

Sullivan County Regional Plan:



A Guide for Future Land Use &

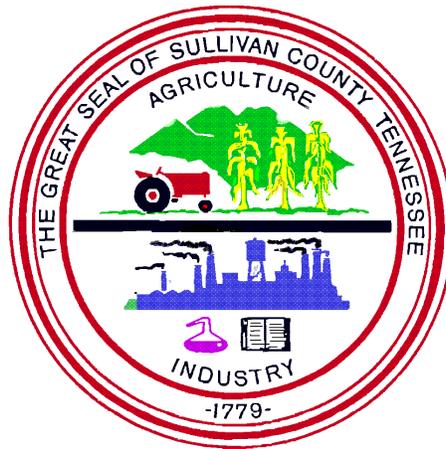
Transportation Development



Planning Period
2006 - 2026

SULLIVAN COUNTY REGIONAL PLAN:

A GUIDE FOR FUTURE LAND USE AND TRANSPORTATION DEVELOPMENT



SULLIVAN COUNTY,
TENNESSEE

(Planning Period: 2006 – 2026)

**SULLIVAN COUNTY REGIONAL PLAN:
A GUIDE FOR FUTURE LAND USE AND TRANSPORTATION DEVELOPMENT**

**SULLIVAN COUNTY,
TENNESSEE
2006-2026**

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SULLIVAN COUNTY REGIONAL PLAN

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DEDICATION OF THE PLAN

This plan is dedicated to both the natural and built environments. May this plan help guide the current and future decision-makers towards finding the balance of preservation and progress as they serve the residents, business owners, and visitors of Sullivan County, Tennessee.

-- A. Torbett

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Upon studying this plan it may become apparent to the reader that there was more than one author and contributor. This plan was a collaborative effort by many local planners, support staff, and technicians through the research, mapping, writing, editing, and application of photography, and graphics. A heart-felt thanks to the planners and administrative staff of the Department of Economic and Community Development, Division of Local Planning Assistance Office in Johnson City. Most especially, I would like to thank Ronda Sawyer, Principal Planner of the Local Planning Assistance Office for her resourcefulness and dedication in the development of the ***Background For Planning*** text and graphics. In addition, the development of the databases and mapping information, using the county's geographical information systems by Russ Davis, GISP of Landmark GIS consulting proved to be such a powerful and informative tool. The projection and illustration of the proposed land uses over the county and other maps prepared by him captured the crucial data relative to understanding the state of the county.

It should also be known that this plan for the county could not have been achieved without the assistance and data sharing from the planners, GIS managers and support staff of the other municipalities within the county. After all, in order to best understand the county's growth patterns and projections, one must consider the land use influences and regulations from the municipalities within and around Sullivan County. Many thanks to all who participated – proving once again, that the *process* of planning is quite often more important than the plan itself.

A special appreciation also is made to the support staff of my department – the staff of the Sullivan County Planning & Zoning Department. They are but a few, but their institutional knowledge and individual contributions to the plan added depth and insight that no consulting firm could compare. So, thank you Tim Earles, Debbie Houser, Jack Morrison, Claude Smith and Lynn Stewart for your added value to the plan and most especially for your patience and perseverance.

In addition, many thanks to the editors of the plan: Debra Rene Mann, Administrative Assistance of the Local Planning Assistance Office of Upper East Tennessee; and to David Lee DeWeese, Ed.D., who is the Assistant Professor at Southern Illinois University at Edwardsville but more importantly, my father.

Lastly, a special thank you to each member of the Sullivan County Regional Planning Commission and Mayor, Steve Godsey for their individual perspectives shared, as well as, achieving consensus on the policies, goals and objectives during several Development Plan workshops.

Vision Statement: Sullivan County in the Year 2026

Looking ahead to the year 2026, the Vision Statement (opposite) reviews issues identified in the land use and transportation plan.

The Statement presents a positive scenario in which today's development concerns in the county have been addressed and actions are underway to create opportunities for a better future.

The year is 2026 and Sullivan County has a somewhat different look and feel than it did just twenty years prior. It appears greener, thanks, in part, to conservation efforts and land use polices, that have encouraged the preservation of open spaces. Its population is more diverse in terms of age and ethnicity as a result of immigration. Its economy continues to grow and diversify in areas of manufacturing, distribution, technology, services, medical, tourism and retail.

Sullivan County, along with the Kingsport-Bristol-Johnson City, TN/VA Metropolitan Area, ranks among the nation's best places to live and work. Sullivan County is Northeast Tennessee and Southwest Virginia's center for employment, shopping, medical services, recreation and cultural entertainment. The downtowns of Kingsport and Bristol are vibrant with shops, restaurants, offices, festive open spaces and a growing residential population. Blountville is a major historic tourist attraction while remaining the hub for county government and supporting retail development. Shopping areas have clustered near intersections along transportation corridors such as highways US 11E at Piney Flats and TN 394 near Blountville. Interstate interchanges along I-81 have also developed strong retail and highway oriented business centers.

New residential developments are also concentrated along major transportation corridors where there are adequate utilities. Housing is available for a wide range of family sizes and incomes, with a particular increase in a variety of housing styles for retired people.

