provide residents and businesses incentive to participate in waste reduction programs.

Source Reduction and Recycling Systems

- Expand residential recycling programs to maximize waste reduction, including programs such as drop-off and curbside collection.
- Consider commercial and industrial opportunities for waste reduction.
- Develop solid waste collection fee structures that encourage source reduction.
- Examine marketing opportunities to maximize use of secondary materials.
- Develop public education programs that encourage waste reduction by residential and commercial/industrial generators.
- Consider public and private sector capabilities for processing and marketing of recyclable materials.
- Consider the development of a waste exchange program.

Waste Processing, Composting, and Incineration Systems

- Consider composting and mulching programs to decrease, and potentially eliminate, yard waste entering disposal facilities.
- Consider the potential for burning yard waste as a waste reduction measure.

Disposal Facilities

- Ensure that the landfill capacity is sufficient for solid waste disposal for at least ten years.
- Ensure compliance with State and Federal regulations.
- Consider methods of discouraging illegal dumping.
- Determine owner/operator options for the existing and future disposal facilities.
- Continue to educate residents about the changing costs of waste disposal.
- Ensure that the landfill's data collection system can reflect the types, sources, and quantities of waste being disposed.
- Ensure that all landfill upgrades are conducted in a cost-effective and efficient manner.

Public Information and Education Programs

- Ensure that public education programs inform and involve residents on the full range of solid waste management issues.
- Ensure that public education programs inform residents and businesses on proper disposal methods.
- Ensure that public education programs effectively support all waste reduction programs.
- Conduct public education efforts in a manner that effectively utilizes the existing resources of the news media, including newspapers, radio, and television.

- Ensure that all educational materials (e.g. pamphlets, newsletters, etc.) developed clearly and comprehensively address solid waste management issues.
- Ensure that public education efforts provide information to residents and businesses on the true costs of managing a comprehensive solid waste management system.
- Continue to involve citizens in specific waste reduction activities.
- Use state and area-specific resources, as appropriate, to develop solid waste education programs for local schools.

Costs and Revenues of Solid Waste Management Programs

- Ensure that intergovernmental cooperation occurs to allow for shared responsibility for costs of some waste management programs (e.g. disposal, waste reduction, etc.).
- Ensure that each governmental entity's budgeting system allows for the accurate documentation of the full costs of solid waste management programs.
- Ensure that all financing systems in the cities and the County are sufficient to implement and expand solid waste management programs.
- Base user fees on the real costs of solid waste management, which could include charging variable (volume-based) rates for collection and disposal of solid waste and could promote source reduction and recycling.

11.2 System Definition

11.2.1 Components of the Integrated Waste Management System

It is the intent of the Blount County Region to ensure that the solid waste management system is sufficiently comprehensive and integrated to allow for maximum efficiency and effectiveness. Table 11-1 summarizes the key elements of solid waste management and the responsible party(s) of each, both in the short-term and long-term.



TABLE 11-1

Key Elements of the Solid Waste Management System

Element	Short-Term Responsibility	Long-Term Responsibility
Residential Solid Waste Collection	Maryville Alcoa Private Haulers	Maryville Alcoa Private Haulers County/Private Hauler (1)
Commercial Solid Waste Collection	Maryville Alcoa Private Haulers	Maryville Alcoa Private Haulers Authority
Industrial Solid Waste Collection	Maryville Alcoa Private Haulers Individual Industries	Private Haulers Individual Industries
Residential Recyclables Collection (Drop-off)	Maryville Alcoa County/Authority	Maryville Alcoa County/Authority
Residential Recyclables Collection (Curbside) (2)	Maryville Alcoa	Maryville Alcoa Authority
Commercial/Industrial Recyclables Collection	Individual Industries Authority Beautiful Blount	Individual Industries Authority
Yard Waste Collection	Maryville Alcoa Private Haulers	Maryville Alcoa Authority
Yard Waste Composting	Landfill Operator	Authority (3) Landfill Operator
Solid Waste Disposal	Alcoa	Alcoa or Authority (4)
Problem Waste Collection	Authority County Maryville Alcoa	Authority County Maryville Alcoa
Public Education	Beautiful Blount Authority	Beautiful Blount Authority
(1) If convenience centers are developed. (2) If curbside recycling option is chosen. (3) If centralized composting site is developed. (4) If operation of landfill is transferred to Authority.		

11.2.2 Planned Waste Flow Diagram

Figure 11-1 shows the expected flow of waste generated in the region by the December 31, 1995 target date for 25 percent waste reduction.

11.2.3 Composite Map

Figure 11-2 show the existing and planned solid waste management system on the composite map.

11.2.4 Plan Implementation

Implementation of this Solid Waste Management Plan will be the responsibility of the Blount County Solid Waste Authority, although individual plan actions may be carried out by a number of parties, including the Authority, the Cities, the County, Beautiful Blount, and private entities. The Authority will maintain a working knowledge of plan implementation items and schedules. Based on this effort, the Authority will work with individual jurisdictions to ensure that individual plan elements are carried out or that appropriate amendments are made to the plan when appropriate.

11.3 Implementation of Planned Solid Waste Management System

The following briefly describes the primary actions to be taken during the next ten years for each solid waste management element. A more detailed description of each action is included in Chapters 5 through 10.

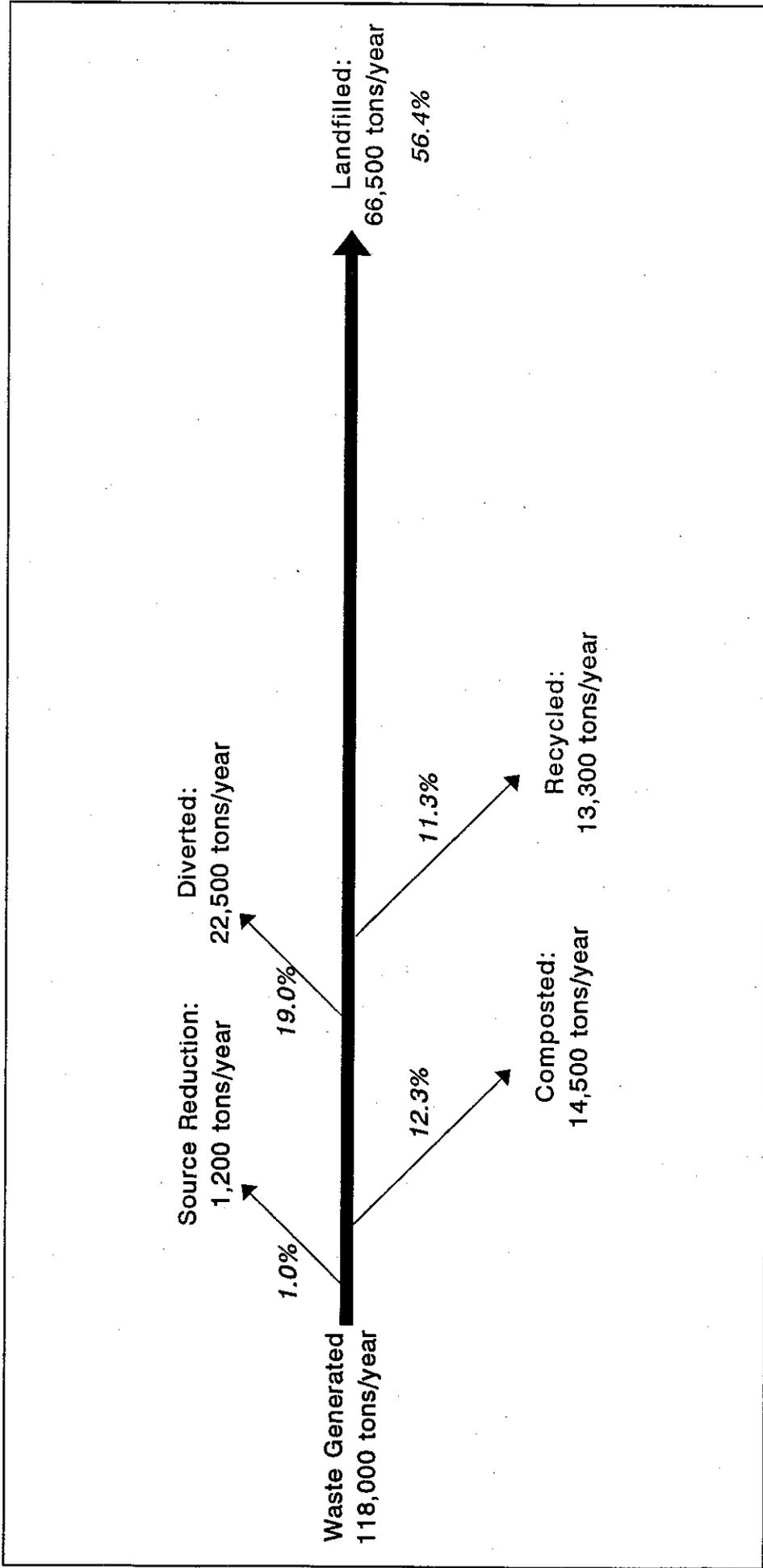
11.3.1 Solid Waste Collection

The City of Alcoa will continue to provide solid waste collection services to residents in the City limits throughout the ten year planning period. During the first year of plan implementation, the City's Advisory Committee will meet and develop recommendations about operational changes that could be made to Alcoa's collection system. By the second year of plan implementation, the City will begin to make any necessary alterations to the collection system. No additional staff is expected to continue solid waste collection.

The City of Maryville will continue to provide solid waste collection services to residents in the City limits throughout the ten year planning period. During the first and second years of plan implementation, the City will investigate opportunities for implementing collection fees and variable rate structures. By the second year of the Plan, Maryville will begin to charge collection fees, if that option is chosen. No additional staff is expected to continue solid waste collection.

Figure 11-1

Projected Waste Flow, 1995





APPENDIX A
LEGAL DOCUMENTATION FOR THE REGION

RESOLUTION 1453

JOINT RESOLUTION OF CITY OF ALCOA, CITY OF
MARYVILLE AND BLOUNT COUNTY DESIGNATING THE
BLOUNT COUNTY SOLID WASTE PLAN - STUDY
COMMITTEE AS THE BLOUNT COUNTY SOLID WASTE
AUTHORITY.

THAT WHEREAS, there is presently in existence the Blount County Solid Waste Plan - Study Committee which was created by the Blount County Legislative Body by Resolution adopted April 1991, which Committee was established to study, plan and make recommendations relative to solid waste disposal; and

WHEREAS, the Legislature of the State of Tennessee has passed legislation entitled the Solid Waste Management Act of 1991; and

WHEREAS, said legislation provides for the creation of a Solid Waste Authority; and

WHEREAS, said legislation further provides "any county that has a Solid Waste Authority upon the effective date of this Act may designate such Authority as the board to administer the activities of the region if such county chooses to be a region unto itself"; and

WHEREAS, it would be in the best interest of City of Alcoa, City of Maryville and Blount County to be able to exercise this option should City of Alcoa, City of Maryville and Blount County choose to do so in the future.

NOW THEREFORE, BE IT RESOLVED by the City of Alcoa, City of Maryville and Blount County as follows:

1. The Blount County Solid Waste Plan - Study Committee is hereby designated as the Blount County Solid Waste Authority.

2. The powers, duties, obligations, responsibilities and future make-up of the Blount County Solid Waste Authority be hereby reserved to City of Alcoa, City of Maryville and Blount County until such time as a future study and planning can be completed by the three governmental entities.

3. At such time when the three governmental entities have all had an opportunity to study the Solid Waste Management Act of 1991, the three governmental entities shall by Concurrent Resolution or other contractual documentation, empower the Blount County Solid Waste Authority with such powers, duties, obligations and responsibilities as shall be agreed upon by all of the three governmental entities.

Adopted this 27th day of June, 1991.

CITY OF ALCOA

BY: Donald R. McCall

Mayor

ATTEST:

Raf E. Richman
City Recorder

APPROVED AS TO FORM:

[Signature]
City Attorney

CITY OF MARYVILLE

BY: Stanley D. Shields
Mayor

ATTEST:

Mark Johnson
City Recorder

APPROVED AS TO FORM:

C. D. Campbell
City Attorney

BLOUNT COUNTY

BY: Charles J. Powell
County Executive

ATTEST:

Ken Crawford
County Clerk

APPROVED AS TO FORM:

Kith Thayer
County Attorney

**A JOINT RESOLUTION ESTABLISHING A MUNICIPAL
SOLID WASTE REGION FOR AND BY
BLOUNT COUNTY, THE CITY OF MARYVILLE AND THE CITY OF ALCOA**

WHEREAS, the adoption of the Subtitle D landfill regulations by the United States Environmental Protection Agency and companion regulations adopted by the Tennessee Solid Waste Control Board will impact on both the cost and method of disposal of municipal solid waste; and

WHEREAS, at the urging and support of a coalition of local government, environmental, commercial, and industrial leaders, the 97th Tennessee General Assembly enacted T.C.A. 68-211-801 et. seq., titled "Solid Waste Management Act of 1991"; and

WHEREAS, with the view that better planning for solid waste will help control the additional costs that will be imposed by the new landfill regulations, help protect the environment, and promote the education of the citizens of Tennessee in the areas of solid waste management, including the need for and desirability of reduction and minimization of solid waste, local governments in Tennessee supported and worked for the passage of this Act; and

WHEREAS, one of the stated public policies of this Act is to institute and maintain a comprehensive, integrated, statewide program for solid waste management; and

WHEREAS, as per T.C.A. 68-211-813, the nine development districts in the State of Tennessee have each completed a district needs assessment which provide inventories of the solid waste systems in Tennessee; and

WHEREAS, the Board of Commissioners of Blount County, the Council of the City of Maryville, and the Board of Commissioners of the City of Alcoa have given consideration to the needs assessment prepared by the East Tennessee Development District; and

WHEREAS, T.C.A. 68-211-813 requires that counties in the State of Tennessee form municipal solid waste regions no later than December 12, 1992; and

WHEREAS, the State of Tennessee will provide grant monies of varying amounts to assist these regions in developing their municipal solid waste region plans; and

WHEREAS, the primary and prevailing purpose of the municipal solid waste regions is the preparation of municipal solid waste regional plans, which among other requirements must identify how each region will reduce its solid waste disposal per capita by twenty-five percent (25%) by December 31, 1995 and assure capacity of disposal needs for a ten (10) year period; and

WHEREAS, the development of a municipal solid waste regional plan that results in the most cost efficient management of

municipal solid waste is in the best interest of the citizens of Blount County, the City of Maryville, and the City of Alcoa.

WHEREAS, the Board of Commissioners of Blount County, the Council of the City of Maryville, and the Board of Commissioners of the City of Alcoa designated the Blount County Solid Waste Authority on June 27, 1991 to administer solid waste activities within the County; and

WHEREAS, the powers, duties, obligations, and responsibilities of the Blount County Solid Waste Authority have been reserved to Blount County, the City of Maryville, and the City of Alcoa; and

WHEREAS, the membership of the Blount County Solid Waste Authority is composed of three (3) representatives of Blount County, two (2) representatives from the City of Alcoa, two (2) representatives of the City of Maryville, two (2) citizens, one (1) transporter representative, and one (1) industrial representative; and

WHEREAS, the membership of the Blount County Solid Waste Authority is consistent with the requirements of T.C.A. 68-211-813 (b) (1).

NOW, THEREFORE BE IT RESOLVED, by the Board of Commissioners of Blount County, the Council of the City of Maryville, and the Board of Commissioners of the City of Alcoa, acting pursuant to T.C.A. 68-211-813 et. seq., that there is hereby established a Municipal Solid Waste Region for and by Blount County, the City of Maryville, and the City of Alcoa, Tennessee; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. 68-211-801 et. seq., that the Board of Commissioners of Blount County, the Council of the City of Maryville, and the Board of Commissioners of the City of Alcoa find and determine that Blount County shall be and shall constitute a single county municipal solid waste region, as stated in the needs assessment prepared by the East Tennessee Development District; and

BE IT FURTHER RESOLVED, that Blount County, the City of Maryville, and the City of Alcoa, designate the Blount County Solid Waste Authority to administer the activities of the region; and

BE IT FURTHER RESOLVED, that pursuant to T.C.A. 68-211-813 (b) (1), a Municipal Solid Waste Region Board is hereby established to administer the activities of this region; and

BE IT FURTHER RESOLVED that the Blount County Solid Waste Authority shall serve as the Municipal Solid Waste Region Board and be composed of eleven (11) members; and

BE IT FURTHER RESOLVED, that the Authority shall establish initial terms for the membership of the Board in which four (4) members shall have a two (2) year term, four (4) members shall have



In anticipation of potentially charging residents for solid waste collection, both the City of Alcoa and the City of Maryville will consider showing each resident the cost of collection as a public education measure. The Cities will designate an area of existing utility bills to show each resident how much solid waste collection costs per household.

The Cities of Alcoa and Maryville will evaluate the feasibility of consolidating solid waste collection service. On a regular basis, the two Cities will consider the cost-effectiveness and public acceptability of joining their (operations for) solid waste collection.

Private haulers will continue to operate in the unincorporated areas of Blount County. The County and the Authority will work with private haulers to ensure higher levels of collection service during the first year of plan implementation. The Authority will encourage residents to participate in door-to-door collection service with private haulers. The County will strengthen enforcement of illegal dumping laws to complement the extensive education effort on this issue.

The Authority will conduct a second survey to make a comparison of the number of households served by private haulers. The County will continue to monitor the level of service provided by its network of private haulers. If subsequent surveys reveal flaws in the system, the County will consider options including licensing of haulers and implementation of specific hauler standards, franchising of service areas, and the operation of staffed convenience centers.

11.3.2 Recycling and Source Reduction

The Cities of Alcoa and Maryville will continue to operate drop-off sites for the collection of recyclable materials. The Authority will assist the County in siting additional drop-off centers to ensure that recyclables collection is accessible to all citizens and businesses in the Region. Some or all of the recycling centers may be expanded to handle some commercial recyclables, such as office paper and corrugated cardboard. If contamination at current drop-off sites becomes a problem, the Cities and the County will consider staffing the centers.

The Cities of Maryville and Alcoa will consider the feasibility of curbside collection of recyclable materials. By the second year of plan implementation, both Cities will be in a position to determine the need for curbside collection, based on costs, citizen opinion, and diversion potential beyond that of the drop-off centers. If the need for additional reduction is identified, the Cities may implement curbside recyclables collection.

As a means of encouraging source reduction, the Cities of Alcoa and Maryville will consider billing for residential solid waste collection through variable rate structures within the first two years of plan implementation. The charge for solid waste collection in the two Cities may be billed on residential utility bills. If a fee is implemented, the fee would initially be a flat rate, covering the full cost of residential collection, calculated by dividing

the respective total cost of collection by the number of households served. If the cities determine the need for variable rates, they will change the rate structure accordingly.

The Authority, the Cities and the County will undertake several direct and indirect activities designed to increase recycling, reuse, and source reduction by businesses and industries. The Authority will work with Beautiful Blount to encourage and coordinate a solid waste exchange for local industries and businesses. The Authority, in conjunction with the Cities of Alcoa and Maryville, will evaluate the opportunities for an office paper recycling program with local businesses. The evaluation will include an analysis of the costs, potential recovery, and the possible administrative arrangements (public or private) for carrying out such a program. Based on this analysis, a specific office paper recovery program will be put in place. Beautiful Blount will continue activities encouraging office waste reduction including efforts such as the seminar held earlier this year. Such seminars and similar activities will take place in the future. The Authority and Beautiful Blount will provide technical assistance to businesses that generate wood pallets as part of their waste stream. The Authority, working in tandem with the efforts of Beautiful Blount, will provide public education and technical assistance to businesses and industries on reduction, reuse, and recycling

The Cities will continue to utilize the processing capability of the Tennessee Vocational Training Center. As additional residential and commercial/industrial recyclables are collected through the programs listed above, it may become necessary for the Authority, Cities, County, and Beautiful Blount to investigate additional markets for processing. The Training Center will continue to be the first choice for processing. However, as new programs are developed, the Center may not have the processing capability, either because of larger quantities or material types.

In addition, the Authority will continue to participate in the development of the Recycling Marketing Cooperative of East Tennessee. After the Cooperative is formally created, the Blount County Region will actively participate. The Authority (and possibly the East Tennessee Cooperative) will maintain contact with the Office of Cooperative Marketing for Recyclables in the Tennessee Department of Environment and Conservation.

11.3.3 Yard Waste Composting

Beautiful Blount will develop public education materials to encourage back-yard composting by residents.

Collectors of solid waste will be required to separate bulky items (white goods, furniture, etc.) from yard waste upon delivery to the landfill. A specific area will be set aside at the landfill for bulky items that can be temporarily stored and recycled.

In the short term yard waste delivered to the landfill will be mulched and/or burned.



Assuming some or all of the yard waste is mulched, the Authority in cooperation with the landfill operator will determine the most feasible use for the end-product.

The Cities, County, and the Authority will consider the feasibility of developing a central yard waste composting facility to serve the entire County. If it is determined that the need for such a facility exists, they will begin the siting, design, and permitting process.

Until a decision is reached regarding the need for a central composting facility, the Cities of Alcoa and Maryville will continue to deliver leaves to current storage sites, while identifying potential markets for the materials. If a central composting site is developed, the Cities will deliver leaves to that site.

Once each of these reduction alternatives has been developed, the landfill operator will no longer accept yard waste from disposal at the landfill.

11.3.4 Solid Waste Disposal

During the second year of plan implementation (mid-1994), the Class I area of the Blount County Landfill will be permitted and upgraded to conform to federal Subtitle D and state standards. The City of Alcoa will work with the state in the short-term to determine the allowable period in which the Class IV area may continue to operate under the existing permit.

While the Class I area is being developed to meet state and federal standards, the landfill will continue to operate in its existing footprint. This will allow for disposal under current procedures until 1996, although it is anticipated that the initial area in compliance with Subtitle D will begin accepting waste in mid-1995 (beginning of FY 1996).

When the existing Class IV permit expires, the landfill operator will apply for a new permit that allows for Class IV disposal in a portion of the existing landfill.

The current administrative arrangement for the facility will continue, at least in the short-term. The County and the Cities of Alcoa and Maryville will continue to jointly own the facility, and operation will be carried out through the contract with the City of Alcoa.

Throughout this plan, responsibilities are often assigned to the "landfill operator." Although this entity is currently the City of Alcoa, the three governments will examine the feasibility of transferring ownership to the facility to the Blount County Solid Waste Authority.

11.3.5 Public Information and Education

Beautiful Blount will continue to provide public information and education on waste reduction, littering, and beautification.

The Cities of Alcoa and Maryville and the County, will contribute to the hiring of at least one additional staff person for Beautiful Blount to fill the need for expanded public education. The Blount County Solid Waste Authority and the Cities will also contract with Beautiful Blount for the provision of specific public information services.

During the first or second year of plan implementation, Beautiful Blount will work with the City of Alcoa to develop a "Learning Center" at the landfill. Beautiful Blount will also continue to develop special displays at the various drop-off sites. Beautiful Blount will continue to work with schools to encourage waste reduction and recycling activities. Beautiful Blount will also continue to work with local businesses and industries to encourage source reduction, recycling and reuse. Workshops such as the office waste reduction seminar held in early 1993 will be developed.

11.3.6 Problem Wastes

The Blount County Solid Waste Authority will arrange for designated household hazardous waste collection days and take advantage of the mobile collection units as provided by the state. The Authority will maintain communication with the DSWA to establish the procedure for household hazardous waste management needs.

During the first year of plan implementation, the Authority will develop a work plan for the Blount County Region's first household hazardous waste collection day. The Authority will select a centralized site for the event that allows for minimum driving time for residents within the County. The Authority will work with Beautiful Blount to develop public education materials for the collection day.