Although agriculture uses have continued to decline, the county still maintains a rural appearance. This can be attributed to low-density residential development outside of the urban planning areas. Within urban planning areas, infill has occurred. Much of the new residential areas have

developed using a popular technique called Open Space Residential Development (OSRD). Such developments tend to cluster housing on smaller lots surrounded by common open space. This type development gives the illusion of a more rural environment, yet is more cost-beneficial to the developer on infrastructure. The county's contribution toward the extension of sewers to county residents has assisted in this more compact pattern of development.

Improvements to the road systems — a concerted effort to reduce pollutants by existing industries and involvement by local citizens has resulted in an overall improvement in air



quality. Water quality has also improved, due in part, to adopted storm water regulations. TVA lakes including South Holston, Boone and Ft. Patrick Henry remain safe for recreational use. Strict adherence to National Flood Insurance Program guidelines has reduced the threat of damage from flooding.

The adoption and enforcement of building codes and improved fire protection services have led to safer housing and a reduction in fire insurance premiums.

A pro-business attitude and continued county support of economic development efforts has assured the availability of suitable sites for expanding existing industries as well as, the attraction of new.

Capital improvement budgeting has aided county government efficiency and helped keep taxes relatively low. Cooperation between city and county school systems has led to maximizing the use of school facilities. Further, school facilities serve to meet recreational and park space needs of residents.



Finally, the appearance of Sullivan County has been enhanced by better development regulations which, limits development on areas with excessive slope, the preservation and restoration of historic resources and the improvement of public roads and facilities. Sullivan County is recognized as a preferred location in the Southeast for new business investment and as one of the most livable communities in the United States.

CHAPTER 1

INTRODUCTION

PURPOSE OF THE REGIONAL PLAN

The purpose of this document is to provide Sullivan County, Tennessee with a regional plan for the future development of land, transportation infrastructure and community facilities. The regional plan is an essential planning instrument for a community. As outlined in Section 13-3-302 of the *Tennessee Code Annotated*, the objective of the plan is to serve as a guide for “accomplishing a coordinated, adjusted, efficient and economic development of the region which will, in accordance with present and future needs and resources, best promote the health, safety, morals, order, convenience, prosperity and welfare of the inhabitants, as well as efficiency and economy in the process of development”.

The Sullivan County Regional Plan covers the planning period of 2006-2026. The information presented in this plan should be used as a framework to guide county officials, community leaders, businesspersons, industrialists, and others as they make decisions that affect the future growth and development of Sullivan County. The plan is not intended to supersede the responsibility or authority of local officials and department heads. Instead, it is designed to give the public and private sectors a basis to constructively use the interdependencies, which exist between the various elements and organizations in the county. The development goals, objectives, policies and the implementation strategies presented in this plan should be periodically reviewed, and when necessary, updated to reflect unanticipated occurrences or trends.

SCOPE OF PLAN

The regional plan is designed to formulate a coordinated, long-term development program for those areas of Sullivan County that lie outside the corporate limits of Bristol, Bluff City, Kingsport and Johnson City. However, in order to understand the unincorporated lands of the county, the author had to study the land uses and infrastructure of the surrounding cities. The preparation of a development program requires gathering and analyzing a vast array of information. The historic events, governmental structure, natural factors, and socioeconomic characteristics of Sullivan County are studied to determine how these have affected and will affect the needs of land uses, transportation facilities, and community facilities. These needs are analyzed to identify important characteristics, relationships, patterns and trends. From these analyses, pertinent problems, needs and issues relative to land use and transportation in Sullivan County are identified. An amalgamation of this information is utilized to produce (1) a major thoroughfare plan and (2) a development plan.

The Major Thoroughfare Plan analyzes the present highway needs and provides recommendations for future improvements and developments, which will serve any increase in traffic flow. The Development Plan, as presented herein, consists of two interdependent elements: the identification of development goals and objectives and the establishment of policies for achieving them; and the creation of a development plan concept which visually illustrates these goals, objectives, and policies. To achieve the goals and objectives identified in the Development Plan (Chapter 7) specific strategies or measures are outlined in an implementation schedule (Chapter 8).

COMMUNITY GOALS, PROCESSES, AND METHODOLOGIES

The development of community goals and objectives is a primary product of the *Regional Plan*. Essential to the development of these goals and objectives is citizen participation, which is necessary to identify local needs, and problems as perceived by the community at large. Several methodologies are available for obtaining citizen input. The methodologies utilized in this plan included presentations, interviews with local government officials and department heads, workshops with the Sullivan County Planning Commission, solicitation of public comments at meetings of the Sullivan County Regional Planning Commission, and from the County's website. In addition, regional partners and planners were asked to review the plan and provide comment and input prior to the public review period. Those asked to participate included: the other municipal/regional planning commissions in the county and their respective planning staff, the Networks Partnership, the Tri-Cities Regional Airport Commission and other various commissions and committees within the county. From this input, goals and objectives addressing the recognized needs and problems were identified. These goals and objectives are presented in Chapter 7 of this plan.