The landfill operator will continue to utilize the state's mobile tire shredder and, for at least the short term, dispose of the materials in the landfill. However, the landfill operator will cooperate with the Authority to work with private businesses and the state's Office of Cooperative Marketing to investigate opportunities for recycling or reusing waste tires. If a market can be found for either whole or shredded tires, the landfill operator and the Authority will pursue this opportunity, rather than continuing to place these materials in the landfill.

As part of the ongoing effort to identify and clean up illegal dump sites, the Authority and Beautiful Blount will identify and inventory illegal tire piles in the Region.



The City of Maryville will continue to provide a waste oil and batteries drop-off site for residents. The Authority will assess the need for an additional site or work with the City of Maryville to encourage residents to use the existing site.

If the Authority determines that convenience centers are needed for the unincorporated areas and that additional oil and battery collection sites are necessary, it will provide an area at each center for the collection of used oil. If convenience centers are not necessary, the County will provide at least one site for residents in the unincorporated areas, in accordance with state requirements, in the event that an additional site is needed. The County will contract with a private company for the provision of this service, if necessary.

Beautiful Blount will continue to sponsor programs that address the problem of litter and illegal dumping. In addition to existing efforts, Beautiful Blount will work with the Sheriff's Department to develop a core group of community service workers (in addition to the litter crews) to handle some of the more extensive illegal dump sites.

Beautiful Blount will continue to identify illegal dumping and litter control problems, and develop appropriate public education materials. Beautiful Blount will also coordinate efforts with local community and school groups to expand the volunteer base for clean-up activities.

11.3.7 Implementation Schedule

Table 11-2 shows the summary implementation schedule for all solid waste management activities in the Blount County Region.

11.4 Staffing and Training Requirements

Table 11-3 summarizes the expected staffing requirements for each component of the solid waste management system over the next ten years.

11.5 Budget

Table 11-4 shows the summary 10-year budget for all elements of the solid waste management system.

TABLE 11-2A

TEN-YEAR IMPLEMENTATION SCHEDULE FOR SOLID WASTE COLLECTION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Communicate with private haulers to expand existing solid waste collection service areas.	•												--	--
2. Enforce local regulations that discourage illegal dumping.													--	--
3. Establish standards for solid waste collection by private haulers.	•												--	--
4. Conduct a second hauler survey for comparison of households served.		•											\$2K	Tipping Fees/ County General Funds
5. Consider alternative options for collection (if needed).		•											--	--
6. Develop one or more convenience centers for solid waste (if needed).		•											\$25K/site	County General Funds
7. Operate convenience centers (if needed).		•											\$15K/site	User fee
8. Continue to provide solid waste collection service to residents and businesses in the City of Alcoa.													\$900K + 4.5%/yr.	General Fund (short term)/User Fees

TABLE 11-2A (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR SOLID WASTE COLLECTION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
9. Investigate alternative collection methods in Alcoa (recyclables pick-up, variable rates, etc.) through the advisory committee.	•											Alcoa Advisory Committee	--	--
10. Alter collection methods in Alcoa based on advisory committee recommendations, if necessary.		•										Alcoa	\$50K	General Fund (short term)/user fee
11. Operate updated collection services.		•										Alcoa	Depends on option chosen	General Fund (short term)/user fee
12. Continue to provide solid waste collection service to residents and businesses in the City of Maryville.												City of Maryville	\$1.1 mil+ 4.5%/yr.	General Fund (short term)/user fee
13. Investigate opportunities for implementing collection fees and variable rate structures in Maryville.												Maryville	--	--
14. Update collection services in Maryville, if necessary.		•										Maryville	\$50K	General Fund (short term)/user fee

TABLE 11-2A (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR SOLID WASTE COLLECTION

Action	Year (July 1 - June 30)							Responsible Party	\$\$	Funding Source				
	94	95	96	97	98	99	00				01	02	03	
15. Consider showing residents and businesses the costs of providing collection services on utility bills (prior to use of collection fees) in Alcoa and Maryville.	*												--	--

TABLE 11-2B

TEN-YEAR IMPLEMENTATION SCHEDULE FOR RECYCLING AND SOURCE REDUCTION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source
	94	95	96	97	98	99	00	01	02	03			
1. Determine ways of expanding current drop-off programs, including new sites and staffing methods.	•										Authority/County/Cities	--	--
2. Expand existing drop-off sites to accept wider range of materials.	•										Maryville/Alcoa	\$5-10K/site (cap & op)	General Fund/Solid Waste Collection Fee
3. Closely monitor drop-off site usage and staff stations, as necessary.	•										Authority/Cities/County	--	--
4. Develop new sites for residential drop-off program.	•										Authority/County/Cities	\$10K/site (cap & op)	General Fund/Solid Waste Collection Fee
5. Consider curbside collection of residential recyclables.											Maryville/Alcoa	--	--
6. Implement residential curbside program in Cities, as needed.											Maryville/Alcoa	\$120K/yr	SW or Recyclable Collection Fee
7. Consider variable rate structures for residential and commercial solid waste collection.	•										Maryville/Alcoa	--	--
8. Develop variable rate standards for private haulers.											Authority/Haulers	--	--

TABLE 11-2B (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR RECYCLING AND SOURCE REDUCTION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
9. Implement variable rate structures for solid waste collection, as needed.			•									Maryville/Alcoa	\$100K	SW Collection Fee
10. Develop recycling programs in local schools.												Beautiful Blount/Schools	--	Donated Equipment
11. Match waste generating businesses with recyclers.	•											Authority/Beautiful Blount/Cities	part of SW Manager salary	Tipping Fee
12. Coordinate a solid waste exchange for local industries and businesses, including a database.	•											Authority/Beautiful Blount	part of SW Manager salary	Tipping Fee
13. Evaluate opportunities for office paper recycling program.	•											Authority/Cities	part of SW Manager salary	Tipping Fee
14. Provide technical assistance to businesses that generate wood pallets.	•											Beautiful Blount/Authority	part of SW Manager salary	Tipping Fee
15. Provide public education to residents and businesses.												Beautiful Blount	\$25K	General Funds/Donations Tipping Fee

TABLE 11-2B (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR RECYCLING AND SOURCE REDUCTION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
16. Continue to use the processing capability of the Vocational Rehabilitation Center.													--	--
17. Join and participate in the Recycling Marketing Cooperative of East Tennessee.														--
18. Pursue additional markets for recovered materials as additional programs are developed.														--
19. Establish and maintain communication with the Office of Cooperative Marketing.														--

TABLE 11-2C

TEN-YEAR IMPLEMENTATION SCHEDULE FOR COMPOSTING

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Develop and distribute public education materials to encourage back-yard composting.	•											Beautiful Blount	\$2K	Tipping Fee
2. Require all collectors of solid waste to separate bulky items from yard waste.	•											Landfill Operator	--	--
3. Set aside a sorting area at the landfill for bulky items and yard waste.	•											Landfill Operator	--	--
4. Set aside a drop-off area at the landfill for bulky items and yard waste for use by residents.	•											Landfill Operator	--	--
5. Begin yard waste mulching operation for short-term yard waste management.	•											Landfill Operator/ Private Firm	\$40K/yr	Tipping Fee
6. Develop markets for mulched and/or composted material.	•											Authority/ Landfill Operator	--	--
7. Determine feasibility of burning yard waste.	•											Landfill Operator	--	--
8. Determine need and feasibility of a central yard waste composting facility.	•											Authority/Cities/ County	--	--

TABLE 11-2C (CONTINUED)

TEN-YEAR IMPLEMENTATION SCHEDULE FOR COMPOSTING

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source
	94	95	96	97	98	99	00	01	02	03			
9. Design, permit, and construct yard waste composting facility.		•										\$450K	Tipping Fee
10. Operate yard waste composting facility.			•									\$65K/year + 4.5%	Tipping Fee
11. Ban yard waste and bulky items from landfill disposal.			•									--	--
12. Continue leaf composting operations until central facility is developed.												Included in Collection	General Funds

TABLE 11-2D

TEN-YEAR IMPLEMENTATION SCHEDULE FOR DISPOSAL

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Continue to operate Class I area of landfill within current guidelines.												Alcoa	\$800K/yr.	Tipping Fee
2. Hire a Solid Waste Manager.												Alcoa/Authority	\$58K/yr.	Tipping Fee
3. Hire a Landfill Technician for the landfill.												Alcoa	\$37K/yr.	Tipping Fee
4. Apply for permit to upgrade landfill												Alcoa	\$25K	Tipping Fee
5. Construct upgrade of Class I area of the landfill, according to Subtitle D standards.												Alcoa	\$2.1 mil	Tipping Fee
6. Dispose of waste in upgraded areas.												Alcoa	\$1.2 mil (1996) + 4.5%/yr.	Tipping Fee
7. Continue with current administrative arrangement for ownership and operation of the landfill (see actions below).												Alcoa/Maryville/Blount County	--	--
8. Consider transferring ownership of the landfill to the Authority.												Alcoa/Maryville/Blount County	--	--
9. Apply for new Class IV permit												Alcoa	\$10K	Tipping Fee

TABLE 11-2E

TEN-YEAR IMPLEMENTATION SCHEDULE FOR PUBLIC EDUCATION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
1. Continue to provide general information on waste reduction, littering, and beautification.													\$38K + 4.5/yr.	Tipping Fee/Volunteers
2. Contract with Beautiful Blount for education on specific solid waste management issues.	•												Depends on program	Tipping Fee/General Funds
3. Contribute funds toward the hiring of an additional staff person to work with Beautiful Blount.	•												Included in budget	Tipping Fee
4. Work with the landfill operator to establish public education center at the landfill.	•												Included in budget	Tipping Fee
5. Operate public education center at the landfill.		•											Included in budget	Tipping Fee
6. Target audiences for solid waste education programs.													--	--
7. Continue to develop school system programs to educate students on solid waste management.													Included in budget	--
8. Help coordinate development of recycling programs in local schools.	•												Included in budget	Tipping Fee/Private

TABLE 11-2E (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR PUBLIC EDUCATION

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source	
	94	95	96	97	98	99	00	01	02	03				
9. Provide technical assistance to schools for recycling programs, as needed.		•											--	--
10. Develop programs to inform citizens about drop-off programs and efficient waste management.													Included in budget	Tipping Fee
11. Develop materials for specific education programs, as needed.													Included in budget	Tipping Fee/Donations
12. Continue to develop programs to assist businesses and industries with recycling/reuse/reduction.													--	--

**TABLE 11-2F
TEN-YEAR IMPLEMENTATION SCHEDULE FOR PROBLEM WASTES**

Action	Year (July 1 - June 30)										Responsible Party	\$\$	Funding Source		
	94	95	96	97	98	99	00	01	02	03					
1. Coordinate household hazardous waste collection with state's mobile units.	•												Authority	--	--
2. Develop a work plan arranging for a specific household hazardous waste collection day.	•												Authority	\$2K	Tipping Fee
3. Hold household hazardous waste collection event.	•												Authority	\$5K	Tipping fee
4. Continue to store tires at landfill and utilize state's tire shredder.	•												Landfill Operator	--	--
5. Investigate uses for used tires other than disposal.	•												Authority/ Landfill Operator	--	--
6. Coordinate alternative use for tire management.		•											Authority/ Landfill Operator	\$/tire	Tipping fee
7. Continue waste oil/battery collection drop-off in Maryville.													Maryville	\$	General Fund
8. Work with City of Maryville to determine feasibility of using existing oil/battery collection site for all residents in County.	•												Authority	\$	Tipping Fee
9. Develop at least one additional site for used oil and batteries, if necessary.		•											Authority	\$5K	Tipping Fee

TABLE 11-2F (CONTINUED)
TEN-YEAR IMPLEMENTATION SCHEDULE FOR PROBLEM WASTES

Action	Year (July 1 - June 30)										Responsible Party	Funding Source	
	94	95	96	97	98	99	00	01	02	03			
10. Contract with private companies for recycling/disposal of used oil and batteries.		•										--	--
11. Continue and expand litter control and clean-up efforts.												\$45K/year	State Grant/Tipping Fee

- **Action** = summary of the activity to be undertaken.
- **Year** = fiscal year (e.g. FY 1994 is July 1, 1993 to June 30, 1994).
- Shading = individual or multiple years in which the activity will take place.
- Dots = start-up of the activity.
- **Responsible Party** = who will carry out the activity.
- \$\$ = estimated cost of the activity.
- **Funding Source** = how the activity will be funded.
- -- = no additional costs anticipated.