COMPANION PLANNING DOCUMENTS

A number of companion planning documents were used in support of the *Sullivan County Regional Plan*. The following local plans and documents, as well as State and Federal Reports, do not represent the full source list; however they are reference here as the primary sources used, should more detailed information be further desired by the reader and user of this plan. Included are:

1. The Sullivan County, Tennessee 1101 Growth Plan, November 1999. The passage of Public Chapter 1101 established the requirement for cities and counties throughout Tennessee to evaluate their growth potential and gauge their ability to manage that growth effectively and cooperatively. Pursuant to this mandate, the Sullivan County Coordinating Committee was established to prepare a unified growth plan, placing parameters on growth within the county. These parameters were identified as urban growth boundaries, planned growth areas, and rural

areas. County and municipal governments were required to propose boundaries based on projected population growth, land required to accommodate that growth, and public infrastructure and service capacities to meet the anticipated demand. The Local Planning Assistance Office (LPAO) assisted in documenting these studies through the creation of reports and maps. Such documentation was published and on file in the Sullivan County Planning and Zoning Department.

2. The State Route 357 Corridor Study and Sullivan County Comprehensive Transportation Study, July 2001, provided by Wilbur Smith Associates, addressed two tasks. The first was a *Transportation Study*, which focused on the proposed State Route 357 Highway Extension. The second was a *Comprehensive Transportation Study* addressing the general transportation needs within the entire County.

Task 1. An analysis of the proposed extension of State Route 357 corridor, providing external trips and new development trips, identification of possible water quality and geological, right-of-way impacts, and the economic impact of establishing this proposed corridor:

- ◆ *Inventory of parcels within the planning corridor* - resulting in an up-to-date base map, with an accompanying legend of parcels/structures.
- ◆ *Identification of External Traffic (Through Trips)* - resulting in an average daily and peak-hour trips traveling through the proposed corridor.
- ◆ *Identification and inventory of general land use patterns* - resulting in a land use base map reflecting the nature of the land use patterns, and the implications of the relevant factors which may be expected to affect future land use patterns within the study area.
- ◆ *Identification of possible impacts to water quality and geology* - resulting in possible factors associated with water quality and geological impacts.
- ◆ *Identification of residential development and site impacts* - resulting in a base map, which illustrates projected residential development areas.
- ◆ *Identification of major commercial development and site impacts* - resulting in a base map, which illustrates projected major commercial development areas.

Task 2. *Countywide General Transportation Plan* - Resulting in a long-range plan with the intent to assist in the planning process for future growth in Sullivan County:

- ◆ For more information, one may refer to the State Route 357 Corridor Study and Sullivan County Comprehensive Transportation Study, published in July 2001 by the Engineering, Planning and Economists Office of Wilbur Smith and Associates.

3. *The 2025 Long-Range Transportation Plan Update, Bristol Urban Area Metropolitan Planning Organization.* Provided by the Bristol Tennessee Metropolitan Planning Office.
4. *Sullivan County, A Strategic Plan for a Future of Growth: 2001 - 2010.* Provided by the Sullivan County Strategic Planning Committee.
5. *Kingsport Long-Range Transportation Plan.* Provided by the Kingsport Metropolitan Planning Office.
6. *East Kingsport Land Use and Transportation Plan.* Provided by the Kingsport Metropolitan Planning Office with assistance from Allen & Hoshall, Consultants.
7. *Rocky Mount Corridor Development Guide, 2001.* Provided by the City of Johnson City Planning Department in coordination with Sullivan County and prepared by Winter & Company.
8. *Blountville Historic Preservation Vision Plan - 2004.* Prepared by Anita Long, members of the Sullivan County Regional Historic Zoning Commission and Sullivan County Historical Preservation Association with conceptual plan assistance by Uwe Rothe, AIA.
9. *Sullivan County Soil Survey, 1990.* Prepared by U.S. Department of Agriculture, Soil Conservation Services.
10. *Sullivan County Stormwater Pollution Prevention Plan (SWPPP), 2003-2008.* Prepared by Amec Earth and Environment, LLC with assistance by Sullivan County Planning and Zoning Department, in coordination with the cities within the county.
11. *Sullivan County Total Maximum Daily Load (TMDL) Monitoring Plan, Part I* – A five-year monitoring period for the 303D Listed Impaired Streams for Siltation and Habitat Alteration. Provided by the Sullivan County Planning & Zoning Office, Stormwater Administration Program, August 2007.
12. *Sullivan County Total Maximum Daily Load (TMDL) Monitoring Plan, Part II* – A five-year monitoring period for the 303D Listed Impaired Streams for Ecoli Pollution. Provided by the Sullivan County Planning & Zoning Office, Stormwater Administration Program, September of 2007.

13. *The Sullivan County School Facilities Assessment Plan* as prepared by the Partnership for Educational Facilities Assessment Group (PEFA), 2007 – 2008.
14. American Planning Association, *Policy Guide on Planning & Climate Change, Delegate Assembly Draft*, April 27, 2008.
15. United States Environmental Protection Agency, *Improving Air Quality through Land Use Activities*, EPA420-R-01-001, January 2001.
16. *Growing Greener: Putting Conservation into Local Plans and Ordinances*, Randall Arendt (Natural Lands Trust, American Planning Association and American Society of Landscape Architects), 1999.

CHAPTER 2

BACKGROUND FOR PLANNING

INTRODUCTION

To effectively plan for any community it is necessary to gather background information. The size and location of a community are important aspects of community development. Information on a community's early settlement and events effecting its past development assist in planning for its future development. An understanding of the community's political history and governmental structure helps to reveal the atmosphere in which future planning will take place. Background data for Sullivan County is presented in this chapter.

LOCATION AND SIZE

Sullivan County is located in the northeastern part of Tennessee with an area of 429.7 square miles, 413.5 square miles of land area and 16.7 square miles of inland water area, as shown in illustration 1. A portion of the Cherokee National Forest, 58.4 square miles, is also located in the eastern portion of Sullivan County. Neighboring counties are Scott and Washington Counties in Virginia, which border to the north; and within Tennessee, Johnson County borders to the east; Washington and Carter Counties border to the south; Hawkins County borders to the west.

Blountville, the county seat for Sullivan County is the only county seat within the State of Tennessee that is not incorporated. It is centrally located between Kingsport, Bristol, Bluff City, and Johnson City with good proximity to Interstates 26, 81, and 381, Highways 19E, 11E and 11W and State Routes 44, 93, 394, 421 and 435. Future growth can be facilitated by the transportation infrastructure as well as the natural and scenic amenities offered by Sullivan County.

HISTORICAL SUMMARY

Sullivan County was formed in 1779 by division from Washington County and named in honor of General John Sullivan, an officer in the Continental Army. On February 7, 1780, the county court was organized at the home of Moses Looney. Sullivan County's first boundaries included Hawkins County, which was broken off from Sullivan in 1786. The county courts met in residences (in the County) including Looney's and Yancey's (near Kingsport) and Cox's, at Thomas's Bridge (near Blountville), until 1795.

State of Franklin: North Carolina, finding the protection of the western lands difficult, offered them to the United States in 1783, and then withdrew the offer. Washington, Sullivan and Greene Counties

organized the State of Franklin in 1784. During this period the people had divided loyalties and operated with two sets of government officials – one North Carolina’s – one Franklin’s. The State of Franklin collapsed in 1788.

Southwest Territory to State: North Carolina again offered its western lands to the United States and in 1790 Congress passed an act governing the “Southwest Territory” with William Blount as first Territorial Governor. Blount operated the government, for a short period, at Rocky Mount in Piney Flats. Sullivan County was on the main overland routes for traveling west, as well as the “head of navigation” of the Tennessee River system and therefore grew rapidly. The 1790 census showed 4,447 persons in the county and Governor Blount’s 1795 report showed 8,457. Tennessee was admitted to the Union June 1, 1796 as the 16th state.

Blountville: named after William Blount, the County Seat was laid off as a town in 1795. The first courthouse was built of massive logs with a jail in the rear. A subsequent brick courthouse and jail

later replaced it in 1825. The current courthouse was built in 1853. A fire destroyed nearly all its archives in 1863 when Federal forces attacked it during the Civil War in the Battle of Blountville. The courthouse was then rebuilt within those same walls in 1866, remodeled in



1920, and additions made in 1958. A new jail was built in 1956. In 1988, the jail was moved to the site of the County’s Justice Center, which was completed in 1989. In 2003 jail additions were made.

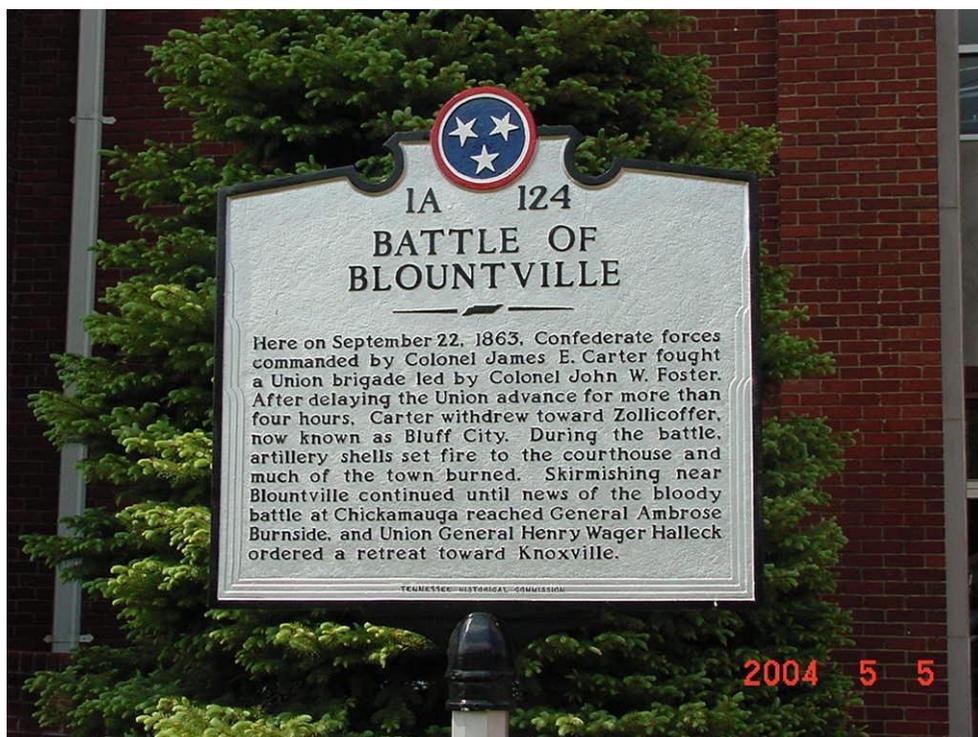


(Photographs provided by Shelia Hunt and A. Torbett)

Other Towns in Sullivan County:

- ◆ Bluff City (formerly named Choate's Ford, Zollicoffer, or Union), a planned town by 1798.
- ◆ King's Port, settlement attempted in 1761, permanently settled in the 1770's, boating migration from this point made it known as "The Boat Yard", 1802 – laid out as town of Christianville, 1818 – another town Rossville, laid out adjacent to it – these two towns incorporated as Kingsport in 1822. Kingsport is known as "The Model City" as it was originally planned by the nationally renowned planner, John Nolan.
- ◆ Paperville, named for a paper mill built by Burkhart who settled here in 1794, was a town about 1810 near upper Bristol. Paperville is not an incorporated town.
- ◆ Bristol, settled in the 1770's known as "Sapling Grove" and a section nearby, known as "King's Meadows", became a town in 1853.