TABLE 11-3
Additional Staffing Needs,
By Jurisdiction and System Component

System Component	Position Needed	Year (July 1 - June 30)												
		94	95	96	97	98	99	00	01	02	03			
	City of Alcoa (Landfill)													
Disposal	Solid Waste Manager	•												
	Landfill Technician	•												
Composting	Equipment Operator			•										
	Laborer			•										
	City of Murfreesboro													
All Elements	None													
	Blount County													
Solid Waste Collection														
Education	Staff person for Beautiful Blount	•												

Table 11-4
Blount County Disposal Costs (1)
FY 1993 - FY 2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
DIRECT COSTS											
Wages	250,813	325,311	339,950	355,248	371,234	387,939	405,397	423,639	442,703	462,625	483,443
Benefits	143,096	185,599	193,951	202,679	211,800	221,331	231,290	241,699	252,575	263,941	275,818
Equipment Operations	158,273	165,396	172,838	180,616	188,744	197,237	206,113	215,388	225,080	235,209	245,793
Annualized Capital Costs	139,866	214,866	226,866	226,866	226,866	226,866	226,866	226,866	226,866	226,866	226,866
Contracts	64,658	93,692	97,909	102,315	106,919	111,730	116,758	122,012	127,502	133,240	139,236
Insurance	17,339	18,119	18,935	19,787	20,677	21,608	22,580	23,596	24,658	25,768	26,927
General Operating Costs	150,131	190,326	198,891	207,841	217,194	226,968	237,181	247,855	259,008	270,663	282,843
Other Direct Costs	34,852	--	--	--	--	--	--	--	--	--	--
Total Direct Costs	959,028	1,193,310	1,249,340	1,295,351	1,343,433	1,393,679	1,446,185	1,501,054	1,558,393	1,618,312	1,680,927
INDIRECT COSTS											
Administration	--	25,000	26,125	27,301	28,529	29,813	31,155	32,557	34,022	35,553	37,152
Education (2)	--	25,000	26,125	27,301	28,529	29,813	31,155	32,557	34,022	35,553	37,152
Total Indirect Costs	--	50,000	52,250	54,602	57,058	59,626	62,310	65,114	68,044	71,106	74,304
OTHER COSTS											
Landfill Expansion	--	85,140	85,140	170,280	170,280	170,280	170,280	170,280	170,280	170,280	170,280
Land Acquisition	--	70,080	70,080	70,080	70,080	70,080	70,080	70,080	70,080	70,080	70,080
Closure/Post-Closure	--	242,360	727,080	969,440	969,440	969,440	969,440	969,440	969,440	969,440	969,440
Total Other Costs	--	397,580	882,300	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800	1,209,800
COMPOSTING FACILITY COSTS (2)											
Operating Costs	--	65,365	68,306	71,380	74,592	77,949	81,456	85,122	88,952	92,955	97,138
Capital Costs	--	67,050	67,050	67,050	67,050	67,050	67,050	67,050	67,050	67,050	67,050
Total Composting Costs	--	132,415	135,356	138,430	141,642	144,999	148,506	152,172	156,002	160,005	164,188
TOTAL ANNUAL COSTS	959,028	1,748,305	2,293,121	2,670,882	2,723,404	2,778,290	2,835,646	2,895,583	2,958,217	3,023,669	3,092,067

(1) Projections assume an average of 4.5 percent inflation each year.

(2) Costs not directly associated with the landfill are included because it is expected that they will derive funding from the tipping fee.

Table 11-4 (CONTINUED)
Public Solid Waste Collection Costs (1)
FY 1993 - FY 2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MARYVILLE (CURRENT SYSTEM)											
Solid Waste Collection											
Operating	790,495	826,067	863,240	902,086	942,680	985,101	1,029,430	1,075,754	1,124,163	1,174,751	1,227,615
Administrative	94,209	98,448	102,879	107,508	112,346	117,402	122,685	128,205	133,975	140,004	146,304
Capital	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800	100,800
TOTAL COLLECTION	985,504	1,025,316	1,066,919	1,110,394	1,155,826	1,203,302	1,252,915	1,304,760	1,358,938	1,415,554	1,474,718
Disposal (2)	135,619	214,734	255,589	326,625	346,098	366,733	388,607	411,789	434,956	459,435	485,305
TOTAL COLLECTION/DISPOSAL COSTS	1,121,123	1,240,049	1,322,508	1,437,019	1,501,924	1,570,035	1,641,521	1,716,549	1,793,894	1,874,989	1,960,024
ALECOA (CURRENT SYSTEM)											
Solid Waste Collection											
Operating	737,297	770,475	805,147	841,378	879,240	918,806	960,152	1,003,359	1,048,511	1,095,693	1,145,000
Administration	22,282	23,285	24,333	25,427	26,572	27,767	29,017	30,323	31,687	33,113	34,603
Capital	-	61,540	107,770	117,000	125,000	95,000	86,000	-	-	-	-
Total Collection	759,579	855,300	937,249	983,806	1,030,812	1,041,574	1,075,169	1,033,682	1,080,198	1,128,807	1,179,603
Disposal (2)	79,171	115,409	137,367	175,545	186,011	197,101	208,857	221,316	233,767	246,924	260,828
TOTAL COLLECTION/DISPOSAL COSTS	838,750	970,709	1,074,616	1,159,351	1,216,823	1,238,675	1,284,027	1,254,998	1,313,965	1,375,730	1,440,431

(1) Anticipated collection costs for Alecoa and Maryville are shown. Collection costs in the unincorporated areas are covered by private waste haulers, which charge user fees to participating residents.

(2) Includes payment of landfill tipping fee, adjusted to account for anticipated increases.

**Table 11-4 (CONTINUED)
Residential Reduction Costs (1)
FY 1993 - FY 2003**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MARYVILLE											
Drop-off Collection (Current System) (2)	43,000	44,935	46,957	49,070	51,278	53,586	55,997	58,517	61,150	63,902	66,778
Drop-off Collection (Additional Materials)	--	52,250	54,601	57,058	59,626	62,309	65,113	68,043	71,105	74,305	77,648
Drop-off Collection (One Additional Site)	--	62,700	65,051	67,508	70,076	72,759	75,563	78,493	81,555	84,755	88,098
Curbside Recyclables Collection Only (3)											
Operating Capital (Debt Service)	--	--	65,790	68,751	71,844	75,077	78,456	81,986	85,676	89,531	93,560
	--	--	87,600	87,600	87,600	87,600	87,600	87,600	87,600	87,600	87,600
Curbside Total	--	--	153,390	156,351	159,444	162,677	166,056	169,586	173,276	177,131	181,160
ALCOA											
Recyclables Collection (Current System) (2)	3,633	3,796	3,967	4,146	4,332	4,527	4,731	4,944	5,166	5,399	5,642
Drop-off Collection (Additional Materials)	--	4,100	4,285	4,477	4,679	4,889	5,109	5,339	5,580	5,831	6,093
Drop-off Collection (One Additional Site)	--	8,200	8,569	8,955	9,358	9,779	10,219	10,679	11,159	11,661	12,186
Curbside Collection (3)											
Operating Capital (Debt Service)	--	--	33,500	35,008	36,583	38,229	39,949	41,747	43,626	45,589	47,640
	--	--	33,080	33,080	33,080	33,080	33,080	33,080	33,080	33,080	33,080
Curbside Total	--	--	66,580	68,088	69,663	71,309	73,029	74,827	76,706	78,669	80,720

(1) Budget includes anticipated reduction activities of Alcoa and Maryville.

(2) Projects the costs of continuing with the current systems.

(3) Projections based on industry averages and include a 4.5 percent inflation rate each year.

Table 11-4 (CONTINUED)
Public Information and Education Costs (1)
FY 1993 - FY 2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Operating Costs (2)	7,400	7,733	8,081	8,445	8,825	9,222	9,637	10,070	10,524	10,997	11,492
Staff Expenses (3)	8,600	24,662	25,772	26,932	28,143	29,410	30,733	32,116	33,562	35,072	36,650
Program Expenses (4)	7,000	7,315	7,644	7,988	8,348	8,723	9,116	9,526	9,955	10,403	10,871
Total	23,000	39,710	41,497	43,364	45,316	47,355	49,486	51,713	54,040	56,472	59,013

- (1) 10-year budget includes projections based on FY 1993 budget for Beautiful Blount.
- (2) Assumes future costs will be similar to current costs, with a 4.5% inflation rate applied.
- (3) Assumes an additional staff person will be added to Beautiful Blount in year 1 (1994).
- (4) Assumes similar program costs in future years, with increases based on a 4.5% inflation rate.



CHAPTER 12

RESPONSIBILITIES FOR PLAN ADOPTION AND SUBMISSION

12.1 Plan Adoption

In keeping with the multi-jurisdictional nature of this Solid Waste Management Plan, the Blount County Solid Waste Authority will submit this plan to the State. Prior to submittal to the State, the Authority will submit this plan to the Commissions of the County, the City of Maryville, and the City of Alcoa for their approval. This will ensure that all jurisdictions with solid waste management responsibilities will have the opportunity to approve the Plan. Formal adoption documents are included in Appendix A.

12.2 Planning Commission Review

In accordance with T.C.A. 13-3-105, a draft of this plan will be submitted to the Blount County Planning Commission for review and comment. Appropriate comments are included in Appendix A.

12.3 Plan Implementation

A number of elements of this Solid Waste Management Plan call for varying levels of responsibility by the Authority, the County, the City of Alcoa, the City of Maryville, and Beautiful Blount. Although implementation of specific action items identified in the Plan will remain the responsibility of the individual entities, the overall implementation of all Plan strategies will fall to the Authority.

The Authority will maintain an understanding of the individual strategies and schedules outlined in the Plan and ensure that action items are carried out with maximum efficiency and effectiveness. For those elements in which action items are altered or new strategies are developed, the Authority will ensure that appropriate actions are taken to amend or update the plan.

The Authority will also have the primary responsibility for formally revising the Plan every five years, as required by the Solid Waste Management Act of 1991.



CHAPTER 13

FLOW CONTROL AND PERMIT APPLICATION REVIEW

13.1 Flow Control

The Solid Waste Management Act of 1991 authorizes regions with approved plans to exercise flow control powers in accordance with the Plan, including 1) an out-of-region waste ban; and 2) intra-region flow control.

Conceptually, flow control is a regulatory measure imposed by local governments that designates that solid waste be delivered to specific management facilities. In theory, flow control is used for three key reasons: 1) it allows local governments to effectively plan for disposal capacity; 2) it allows local governments to accurately manage waste as a means of protecting the public health and environment; and 3) it is a key to assuring financing through revenue bonds.

A local government may want to control the flow of non-hazardous solid waste in several ways, including: 1) restricting the flow of non-hazardous solid waste entering the jurisdiction from outside; 2) designating specific facilities for non-hazardous solid waste generated within the jurisdiction; and 3) controlling the flow of materials recovered from the solid waste stream for recycling.

13.1.1 Current Legal Environment

Prior to a decision on the potential of flow control, it is first necessary to address the existing legal environment. Over the last several years, flow control has received a greater degree of attention at the federal level, despite the fact that it was previously thought to be primarily a local and state issue. Recent developments, however, have revealed a concern that the control of certain non-hazardous solid waste and recyclable materials may affect the Commerce Clause of the U.S. Constitution, which attempts to retain the balance of free trade.

Although the Solid Waste Management Act of 1991 authorizes the ability of local governments to exercise flow control, there are a number of U.S. Supreme Court cases that will likely shape the ability of governments to impose restrictions in the future. Most of these cases are directly driven by the Commerce Clause.