The Battle of Blountville: The War Between the States found Sullivan County with bitterly divided loyalties. It was the site of much activity with two battles, one in Blountville and another in Kingsport. The Great Stage Road (Hwy. 126) being the main street through downtown Blountville was the center stage of the primary battle within Sullivan County, which resulted in a great loss of dwellings, businesses and public building. The railroad, completed in 1859, was the target of many raids and much destruction. Fortunately today, many of these historic structures along The Great Stage Road have been partially or fully restored and preserved.



(photo by A. Torbett)

Sullivan County Today: among the 95 counties in Tennessee, Sullivan is the 6th largest in population, with approximately 413 square miles in land area. The 2002 Census of Population and Housing, U.S. Bureau of the Census, listed Sullivan County with 153,051 persons. The following map illustrates the location of Sullivan County within the region and neighboring states.



(photo by A. Torbett – View of White Top Ridgeline, taken from Strawberry Ridge)

ILLUSTRATION 2-1 LOCATION MAP

GOVERNMENT STRUCTURE

Knowledge of governmental structure is an important aspect of planning for the future. A county's form of government, financial capability, and Planning Commission status directly affects its ability to plan for growth and development. The purpose of this section is to provide a general examination of the governmental structure of Sullivan County, to briefly describe its functions, and to assess its potential influence on future development.

Sullivan County was formed in 1779 and is currently governed by an elected County Commission of 24 members with the countywide elected Mayor, traditionally serving as Chairman. Approximately 800 full and part-time people in various departments serve the Sullivan County citizens to fulfill the numerous functions and responsibilities of the county. The legislative body (County Commission), elected and appointed officials, judicial system, administrative staff, Sheriff, county highway commissioner's department and services represent the departments serving the county.

The officials elected by the Sullivan County voters and a description of their duties are listed below:

County Mayor - Term: 4 years

Duties:

- ◆ Operates as Chief Executive Officer of Sullivan County.
- ◆ Supervises the care and custody of all county property, except school property.
- ◆ As Chief Fiscal Officer, serves as non-voting (votes in a tie), ex-officio member of the Board of Commissioners of Sullivan County.
- ◆ Appoints members of county boards, commissions and department heads, subject to confirmation by the Board of Commissioners.

Sheriff – Term: 4 years

Duties:

- ◆ Serves as chief law enforcement officer of Sullivan County.
- ◆ Waits on all courts.
- ◆ Directs operations of the county jail and the county workhouse.
- ◆ Appoints jailers, deputies and bookkeeper.
- ◆ Receives fines, fees and work-release payments.
- ◆ All monies received are paid monthly to the Trustee.

Trustee – Term: 4 years

Duties:

- ◆ Collects all property taxes.
- ◆ Appoints deputies.
- ◆ As Treasurer of Sullivan County, receives all funds paid to County Courts and County officers.
- ◆ All monies are deposited in banks. Receivable warrants are sent to the Director of Accounts and Budgets. Funds are paid out by payable warrants.

Assessor of Property – Term: 4 years

Duties:

- ◆ Assesses all property in Sullivan County.
- ◆ Appoints deputies.

County Attorney - Term: 4 years

Duties:

- ◆ Acts as legal advisor to all county officials and boards.

Superintendent of Schools – Term: 4 years

Duties:

- ◆ Supervises all county schools and administers Board of Education policies.
- ◆ Prepares and submits annual budget to County Commissioners.
- ◆ Responsible for initiation and administration of instructional program.
- ◆ Supervises building programs and maintenance of school buildings.
- ◆ Recommends teachers for employment by the Board of Education.
- ◆ Acts as chief executive officer of the Board of Education.
- ◆ Recommends to the Board of Education the equipment, supplies and clerical assistance needed for the administration of school system.
- ◆ Administers the total school program.

Commissioner of Roads – Term: 4 years

Duties:

- ◆ Ex-officio member of the Planning Commission.
- ◆ Responsible for all county road construction involving the widening or rerouting of existing county roads.
- ◆ Responsible for maintaining all county roads and bridges.

- ◆ Directs the operations of the asphalt plant and the county garage, and oversees the activities of the county surveyor.
- ◆ Coordinates transportation needs and projects with all local departments, officials, cities and states.

Register of Deeds – Term: 4 years

Duties:

- ◆ Registers property transfers, mortgages, financing statements, subdivision plats, subdivision restrictions and discharge papers for veterans.
- ◆ Files judgments and federal tax liens.
- ◆ Collects transfer taxes on all property transfers and mortgages and receives fees for recording documents.
- ◆ All transfer taxes are paid monthly to the State, and all fees received are paid monthly to the Trustee.