As courts have considered cases regarding solid waste flow control, they have paid particular attention to whether flow control ordinances regulate evenly with only "incidental" effects on interstate commerce. In addition, courts have decided whether ordinances serve a legitimate local purpose and whether alternative methods could serve this local purpose without restricting interstate commerce.

In most of the cases where local governments have imposed import bans, the courts have applied a standard of "strict scrutiny" and rarely uphold the ban, unless a legitimate local purpose is served and no alternatives exist. For this reason, precedent has shown that restricting the flow of solid waste into a jurisdiction is contrary to the Commerce Clause.

In cases where solid waste is controlled within on service area, a standard precedent has been somewhat unclear, although this type of flow control is generally considered as having a stronger legal foundation than the other forms of flow control. However, in the development of a such a flow control measure would need to be carefully worded and backed up by state enabling legislation (e.g. T.C.A. Section 68-31-814(b)(1)(A)). In addition, such flow control measures should be based upon the need for protecting the public health (and effective solid waste management) and not upon the grounds of economic protectionism. At the same time, the ordinance should not unfairly deprive existing businesses from continuing to operate.

The third type of flow control, or the control of recovered materials, has the least amount of legal foundation, since such materials may legally be considered as private property. At the same time, the Solid Waste Management Act clearly prohibits the flow restrictions on recovered materials into, out of, or within a jurisdiction.

13.1.2 Flow Control in the Blount County Region

The Blount County Solid Waste Authority will more carefully examine the issue of flow control and the legal precedents surrounding it before moving forward with any specific actions. During the first or second year of plan implementation, the Authority will determine the need for flow control and the legal foundation for this activity. If flow control becomes a chosen option for implementation, the Authority will pass a resolution exercising certain flow control powers. Otherwise, the Authority will continue to track the issue without implementing any specific flow control measures.

13.2 Permit Application Review

The Solid Waste Management Act requires municipal solid waste planning regions to review plans for new solid waste disposal or incineration facilities to determine whether the proposed facility is consistent with the regional plan. The following procedures will be followed by the Region (i.e. Authority) in the event that such an application is submitted.

- In accordance with the Act, the facility applicant will be required to submit a copy of the application to the Authority at the time of submittal to the state.
- The Authority will review the application and conduct a public hearing to allow all interested parties to comment.



- The Authority will accept/reject the application based on compliance/non-compliance with this solid waste management plan. Acceptance/rejection will be carried out in the form of a resolution, duly adopted by both the Authority and the affected local jurisdiction (e.g. County or City where the proposed facility is to be located).
- In accordance with the Act, grounds for acceptance/rejection will be based solely on the application's compliance with the solid waste management plan.
- The Authority will notify the Department of Environment and Conservation (DEC) of its decision, including a copy of the resolution and public hearing transcript.
- The Commissioner of the DEC will not issue the permit unless it is found that the decision of the Authority is arbitrary and capricious and unsupported in the record developed by the Authority.



PART III
APPENDICES

a four (4) year term, and three (3) members shall have a six (6) year term, and that the officers selected by the Authority shall also serve as the officers of the Board; and

BE IT FURTHER RESOLVED, that the Authority shall have all powers and duties as granted it by T.C.A. 68-211-813 et. seq., and in addition, in the performance of its duty to produce a municipal solid waste region plan, it shall be empowered to utilize existing personnel of Blount County, the City of Maryville, and the City of Alcoa, to employ or contract with persons, private consulting firms, and/or governmental, quasi-governmental, and public entities and agencies to utilize services, facilities, and records of Blount County, the City of Maryville, and the City of Alcoa in completing this task; and

BE IT FURTHER RESOLVED that the Authority shall cause the establishment of a municipal solid waste advisory committee whose membership shall be chosen by the Authority and whose duties are to assist and advise the Authority; and

BE IT FURTHER RESOLVED, that the Authority, acting through Blount County, the City of Maryville, and the City of Alcoa and in furtherance of its duty to produce a municipal solid waste regional plan, is authorized to apply for and receive funds from the State of Tennessee, the federal government, Blount County, the City of Maryville, the City of Alcoa, and donations and grants from private corporations and foundations; and

BE IT FURTHER RESOLVED, that the Authority shall receive, disburse, and act as the fiscal agent for the administration of the funds of the Municipal Solid Waste Region and the Region's Board; and

BE IT FURTHER RESOLVED, that upon the passage of this Resolution and at no later date than December 31, 1992, the County Clerk of Blount County shall transmit a copy of this resolution to the Tennessee State Planning Office.

Duly passed and approved this 19th day of October, 1992.

COUNTY OF BLOUNT

By: William A. Crisp
County Executive

Approved as to form:
Norman H. [Signature]
County Attorney

Attest: [Signature]
County Clerk

Duly passed and approved this 3rd day of November, 1992.

CITY OF MARYVILLE

By: Stank Shields
Mayor

Approved as to form:

Ray D. Campbell
City Attorney

Attest: Richard P. Caughon
Asst. City Recorder

Duly passed and approved this 27th day of October, 1992.

CITY OF ALCOA

By: John D. Weber
VICE Mayor

Approved as to form:

[Signature]
City Attorney

Attest: Ray E. Robinson
City Recorder

**MEMBERSHIP OF THE
BLOUNT COUNTY SOLID WASTE MANAGEMENT AUTHORITY**

*Meets first Wednesday of each month, 8:30 AM
Current terms begin January 1, 1994*

Two Year Terms

Joe Downey, Chairman
City of Maryville

Howard Kerr, Secretary
Citizen

Carl Walker, Vice-Chairman
Private Transporter

Bob Ramsey
Blount County

Four Year Terms

J.C. Franklin
Blount County

Don Mull
City of Alcoa

Roger Campbell
City of Maryville

Craig West
Industrial Representative

Six Year Terms

Cinda Reed
Blount County

John Jagger
Citizen

C.L. Overman
City of Alcoa

BLOUNT COUNTY GOVERNMENT

WILLIAM A. CRISP
BLOUNT COUNTY EXECUTIVE



301 COURT STREET
MARYVILLE, TN 37801-4987
(615) 982-1302

LEGISLATIVE BODY

Keith W. Brock
Pete Carter
J. C. (Bob) Evans
J. C. Franklin
Craig L. Garrett
Mike Gregory
Thomas E. Hatcher
Scott Helton
James Leroy Huff
John T. Keeble
Bob Kidd
James M. Kyker
Sam Lambert, III
Ciara McNutt
Virginia Morton
Dan Neubert, Sr.
Cinda L. Reed
Steve Samples
Mickey Walker
Mike Walker
Richard Williams, Jr.

February 9, 1994

Mr. Greg McClain
Municipal Building
P.O. Box 4428
Maryville, TN 37802-4428

Dear Greg:

At a recent Blount County Solid Waste Authority meeting the following members were reappointed as follows:

County Executive Appointees to SWA

<u>Name</u>	<u>Length of Term</u>
J. C. Franklin	4 years
Cinda Reed	6 years
Bob Ramsey	2 years
Howard Kerr	2 years
John Jagger	6 years
Carl Walker	2 years
Craig West	4 years

City of Alcoa Appointees

Don Mull	4 years
C. L. Overman	6 years

City of Maryville Appointees

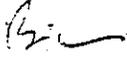
Joe Downey	2 years
Roger Campbell	4 years

I have enclosed information concerning a letter of transmittal.

If I can be of any further assistance, please let me know.

Thank you.

Sincerely,



William A. Crisp
Blount County Executive

WAC:rp

Enclosure



RECEIVED

SEP 27 1993

CITY OF ALCOA
TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Solid Waste Management
Fifth Floor, L & C Tower
401 Church Street
Nashville, Tn 37243-1535

CERTIFIED MAIL P 847 977 645
RETURN RECEIPT REQUESTED

September 23, 1993

Mr. Kenneth D. Wiggins, P.E.
Director of Public Works
The City of Alcoa
411 North Hall Road
Alcoa, Tennessee 37701

Dear Mr. Wiggins:

Please find enclosed a signed original of the contract In Lieu of Performance Bond for the Blount County Landfill.

Thank you very much for you assistance in completing the negotiation of this financial assurance instrument.

Sincerely,

A handwritten signature in cursive script, reading "O.J. Wingfield".

O.J. Wingfield
Financial Compliance Officer

enclosure

NS
3276



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

5th Floor, L & C Tower
401 Church Street
Nashville, TN 37243-1535

CERTIFIED MAIL P 995 335 486
RETURN RECEIPT REQUESTED

February 1, 1993

RECEIVED

FEB 05 1993

CITY OF ALCOA
TENNESSEE

Mr. Ray E. Richesin
Finance Director
The City of Alcoa
441 North Hall Road
Alcoa, TN 37701

RE: Blount County Landfill (for The City of Alcoa,
the City of Maryville, and Blount County)

Dear Sir:

Please find attached three copies of the "Contract in Lieu of Performance Bond" for the Blount County Landfill financial assurance. Each of the above cited municipalities should receive one copy of the enclosed contracts. We thank each of you for your assistance in this matter.

Sincerely,

O.J. Wingfield
Financial Compliance Officer
Division of Solid Waste Management

OJW/E5073032/D4/L&M

Enclosure

cc: Blount County
City of Maryville

SEP 14 1992

CONTRACT IN LIEU OF PERFORMANCE BOND

Pursuant to T.C.A. 68-31-116 and the Rules and Regulations of the State of Tennessee, the CITY OF ALCOA, the CITY OF MARYVILLE, and BLOUNT COUNTY, TENNESSEE, Parties of the First Part, and THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, Party of the Second Part, do hereby contract and agree as follows:

1. This agreement applies to the following solid waste disposal facility:

Blount County Landfill	
(A) City of Alcoa	30%
(B) City of Maryville	30%
(C) Blount County	40%

2. The parties of the first part shall properly operate the described solid waste disposal facility and perform closure of the facility listed above, in accordance with all requirements of the permit and the closure/post-closure plan, as such plan and permit may be amended, and pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

3. The total penal sum of this agreement is Five Million One Hundred Nine Thousand Dollars (\$5,109,000.00).

4. In the event the parties of the first part fail to perform as specified in paragraph 2 above, after giving the said parties of the first part notice and an opportunity to cure the violation, the Commissioner of the Department of Environment and Conservation may collect any amount up to the total penal sum from any funds that otherwise would be disbursed from the State of Tennessee to either of the parties of the first part, and this agreement shall act as an assignment of any such forfeited funds.

from either of the parties of the first part to the Tennessee Department of Environment and Conservation

5. This contract shall be filed with the Commissioner of Finance and Administration who shall distribute any funds forfeited pursuant to this contract upon written notice from the Commissioner of Environment and Conservation.

This _____ day of _____, 1992.

PARTIES OF THE FIRST PART:

CITY OF ALCOA (30%)

BY: Donald R. Mott
Title: _____

ATTEST:

BY: Raf E. Robinson
Title: Fin Director

CITY OF MARYVILLE (30%)

BY: Stan B. Shedd
Title: Mayor

ATTEST:

BY: Mark L. [Signature]
Title: Fin Dir

BLOUNT COUNTY (40%)

BY: Dr. Robert L. Ramsey
Title: County Executive

ATTEST:

BY: Alu Traxer
Title: Subject Director

PARTY OF THE SECOND PART:

TENNESSEE DEPARTMENT OF
ENVIRONMENT AND CONSERVATION

BY:

Title:

John
Commissioner

ATTEST:

BY:

Title:

E. Joseph Henderson
Anti-Corruption Council

TENNESSEE DEPARTMENT OF
FINANCE AND ADMINISTRATION

BY:

Title:

David H. Manning
Commissioner

1-26-93 BAR

ATTEST:

BY:

Title:

AUG 24 1980
103
3274

CONTRACT IN LIEU OF PERFORMANCE BOND

Pursuant to T.C.A. 68-²¹¹~~31~~-116 and the Rules and Regulations of the State of Tennessee, the CITY OF ALCOA, the CITY OF MARYVILLE, and BLOUNT COUNTY, TENNESSEE, Parties of the First Part, and THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION, Party of the Second Part, do hereby contract and agree as follows:

1. This agreement applies to the following solid waste disposal facility:

Demolition, Asbestos, and Special Waste Areas -
Blount County Landfill (SNL 5-103-0105)

- (A) City of Alcoa 30%
- (B) City of Maryville 30%
- (C) Blount County 40%

2. The parties of the first part shall properly operate the described solid waste disposal facility and perform closure of the facility listed above, in accordance with all requirements of the permit and the closure/post-closure plan, as such plan and permit may be amended, and pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

3. The total penal sum of this agreement is Three Million Fifty Nine Thousand Six Hundred Fifteen Dollars (\$3,059,615.00).