Circuit Court Clerk – Term: 4 years

Duties:

- ◆ Serves as Clerk of Chancery Court, Criminal Court and General Sessions Court, Divisions I, II and III.
- ◆ Appoints deputy clerks for all the above courts.
- ◆ Keeps minutes of all courts of record.
- ◆ Maintains offices in Kingsport, Bristol and Blountville.
- ◆ Receives and records all fees, fines, costs, penalties, interest and judgments paid to the courts served.
- ◆ All monies received are paid quarterly to the Trustee.

County Clerk – Term: 4 years

Duties:

- ◆ Issues and records licenses for motor vehicles, marriage, businesses operating in Sullivan County, hunting and fishing.
- ◆ Processes and records applications for licenses for physicians, nurses, optometrists, chiropractors, veterinarians, realtors and general contractors.
- ◆ Processes and records applications for admission to the bar, notary public commissions, motor vehicle and trailer titles and state permits for automobile dealers.

- ◆ Processes and records bonds for realtors, beverage dealers, notaries of public, deputies of county sheriff, special duty deputies and constables.
- ◆ Administers oaths to county officials, deputies, notaries of public and constables.
- ◆ Maintains offices in Kingsport, Bristol and Blountville.
- ◆ Receives fees and penalties.
- ◆ Receives all monies paid to the Trustee or the State on a daily, monthly, quarterly or annual basis.

Administrator of Election Commission – Term: 4-years

Duties:

- ◆ Maintains all candidate records and applications.
- ◆ Maintains all voting equipment.
- ◆ Manages and administrates all voting registrants and records.
- ◆ Administers all elections, maps, and results.

There are other public officials for the county that are appointed, not elected, such as: Accounts and Budgets Director; Building Commissioner; Emergency Management Administration Director; Emergency Medical Services (EMS) Director; Planning and Zoning Director; Purchasing Agent (Term - Reconfirmed every two (2) years by County Commission); Sanitation/Solid Waste Director; Regional Health Department Director; Tourism Director; Library Director; County Archivist; as well as other managers, supervisors and deputy directors.

In addition to the full-time elected and appointed officials carrying out the various functions of the local government, the county has several operating partnerships with local and regional agencies. One of which, is the NETWORKS Partnership for regional economic development. The partnership is a joint economic development partnership of Sullivan County and its municipal sectors of Bluff City, Bristol and Kingsport.

CHAPTER SUMMARY STATEMENTS

The purpose of this plan is to assist in future development of Sullivan County.

- ◆ Located in the upper portion of East Tennessee, Sullivan County is the sixth largest county in total population in the State yet remains somewhat rural in character in comparison to some of the more populous counties.

- ◆ To be able to plan for future growth one must consider the county's government structure and its influence of future development. It has been determined that Sullivan County has a well-established governmental structure to assist in the future growth that will be examined within this plan.

- ◆ Through the leadership of the mayor and other officials, Sullivan County's governmental structure establishes a strong foundation for managing the growth and development of the county assuring the orderly and efficient use of tax dollars and fees.

CHAPTER 3

NATURAL FACTORS EFFECTING DEVELOPMENT

INTRODUCTION

The natural environment often dictates the pattern of land use or development in a community. The climate, air and water quality, topography, drainage, flooding, and soils are significant natural factors, which effect development. Ignoring these factors can prove to be extremely costly to specific property owners as well as the entire county. Not all land is suitable for development; therefore, as land use development occurs, natural factors, which cannot be altered, must be considered in the plans for development. The limits and type of land use should be responsive to the natural factors in order to protect the welfare of the general populace. Through increased knowledge of these natural factors and the appropriate use of land, future development can avoid the mistakes of the past. The purpose of this chapter is to review and evaluate the natural factors influencing the land use patterns in Sullivan County.

CLIMATE CONDITIONS AND ITS EFFECT ON DEVELOPMENT AND FARMING ACTIVITIES

The climate classification of Sullivan County is temperate and continental. The short moderate winters, long warm summers, and moderate range in temperature make this a desirable climate for living. The mild climate allows for continuous construction and development. This is evident in the constant average numbers of building permit records month by month, as opposed to dramatic increases and declines in the number of permits issued based upon inclement weather. It appears that tax returns and interest rates have more of an impact upon trends in building permit records than the climate conditions. In addition, the uniformly distributed, moderately high annual precipitation, the lack of prolonged drought, and the relatively long growing season are well suited for general farming. The climate is mainly influenced by warm, moist air masses moving northward from the Gulf of Mexico and by cool, dry, continental air masses from regions to the north and west of the State. Frequent displacement of one of these air masses by the other in winter and early in spring, and less frequent displacement during the other seasons, provides invigorating changes in the weather, but nothing too extreme or for long periods relative to development activity.

Precipitation is generally well distributed throughout the year. There are approximately 140 days a year with measurable precipitation in Sullivan County. Although the normal annual precipitation for Sullivan County is 48.75 inches, annual amounts of 80 inches have been recorded in the mountainous areas. Precipitation is usually heaviest in late winter and early spring, as a result of frequent low-

pressure systems. Precipitation is generally the lightest in late summer and early fall, when high-pressure systems are most frequent. Thus, while there are periods of dry weather, there are also periods of plentiful rainfall in all seasons. The mean annual rainfall, which is fairly well distributed throughout the year, averages approximately 43.8 inches. The maximum amount of rainfall occurs during the spring and summer, which ensures ample moisture for staple crops. The normally drier autumn, on the other hand, benefits harvesting operations. Thunderstorms occur about 47 days each year, and most occur in spring.

The average annual temperature in Sullivan County is 53.5° Fahrenheit. According to the Tennessee Statistical Abstract 2003, from 1971 to 2000, temperature ranged from a maximum 84.8°F to a minimum of 24.3°F. The range of temperatures on record for Sullivan County is less than that for many places in the western part of the State. Occasionally temperatures exceed 80°F as early as May and as late as September, but the greatest frequency of high temperatures generally is in June through August. Extremes in temperature are uncommon, seldom above 90° or below 10°F. As a result of the rise and fall of temperature during a normal year, the growing season may last for approximately 190 days.

Severe storms are rare, and winters are generally mild and clear. Nightly freezes followed by daily thaws are common during cooler periods. The winter weather usually includes a short warm period, a subsequent short period of rain, some occasional snowfall, and then a few days of low temperature. According to information obtained from the Sullivan County Economic Commission, the seasonal average snowfall is about 18 inches. On an average of 7 days, at least 1 inch of snow is on the ground. The number of such days varies greatly from year to year. Snowfall seldom occurs during November and rarely remains on the ground for more than a few days. The mountainous areas of the county are usually blanketed with snow for a much longer period of time. Except for a few extreme cold days, outdoor work can be performed during the winter. Hailstorms in the area average about two a year - commonly in the spring.

Relative humidity throughout the day usually varies inversely with the temperature. The average relative humidity in mid-afternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 60 percent of the time in summer and 45 percent in winter.

The prevailing wind direction for each month of the year is from the northeast, and the average wind speed is highest -9 miles per hour- in the spring. Clouds cover three-fifths of the sky, on the average,

between sunrise and sunset. Average cloud cover varies annually from about seven-tenths from December through March to about one-half in September and October. There is less cloud cover during the growing season.

AIR QUALITY AND ITS EFFECT ON QUALITY OF LIFE AND FUTURE INDUSTRIALIZATION

A statewide effort was undertaken in Tennessee to develop and implement an effective ozone forecasting and public outreach program. The history of local air quality planning efforts and the ozone forecasting and outreach programs began in April 2001 and culminated in September 2002. The Tennessee ozone-forecasting project focused on the existing metropolitan areas of the State with the support of air pollution control agencies, including EPA, TVA and the State Air Pollution Control Division, of TDEC.

The former ozone standard of 120 parts per billion (PPB) has been changed to 80 PPB. All of Tennessee's counties had achieved compliance with the former standard but a significant number are in violation of the new standard. Sullivan County has two (2) ozone monitors, with one located at Indian Springs Elementary School and the other at Ketron Middle School. These monitors are operated by the State of Tennessee, Department of Environment and Conservation. Recently, Sullivan County exceeded the Environmental Protection Agency's (EPA) Ozone Standard for an 8-hour exposure and has been designated by the State and EPA as a "non-attainment" county.

Several areas of the State are developing or participating in public outreach programs to encourage voluntary measures that can be taken on Ozone Action Days to help minimize emissions of precursor chemicals that contribute to ozone formation and exceedance levels. Representatives from the Tri-Cities area of upper East Tennessee and Southwest Virginia are working to develop and coordinate a working coalition of industry and local citizen groups that can implement an ozone outreach and citizen action program in this region. Participants include a number of local industries, local media and the adjacent State of Virginia that shares the MSA in this region.

Areas formally declared in violation of the National Ambient Air Quality Standards (NAAQS) are designated "non-attainment areas" and must meet certain Clean Air Act requirements such as:

- ◆ New Source Review – requires a comprehensive review of new or expanded industrial operations to minimize air pollution. Emissions control requirements are more stringent and costly than for attainment areas.

- ◆ Transportation Conformity – requires a demonstration that regional long-range transportation plans will not negatively affect progress toward attainment or federal highway funds can be withheld.
- ◆ Rate of Progress Requirements – a certain percentage of pollutants must be reduced each year.
- ◆ Failure to Attain – consequences of failure to reach attainment by the specified date include stricter control measures and the potential for stiff penalties.
- ◆ 10-year Maintenance Plan – includes additional or continuing mandatory programs for 10 years following attainment.

In late 2002, Sullivan County joined several other counties in northeast Tennessee in an Early Action Compact with the EPA, which potentially delays this “non-attainment” designation as long as the County is making voluntary improvements to air quality (ozone). The cornerstone of the Early Action Compact (EAC) Protocol is the Air Quality Improvement Plan (AQIP) developed to reduce local ozone-forming emissions and lower summertime ozone levels. It is the official attainment/maintenance plan for the area to be developed under the EAC Protocol agreement. It is a comprehensive air quality plan that will be incorporated into a formal Tennessee State Implementation Plan (SIP) and the area will be required to carry out this plan just as in non-attainment areas. The State and local governments agree to develop and implement an AQIP that will demonstrate attainment of the 8-hour ozone standard by December 31, 2007, and maintenance until at least 2012. The State and local governments will develop this plan in coordination with EPA, other stakeholders, and the general public. The AQIP will include a process to monitor and maintain long-term compliance with the standard. The AQIP will be finalized and submitted by March 31, 2004, and then for submittal by December 31, 2004, for SIP amendment. If a development or issue arises that may impact performance or progress toward milestones, the State or local government signatories will immediately notify all other signatories.