4. In the event the parties of the first part fail to perform as specified in paragraph 2 above, after giving the said parties of the first part notice and an opportunity to

cure the violation, the Commissioner of the Department of Environment and Conservation may collect any amount up to the total penal sum from any funds that otherwise would be disbursed from the State of Tennessee to either of the parties of the first part, and this agreement shall act as an assignment of any such forfeited funds from either of the parties of the first part to the Tennessee Department of Environment and Conservation.

5. This contract shall be filed with the Commissioner of Finance and Administration who shall distribute any funds forfeited pursuant to this contract upon written notice from the Commissioner of Environment and Conservation.

This 14th day of September, 1993.

PARTIES OF THE FIRST PART:

CITY OF ALCOA (30%)

BY: Donald R. Mull

Title: _____

ATTEST:

BY: Raf E. Rubenstein

Title: City Recorder

CITY OF MARYVILLE (30%)

BY: Stanley B. Shields

Title: _____

ATTEST:

BY: Mark Shuman

Title: City Recorder

BLOUNT COUNTY (40%)

BY: William A. Crisp

Title: County Executive

ATTEST:

BY: John M. Troyer
Title: Director of Accounts & budgets

PARTY OF THE SECOND PART:

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION

BY: [Signature]
Title: _____

ATTEST:

BY: _____
Title: _____

TENNESSEE DEPARTMENT OF FINANCE AND ADMINISTRATION

BY: David L. Manning
Title: _____

9-14-93 BAR

ATTEST:

BY: _____
Title: _____



APPENDIX B

ALTERATION OF 1989 BASE YEAR

December 17, 1993

Dr. Ruth Neff
State Planning Office
308 John Sevier Building
Nashville, TN 37243-0001

Dear Dr. Neff:

The Blount County Solid Waste Region is currently finalizing its Solid Waste Management Plan. As part of that effort, the Region is identifying a strategy to meet the 25 percent reduction goal as required by the Tennessee Solid Waste Management Act of 1991. Under the Act, the reduction goal is to be measured between the base year 1989 and the target year 1995.

The Blount County Region has identified a number of key activities that will allow it to reach the 25 percent reduction goal, and the Regions's commitment to these efforts is outlined in the Solid Waste Management Plan.

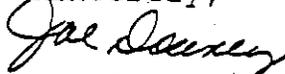
During the Plan preparation process, it has been determined that the base year quantity shown in the District Needs Assessment and the UT report Managing Our Waste: Solid Waste in Tennessee does not accurately reflect actual disposal quantities for calendar year 1989.

The Needs Assessment indicates that the quantity of waste disposed in the base year was 99,840 tons, representing a disposal rate of 1.17 tons/person/year. However, using landfill records for the same period, the Region has determined that the actual quantity of waste disposed during 1989 was 106,917 tones, or 1.25 tons/person/year (documentation is attached).

In accordance with T.C.A. Section 68-31-861 (a) and (b), the Blount County Region is requesting an adjustment to the base year quantity to 106,917 tons for calendar year 1989.

Since we are eager to finalize our Solid Waste Management Plan, your rapid response to this request is much appreciated.

Sincerely,



Joe Downey

Chairman, Solid Waste Authority

Joe Downey - Chairman
Roger Campbell
John Jagger
Don Mull
Bob Ramsey
Carl Walker

J.C. Franklin
Howard Kerr
C.L. Overman
Cynda Reed
Craig West

BLOUNT COUNTY SOLID WASTE AUTHORITY

Bill Crisp - Blount County Executive
Don Mull - Alcoa Mayor
Stanley Shields - Maryville Mayor

240 LONG POWERS ROAD, FRIENDSVILLE, TENNESSEE 37737

(615) 995-2998 / (615) 995-2892 / FAX (615) 981-4103

March 10, 1994

*Genell Dillehay, Deputy Director
Division of Solid Waste Assistance
14th Floor, L & C Tower
401 Church Street
Nashville, TN 37243-0455*

RE: Adjustment to 1989 Base Year for the Blount County Planning Region

Dear Ms. Dillehay,

Attached is the Alcoa - Maryville - Blount County Landfill Record for 1985 through 1991. This information was inadvertently omitted from the previous request for adjustment to the base year. The actual amount of waste received for calendar year 1989 was 106,917 tons. I hope this information will satisfy all of the necessary requirements.

If I can be of any further help please do not hesitate to call me at (615) 995-2998. I look forward to working with you in the coming months.

Sincerely,

*Gregory S. McClain
Solid Waste Manager
Alcoa - Maryville - Blount County Landfill*

cc: Joe Downey, Blount County Solid Waste Authority Chairman

Oct-90	1991	1191	265	2287	4595	10065
Nov-90	1875	1246	333	1661	4259	9305
Dec-90	2070	1994	403	1476	2997	8870
Jan-91	1702	881	262	2032	3636	8655
Feb-91	1585	1072	406	1812	3027	7757
Mar-91	1675	1270	317	2246	3512	9109
Apr-91	1978	1736	628	1678	3819	9529
May-91	2111	1986	177	2034	4102	10861
Jun-91	1575	2181	100	1375	3587	8895
Jul-91	3591	7924	73			11615
Aug-91	4316	5577	49			9966
Sep-91	2718	4257	173			7024
Oct-91	3806	5723	105			9702
Nov-91	3481	4043	174			
Dec-91	4187	3658	248			
Jan-92	3930	4334	362			
Feb-92	3504	4332				

*HAS BEEN PLACED IN DEMOLITION
+HAS BEEN PLACED IN LANDFILL



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
401 Church Street
Nashville, Tennessee 37243

March 31, 1994

Mr. Joe Downey
c/o Gregory S. McClain
Blount County Landfill
240 Long Powers Rd.
Friendsville, TN 37737

Dear Mr. Downey:

We have received your request for a base year adjustment of Blount County's annual per capita disposal rate from 1.17 tons (the rate calculated from the 1989 U.T. survey) to 1.25 tons (the figure which was calculated from review of actual records of waste received during 1989). It appears that you have a valid concern for adjustment of your base year data. Therefore, Blount County's adjusted base year data is approved to reflect an annual per capita disposal rate of 1.25 tons and a total of 106,917 tons of municipal solid waste disposed of from Blount County in 1989.

Should you require any further assistance on this or other matters, please do not hesitate to contact us.

Sincerely,

Paul Evan Davis
Director
Division of Solid Waste Assistance

PED:GHD:dhm



APPENDIX C
PUBLIC PARTICIPATION ACTIVITIES

BLOUNT COUNTY SOLID WASTE MANAGEMENT PLAN

PUBLIC HEARING

BLOUNT COUNTY SCHOOLS CENTRAL OFFICE

THURSDAY, FEBRUARY 17, 1994

7:00 P.M. TO 9:00 P.M.

SIGN-IN SHEET

Jean Brooks

Stanley Shultz

Howard T. Kern

Ane Dawson

F. C. Franklin

John Jagger

Craig West

KELLY HOARD

Iva Butler

Carl Walker

George Lee Spodkie

Yonnie Wiggins

Iva McClain

Bob Ramsey

Bill Bryant

BILL HANCOCK

Bill Crisp

H. Collett

Don Marshall

Kay Cayhall

Joe Downey - Chairman
Roger Campbell
John Jagger
Don Mull
Bob Ramsey
Carl Walker
J.C. Franklin
Howard Kerr
C.L. Overman
Cynda Reed
Craig West

BLOUNT COUNTY SOLID WASTE AUTHORITY

Bill Crisp - Blount County Executive
Don Mull - Alcoa Mayor
Stanley Shields - Maryville Mayor

240 LONG POWERS ROAD, FRIENDSVILLE, TENNESSEE 37737

(615) 995-2998 / (615) 995-2892 / FAX (615) 981-4103

MEMORANDUM

TO: BLOUNT COUNTY SOLID WASTE AUTHORITY

Joe Downey, Chairman
Howard Kerr, Secretary
J. C. Franklin
Don Mull
Bob Ramsey
Craig West

Carl Walker, Vice-Chairman
Roger Campbell
John Jagger
C. L. Overman
Cinda Reed

FROM: Greg McClain, Solid Waste Manager

DATE: February 10, 1994

SUBJ: Public Hearing - Blount County Solid Waste Management Plan

The Solid Waste Management Plan Public Hearing will be held on Thursday, February 17, 1994, from 7:00 p.m. to 9:00 p.m. at the Blount County Schools Central Office (former Union School). Pursuant to our discussions at our February meeting, Joe Downey, J.C. Franklin, Sue Dawson, Rick Whaley, Kenny Wiggins, and I met to decide the best way to conduct this hearing. It was agreed that an open house forum, similar to the Tennessee Department of Transportation's public hearings, would be the best approach. During our planning meeting, we divided the Plan into areas of citizen interest and assigned appropriate Authority members and staff personnel to the respective areas. Opportunities for discussion of each of these areas will be afforded at designated tables. Those areas of interest and assigned individuals for specific tables are as follows:

Sign In, Information Handouts -
Plans for Review / General Issues -
Blount County Issues -

City of Alcoa Issues -
City of Maryville -
Education Issues -

Landfill & Other Disposal Issues -

Joe Downey, Carl Walker
Howard Kerr, John Jagger
J.C. Franklin, Cinda Reed, Bob Ramsey,
Bill Crisp
Don Mull, C.L. Overman, Kenny Wiggins
Bill Bryant, Roger Campbell
Sue Dawson, Beautiful Blount Board
Members
Greg McClain, Craig West

Issues to be discussed by Blount County, Alcoa, and Maryville personnel will include collection, recycling, state-mandated 25% reduction goal, etc. as they pertain to each specific entity. Try to keep this hearing focused on a review of the plan. If there is not a clear answer to a specific question, record the question, the name and address of the individual, and I will respond in writing. Written comments and/or questions will be received until March 3, 1994 (two weeks following the meeting). I will develop a comment form and general information form to be distributed as individuals enter and sign in.

If you are unable to attend, please seek an alternate or notify me so reassignments can be made. Since the comments may be forthcoming through March 3, it has been suggested that we reschedule to next Authority meeting for March 9 (subject to Chairman Downey's approval).

If I can be of any assistance, please do not hesitate to call me at 995-2998.

cc: Bill Crisp
Sue Dawson
Bill Bryant
Rick Whaley
Kenny Wiggins

The Blount County Solid Waste Authority will conduct a public hearing on Thursday, February 17, 1994 from 7:00 PM to 9:00 PM, at the Blount County Schools central office (former Union School).

The objective of this hearing is to inform the public concerning the Blount County Solid Waste Management Plan that was developed in accordance with the Tennessee Solid Waste Management Act of 1991.

This Solid Waste Management Plan establishes responsibilities for development and implementation of a comprehensive plan to achieve all state mandated goals. Some of the state's goals found in the plan are as follows:

- assurance of a 10-year disposal capacity for the region
- achieving by December 31, 1995 a 25% per capita reduction in the amount by weight of solid wastes disposed of relative to the per capita amount in 1989
- assurance of access to collection services for at least 90% of the residents in the region
- providing recycle programs for the region
- providing educational programs on proper management of solid wastes
- maintaining accurate records pertaining to waste disposal
- use of a uniform proprietary financial accounting system that shows the true cost of waste management in the region
- use of fees for waste management services that reflect the actual costs of providing those services

The Solid Waste Authority invites all interested residents of Blount County to attend this hearing. The hearing will be conducted in an informal open-house forum. Solid Waste Authority members and others will man tables that will address the Management Plan according to resident's interest. Areas of interest addressed at these tables will include plan review & general issues. Questions from residents will be answered and written comments will be taken the night of the hearing and until March 3, 1994. A copy of the Plan will be available for review at the Blount County Library in the reference area.

Hearing set Thursday on solid waste plan

A public hearing on the proposed Blount County Solid Waste Management Plan is set for Thursday.

The gathering is to be from 7-9 p.m. at the Blount schools central office (former Union School).

The Blount Solid Waste Authority has devised the management plan to comply with new state landfill regulations. Under the laws, all regions and counties in Tennessee must submit the blueprints.

Among state goals to be included in the required plans are:

- Assurance that the region or county has disposal capacity for at least the next 10 years.

- Achievement by Dec. 31, 1995, of a 25 percent reduction per capita in the amount of solid wastes dumped into the landfill.

- Assurance that at least 90 percent of the resident's regions have ac-

cess to trash collection services.

- Outline of recycling programs for the region.

- Discussion of educational programs on solid waste management.

- Proof that accurate records on waste disposal are being maintained.

- A trash collection and disposal fee schedule that reflects the actual costs of providing those services.

The public hearing will be conducted in an informal, "open-house," forum. Solid Waste Authority members and other officials will man tables addressing various components of the management plan.

Questions will be answered and written comments will be taken the night of the hearing and until March 3.

A copy of the plan will be available for review at the Blount County Library in the reference area.

Hearing set on waste management plan

A public hearing on Blount County's plan to reduce the flow of garbage into the landfill and comply with other parts of a state law about garbage is scheduled Thursday.

The hearing will be conducted from 7 until 9 p.m. in the former

Union School off Tuckaleechee Pike, said Greg McClain, the county's solid waste manager. The county's solid waste management plan was developed in accordance with the state's Solid Waste Management Act of 1991, McClain said. That state law calls for a 25 percent per capita reduction in the amount of garbage going into the landfill by the end of next year. It also calls for recycling programs and assurance of access to garbage collection service for at least 90 percent of the county's residents.

McClain said Thursday's hearing will be an informal, open house forum. Members of the Blount County Solid Waste Authority and others will be at tables where particular aspects of the management plan will be addressed.

PUBLIC INVOLVEMENT DURING THE PLANNING PROCESS

Public opinion and public involvement was very important to the members of the Solid Waste Authority during all phases of the planning process. Solid Waste Authority meetings were advertised in the two local newspapers. The Maryville City Council, the Alcoa City Commission, the Blount County Planning Commission and the Blount County Commission advertised their respective meetings and planning sessions well in advance of the actual meeting dates. The commitment to inform the public and in turn hear from them made the endorsement process very smooth. The general Blount County population is confident that the Blount County Solid Waste Management Plan is comprehensive and addresses the needs for proper management of solid waste for the next ten years.

Public involvement will not end with the initial planning phase but will be an on-going process. Education and involvement of every citizen of Blount County is crucial to the success of the Plan.



APPENDIX D

PLAN REVIEW AND ADOPTION

City, county governments endorse required waste management plan

By Tammy Stanford
of The Daily Times Staff

A lot is left to sort out about the local landfill's future. But one big item was settled this week.

The Blount County Commission joined Alcoa and Maryville city councils in endorsing a comprehensive solid waste management plan.

The blueprint is required by the state and now goes to the Tennessee Department of Environment and Conservation (TDEC) for review.

TDEC says regions must outline how they will reduce waste streams into landfills by 25 percent by 1996; assure a 10-year disposal capacity and "assure access to collection services for at least 90 percent" of the area's residents.

That wording has stirred debate by the local Solid Waste Authority (SWA) while plotting the plan.

Members wondered whether "access" meant 90 percent must subscribe to a garbage pickup service or merely must have an opportunity to sign up or take trash to a collection center. The Blount plan assumes the latter.

Also still unclear is whether Blount County will open "convenience centers" — manned sites with daytime hours for trash drop-off by private citizens.

Blount's plan says the centers may be necessary. But county commissioner and SWA member J.C. Franklin argues the centers cost too much and yield too few results.

A third unknown: The SWA's eventual role in local waste management. Under TDEC's rules, Blount County government ultimately is responsible for that.

The SWA — an advisory group made up of county and city officials and private citizens — could assume more control with the county's blessing.

Blount's solid waste management plan lists giving the landfill to the SWA for operation as a consideration in 1995.

Here are other highlights from Blount's plan:

- The local landfill's per-ton tipping fee — now at \$13.50 — likely will rise to \$24 by 1996. Much of the money will go toward assuring the landfill's closure meets strict new state and federal standards.

The tipping fee was \$8.85 last year.

- Solid waste management cost \$2.9 million in Blount County in fiscal year 1993.

- Blount's residents and businesses will generate about 118,000 tons of waste in 1995. Of that, about 12 percent will be composted, 11 percent recycled, and 19 percent "diverted" — leaving 66,500 tons or 56 percent to be landfilled.

- In 1989, each person in Blount generated 1.25 tons of garbage, or about 6.84 pounds a day. The respective numbers dropped to 1.23 tons and 6.72 pounds in fiscal year 1993.

- A ban on yard waste in the landfill — which officials plan to enact soon — would account for 18 percent of the 25-percent reduction mandate.

- Alcoa and Maryville may in 1996 develop garbage pickup rates based on how much is set out for disposal.

- The local landfill has about 17 years of life left. Planners estimate there are some 237 acres left on the Long Powers Road site that can be used for disposal.

Committee backs solid waste plan

By Tammy Stanford
of The Daily Times Staff

A comprehensive Solid Waste Management plan has been recommended for approval by the county commission's legislative and resolutions committee.

The committee tabled several other matters Thursday.

The solid waste plan — mandated by the state — has been devised by the local Solid Waste Authority and approved by the cities of Alcoa and Maryville. County government must sign off on the scheme before it's submitted to the state this summer.

The solid waste plan plots how local governments will reduce the waste stream by 25 percent by 1996. It also details recycling and other programs for the next 10 years.

Among other topics at the Thursday meeting:

- The committee tabled a resolution to ease Ameri-

cans With Disabilities Act deadlines.

Under the ADA, local officials have until January 1992 to make government-owned buildings more accessible and safe for the handicapped.

A resolution endorsed by Blount ADA coordinator Fred Martin asks that the deadline be delayed if a local government commits one-half of 1 percent of its property-tax revenue to the work each year.

That would mean about \$100,000 annually in Blount, committee member J.C. Franklin noted. He said more than \$200,000 in ADA work remains in county buildings.

The committee decided to study whether the ADA expense might be tacked on to an anticipated long-term bond issue to build a new jail.

- The committee pondered the legal details of a resolution protesting an "unfunded mandate" — paying for mental evaluations for troubled juveniles in the court system.

IN RE: SOLID WASTE MANAGEMENT PLAN FOR BLOUNT COUNTY

Commissioner Samples made a motion to approve the plan.
Commissioner Franklin seconded the motion.

A roll call vote was taken with the following commissioners voting aye:

Carter	Hatcher	Lambert	Samples
Evans	Huff	McNutt	Walker, Mike
Franklin	Keeble	Morton	Williams
Garrett	Kidd	Ramsey	
Gregory	Kyker	Reed	

The following commissioners were absent:

Helton Neubert Walker, Mickey

There were 18 voting aye and 3 absent. Chairman Kyker declared the motion to have passed.

STATE OF TENNESSEE,
COUNTY OF BLOUNT

I Gay Lawhead, Jr. Clerk
of the County Court of said County, do hereby certify that the foregoing is a
true and perfect copy of the

County Commission Minutes

as the same appears of record in my office.

Witness my hand and official seal in Maryville, this 28 day

Nov 1994

Gay Lawhead, Jr. Clerk
by J. J. [Signature] Sec. Seal

RESOLUTION

A Resolution Adopting a Solid Waste Management Plan for the Blount County Solid Waste Region, in Accordance with the Tennessee Solid Waste Management Act of 1991.

Sponsors: Franklin and Ramsey

WHEREAS, the proper management of solid waste is an important issue affecting the health and welfare of current and future residents of Blount County; and

WHEREAS, the Tennessee Solid Waste Management Act of 1991 ("the Act") mandates the establishment of "solid waste regions" throughout the state; and

WHEREAS, each solid waste region is required to prepare a solid waste management plan in accordance with the Act; and

WHEREAS, the Blount County Commission has previously established a Solid Waste Study Committee, and approved its evolution into the Blount County Solid Waste Authority, in order to ensure Blount County's compliance with the requirements of the Act; and

WHEREAS, the Blount County Solid Waste Authority has prepared and adopted a solid waste management plan for the Blount County Solid Waste Region, has held a public hearing on the plan, and recommends its adoption by Blount County, Alcoa and Maryville.

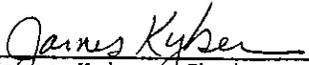
NOW, THEREFORE, BE IT RESOLVED BY THE BLOUNT COUNTY COMMISSION as follows:

SECTION 1. Blount County hereby adopts the Blount County Solid Waste Management Plan, dated January 1994.

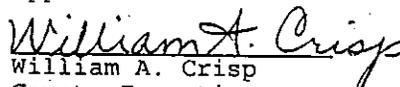
SECTION 2. Blount County authorizes the submission of the Blount County Solid Waste Management Plan to the Tennessee Department of Environment and Conservation and endorses the subsequent approval of the same as the solid waste planning document of the Blount County Solid Waste Region.

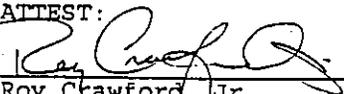
SECTION 3. Blount County will continue to cooperate and work with the Blount County Solid Waste Authority, Alcoa, and Maryville in order to implement the Blount County Solid Waste Management Plan, thereby satisfying the requirements set forth in the Act of 1991.

ADOPTED this 18th day of April, 1994.


James Kyker, Chairman

Approved:


William A. Crisp
County Executive

ATTEST:

Roy Crawford, Jr.
County Court Clerk

April 18, 1994
Date

RESOLUTION NO. 94-1

RESOLUTION OF THE BLOUNT COUNTY SOLID WASTE
AUTHORITY OF BLOUNT COUNTY, TENNESSEE
ENDORING THE SUBMISSION OF THE JANUARY 1994
BLOUNT COUNTY SOLID WASTE MANAGEMENT PLAN TO
THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND
CONSERVATION

WHEREAS, the proper management of solid waste is an issue most critical to the health and welfare of current and future generations of Alcoa, Maryville, and Blount County, Tennessee; and

WHEREAS, the Tennessee Solid Waste Management Act of 1991 (hereinafter referred to as the "Act") was enacted by the Tennessee Legislature requiring the comprehensive management of solid waste by designated Solid Waste Regions within Tennessee; and

WHEREAS, the governing bodies of Alcoa, Maryville, and Blount County have executed an agreement identifying themselves as a single county Solid Waste Region; and

WHEREAS, the Blount County Solid Waste Authority (hereinafter referred to as the "Authority") was formed jointly by Alcoa, Maryville, and Blount County and was charged with the administration of solid waste programs in Blount County;

WHEREAS, the Authority has developed the Blount County Solid Waste Management Plan (hereinafter referred to as the "Plan") for the purpose of outlining methods and options with which Alcoa, Maryville, and Blount County may fulfill requirements of the Act; and

WHEREAS, the Plan has been approved and endorsed by the Alcoa City Commission, the Maryville City Council, and the Blount County Commission.

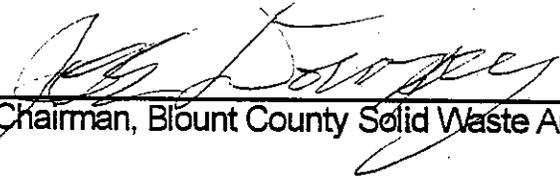
NOW, THEREFORE, BE IT RESOLVED BY THE AUTHORITY as follows:

SECTION 1. The Authority hereby approves the Blount County Solid Waste Management Plan, dated January 1994.

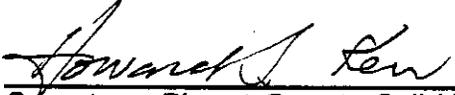
SECTION 2. The Authority endorses the submission of the Blount County Solid Waste Management Plan to the Tennessee Department of Environment and Conservation and subsequent approval of the same as the solid waste planning document of the Blount County Solid Waste Region.

SECTION 3. The Authority will commit its available resources toward the achievement of the requirements set forth in the Act and the goals established in the Blount County Solid Waste Management Plan.

ADOPTED this 2nd day of May, 1994.


Chairman, Blount County Solid Waste Authority

ATTEST:


Secretary, Blount County Solid Waste Authority

RESOLUTION NO. 1540

RESOLUTION OF THE MAYOR AND COMMISSIONERS OF
THE CITY OF ALCOA, TENNESSEE ENDORSING THE
SUBMISSION OF THE JANUARY 1994 BLOUNT COUNTY
SOLID WASTE MANAGEMENT PLAN TO THE TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

WHEREAS, the City of Alcoa, Tennessee (hereinafter referred to as "Alcoa") operates a solid waste collection system for the use and benefit of its citizens, businesses, institutions, and industries; and

WHEREAS, Alcoa, under contract with the City of Maryville, Tennessee (hereinafter referred to as "Maryville") and the County of Blount (hereinafter referred to as "Blount County"), operates the Alcoa/Maryville/Blount County Sanitary Landfill for the use and benefit of the citizens, businesses, institutions, and industries of Alcoa, Maryville, and Blount County; and

WHEREAS, the proper management of solid waste is an issue most critical to the health and welfare of current and future generations of Alcoa, Maryville, and Blount County; and

WHEREAS, the Tennessee Solid Waste Management Act of 1991 (hereinafter referred to as the "Act") was enacted by the Tennessee Legislature requiring the comprehensive management of solid waste by designated Solid Waste Regions within Tennessee; and

WHEREAS, the governing bodies of Alcoa, Maryville, and Blount County have executed an agreement identifying themselves as a single county Solid Waste Region; and

WHEREAS, the Blount County Solid Waste Authority (hereinafter referred to as the "Authority") was formed jointly by Alcoa, Maryville, and Blount County and was charged with the administration of solid waste programs in Blount County; and

WHEREAS, the Authority has developed the Blount County Solid Waste Management Plan for the purpose of outlining methods and options with which Alcoa, Maryville, and Blount County may fulfill requirements of the Act.

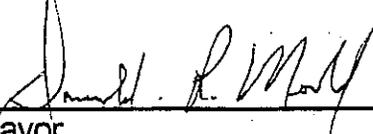
NOW, THEREFORE, BE IT RESOLVED BY THE ALCOA BOARD OF COMMISSIONERS as follows:

SECTION 1. Alcoa hereby approves the Blount County Solid Waste Management Plan, dated January 1994, and encourages and supports the endorsements of the Plan by Maryville and Blount County.

SECTION 2. Alcoa endorses the submission of the Blount County Solid Waste Management Plan to the Tennessee Department of Environment and Conservation and subsequent approval of the same as the solid waste planning document of the Blount County Solid Waste Region.

SECTION 3. Alcoa will commit its available resources toward the achievement of the requirements set forth in the Act and the goals established in the Blount County Solid Waste Management Plan.

ADOPTED this 11th day of January, 1994.



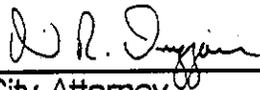
Mayor

ATTEST:



City Recorder

APPROVED AS TO FORM:



City Attorney

RESOLUTION NO. 94-04

A RESOLUTION APPROVING AND ENDORSING THE SUBMISSION OF THE JANUARY 1994 BLOUNT COUNTY SOLID WASTE MANAGEMENT PLAN TO THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION.

* * * * *

WHEREAS, the City of Maryville operates a solid waste collection system for the use and benefit of its citizens, businesses institutions, and industries; and

WHEREAS, the City of Alcoa, under contract with the City of Maryville and the County of Blount operates the Alcoa/Maryville/Blount County Sanitary Landfill for the use and benefit of the citizens, businesses, institutions, and industries of Alcoa, Maryville and Blount County; and

WHEREAS, the Tennessee Solid Waste Management Act of 1991 was enacted by the Tennessee Legislature requiring the comprehensive management of solid waste by designated Solid Waste Regions within Tennessee; and

WHEREAS, the governing bodies of Maryville, Alcoa and Blount County have executed an agreement identifying themselves as a single county Solid Waste Region; and

WHEREAS, the Blount County Solid Waste Authority was formed jointly by Maryville, Alcoa and Blount County and was charged with the administration of solid waste programs in Blount County; and

WHEREAS, the Authority has developed the Blount County Solid Waste Management Plan for the purpose of outlining methods and options with which Maryville, Alcoa and Blount County may fulfill requirements of the Act.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF MARYVILLE as follows:

SECTION 1. That the City of Maryville hereby approves the Blount County Solid Waste Management Plan, dated 1994.

SECTION 2. That the City of Maryville endorses the submission of the Blount County Solid Waste Management Plan to the Tennessee Department of Environment and Conservation with the request that the same be approved as the solid waste planning document of the Blount County Solid Waste Region.

SECTION 3. That the City of Maryville will commit its available resources toward the achievement of the requirements set forth in the Act and the goals established in the Blount County Solid Waste Management Plan

ADOPTED this 1st day of February, 1994.

Stanley P. Hill
Mayor

ATTEST:

Mark J. [Signature]
City Recorder

APPROVED AS TO FORM:

Ray D. [Signature]
City Attorney

BLOUNT COUNTY PLANNING COMMISSION
REGULAR SESSION
THURSDAY, JANUARY 27, 1994
5:30 P.M.

The Blount County Planning Commission met in regular session at the Courthouse on Thursday, January 27, 1994. Staff was represented by John Jagger, Director of Planning, and Beverly Collins, Assistant Planner.

Commissioners Present: Chairman Gene Brown, J.C. Franklin, Mike Garner, Leroy Huff, Fred Metz, Clara McNutt, Cinda Reed, and Mike Ross. Commissioners Absent: Stanley Headrick, Sam Lambert, and Bill Proffitt.

The minutes of the December 9, 1993 meeting were approved. These were distributed by mail to commissioners prior to the meeting.

Election of Officers - The first order of business was the election of officers for 1994. J. C. Franklin moved to retain Gene Brown as chairman and secretary of the commission by acclamation. Cinda Reed seconded the motion which was approved unanimously. Mr. Franklin nominated Stanley Headrick to continue as vice-chairman and to accept the nomination by acclamation. Leroy Huff seconded the nomination. Approval was unanimous.

Request for Preliminary Plat Approval- The Goddard Property: The Goddard property is located at the end of Gravelly Hills Road and extends to Fort Loudon Lake. The preliminary plat shows 47 lots on 23 acres and a remainder tract for future development. It was noted that the recent bad weather had kept the surveyor from preparing the topographic map and road profiles for the meeting.

Mr. Jagger reported that his review had focused mainly on the proposed road layout. As shown, the number of lots on a cul-de-sac would exceed the Commission's standard of forty. Although the limited frontage on Gravelly Hills Road precludes a full loop system, a boulevard entrance for approximately 300-400 ft. with a second stubbed R.O.W. into the remainder tract could achieve the same basic result. Such a road design would allow for future extension onto adjoining property owned by a relative of Mr. Goddard. Mr. Rick Everett reported that Mr. Goddard was receptive to this idea. It was also noted that the developer was considering the possibility of a community water system as opposed to reliance upon individual wells for each lot. Finally, it was stated that some of the lakefront lots might need to be enlarged to offset the effect of TVA's flowage easement and the Health Department's regulations.

After further discussion, Mike Ross moved to grant preliminary approval subject to the completion of the topographic map and road profile, and redesign of the road layout to the satisfaction of Mr. Jagger and Tony Abbott, County Engineer. He also stipulated that the Health Department be consulted concerning the lot layout. Mr. J.C. Franklin seconded the motion which received unanimous approval.

Request for Preliminary and Final Plat Approval - Breckinridge, Unit 1: Six lots are proposed for 3.2 acres on Morganton Road. Mr. Jagger noted that this is the first phase of the Breckinridge development and that an additional forty-one acres will eventually be subdivided behind these lots (tentative plans call for a cul-de-sac road system which would limit the number of lots in subsequent phases to a total of 40). Lots 2-6 have been approved for septic systems. Lot 1 has an existing house and septic system, which has not been evaluated due to the Health Department's new policy in this regard. J.C. Franklin moved to grant preliminary and final plat approval to Breckinridge, Unit 1. Fred Metz seconded the motion. Approval was unanimous.

Miscellaneous Requests or Required Actions - Determination of Status of Property Adjacent to Chestnut Ridge Drive: Mr. and Mrs. Wayne Zurl were present to request clarification of the status of a parcel containing 2.62 acres in Chestnut Hills. Mr. Jagger explained that this tract is located in one corner of the development and was created through a process of elimination. Two sides of the property represent external boundaries of the development. The third side was established when the first phase was developed (at a time when "five acre" developments were exempt from planning commission review). The fourth and final side was established when the adjoining tract was platted under the "exemption certificate" procedure.

The County Attorney has advised that his parcel is a legal lot and that it could be transferred or built upon without any action required by the BCPC. Even if a building permit system is established in the future, this tract would be considered a "lot of record." The Planning Commission concurred in this analysis and instructed Mr. Jagger to notify the Zurls, in writing, of this discussion. Mr. Jagger said he would also send them a copy of the minutes once they become official.

Miscellaneous Requests or Required Actions - Replat of Eagles Nest Subdivision: Mr. Jagger reported that two minor replats in Eagles Nest S/D in the Laurel Valley development had been submitted after the agenda had been mailed. Lots #18, 19, and 21 were revised to reflect the as-built road alignment and

actual acreage of lot 19, and lots #2, 3 and 4 were revised to enlarge lot 2 and decrease the size of lots 3 & 4. Mr. Jagger recommended that this replat be resubmitted to the Health Department for its evaluation.

Mr. Franklin moved to grant the requests for plat approval pending the necessary signatures. Mr. Huff seconded the motion which received unanimous approval.

New Business:

Discussion of Blount County Solid Waste Management Plan:

Mr. Jagger reported that the Blount County Solid Waste Management Plan has been completed. The document has been approved by the Solid Waste Authority and recommended to Blount County, Marville and Alcoa for adoption. Mr. Jagger noted that Mr. Franklin, Ms. Reed and he were members of the Authority. He stated that the Authority believed that the plan addressed the State mandates, and that it was not in conflict with any other plans or activities of the county. He said that the cities had already endorsed the plan and that it would be submitted to the County Commission for action after a public hearing is held. No action was required.

Staff Reports:

Mr. Jagger distributed copies of suggested wording for a note to be placed on one-lot plats which are not reviewed by the Health Department due to the presence of an existing subsurface sewage disposal system.

Mr. Jagger gave a brief report regarding activities involving the Planning Department/BCPC during the past year. Thirty-five subdivisions containing 204 new lots from 500 acres land were approved in during 1993. In addition, one hundred twenty-one lots were reviewed and approved through the one-lot procedure representing 150 acres of land. The BCPC participated in the preparation of the "2005 Transportation Plan" and the resulting update of the Major Road Plan for the county. He also reported that the current activities of the County Commission's long-range planning committee and the Tuckaleechee Cove study group will have positive implications for the BCPC in 1994. Finally, he said that the review of the BCPC's Subdivision Regulations will be completed this year, and that he hoped to forge stronger ties with the other planning commissions in Blount County in 1994.

Mr. Jagger reported that he had received the formal announcement of Maryville's revision to its comprehensive plan with respect to the proposed extension of Sandy Springs Road. Mr. Poland had been present at the December meeting to explain this proposal.

Mr. Jagger distributed copies of a "Demographic Profile of Blount County" to the commissioners.

The meeting adjourned at 6:20 p.m.



CHAIRMAN