WATER QUALITY AND STORM WATER POLLUTION PREVENTION

In December 2000, the U.S. Environmental Protection Agency (EPA) under the Clean Water Act published a rule that requires certain small municipal separate storm sewer systems (MS4) to participate in the National Pollutant Discharge Elimination System (NPDES) program and obtain a storm water permit. This rule, commonly referred to as NPDES Phase II, extends the current NPDES permitting program to communities with a population of 10,000 or more and/or areas with a population density of more than 1000 people per square mile. Sullivan County is one of a number of northeast

Tennessee communities required to comply with the Phase II regulations (predominantly water quality based).

Sullivan County, as an operator of a small municipal separate storm sewer system (MS4), obtained their NPDES Phase II permit to be authorized “to discharge storm water runoff...to waters of the State of Tennessee.” The term “municipal” refers to all local governments, city and county that fall under this population, as defined above. The term separate storm sewer system simply means all man-made storm water-carrying systems maintained by the Sullivan County Highway Commissioner’s department. The system can be comprised of non-structural improvements such as open roadside ditches to structural components such as storm drains, culverts, bridges, detention features, etc. Such systems are not connected to the public sewerage system and therefore storm water drainage is not treated by any public sewerage treatment plant. Therefore separate storm water sewer systems must now be monitored for health and safety standards as well, pursuant to the NPDES program. Compliance is mandatory under State and Federal law and the Tennessee Department of Environment and Conservation (TDEC) is the NPDES Phase II permitting authority in the State of Tennessee. The Phase II regulations require that Sullivan County reduce the discharge of pollutants to the “maximum extent possible.” Phase II regulations target dirty storm water runoff (e.g., muddy

runoff from construction sites, oily runoff from parking lots, etc.); non-storm water discharges that are “plumbed in” to the County storm water system; and non-storm water discharges that are dumped in the County storm water system. The regulations require that any person, agent, owner, operator, etc... “potentially” disturbing one (1) acre of land or greater or part of a larger common development plan, must submit a Storm Water Pollution



Prevention Plan (SWPPP) to TDEC and the County prior to any grading and/or construction activity, which includes residential, commercial, industrial, and transportation developments. The County has been responsible for adopting regulations, which address stormwater runoff, erosion/sedimentation control, illicit discharge detection/elimination, and post-construction storm water management.

(photograph by T. Earles)

Another important aspect of the Phase II program is the protection of impacted waters of the State within Sullivan County and abroad, commonly referred to as the 303(d) list of impacted streams. The 303(d) list is a compilation of the streams and lakes in Tennessee that are “water quality limited” or are expected to exceed water quality standards in the next (2) two years and need additional pollution controls. Such 303(d) list and accompanying report are prepared every two years by TDEC. Water quality limited streams are those that have one or more attributes that violate water quality standards. Once a stream has been placed on the 303(d) list, it is considered a priority for water quality improvement efforts. If a stream is on the list, TDEC cannot authorize additional loadings of the same pollutant(s). In extreme cases, it may specify that dischargers will not be allowed to expand or locate on 303(d) listed streams until the sources of pollution have been controlled. Impacted water bodies for Sullivan County include: North Fork Holston River, Madd Branch, South Fork Holston River, Boone Reservoir, Gammon Creek, Wagner Creek, Candy Creek, Paddle Creek, Morrell Creek, Dry Creek, Indian Creek, Big Arm Creek, Woods Branch, Weaver Branch, Waters Branch, Laurel Creek, Back Creek, Little Creek, Cedar Creek, Beaver Creek, Transbarger Branch, Reedy Creek, Muddy Creek, Paint Spring Branch, and Booher Creek. Detailed pollutant sources for these water bodies may be found by contacting TDEC; however a general review of sources indicate that they range from land development, pasture grazing, failing septic systems, animal feeding operations, and contaminated sediment due to erosion and aquatic alteration. *(Photo by T. Earles, stream flowing from the Holston Mountains, 2007)*

Non-compliance on the part of the County to enforce storm water regulations or non-compliance on the part of owners/operators/developers may result in financial penalties and/or misdemeanor and felony charges. Sullivan County Stormwater Administration and Enforcement staffs have worked diligently in preparing regulations in accordance with the Phase II Program, which required formal adoption by the County Commission. These regulations are included in the Zoning Resolution: in addition, the Subdivision Regulations will be reviewed and updated to compliment the zoning codes in response to the Phase II rule. The NPDES Phase II program is a federally non-funded mandate placed on the County; therefore more monies may be needed by the County to enforce Phase II to the level deemed necessary for compliance with State mandates.

Continued Planning Coordination Between and Among the Cities and County

There are several activities under way which the county has initiated to carry out the goals of the storm water program. First the County should continue to work with the local cities on projects that cross over planning boundaries such as joint city/county staff meetings on development proposals and involvement in the Northeast Tennessee Storm Water Planning Group. Second, the department should develop new projects involving other departments and agencies that result in better water quality protection, such as illicit discharge elimination projects.

Due to the fact that nature knows no corporate arbitrary line when considering the flow of natural water bodies, it is imperative that the local planners, city engineers, and highway and road superintendents continue to make every effort to coordinate throughout the planning process – from plan development through enforcement. That is to say, regulations imposed in a regional planning commission’s subdivision regulations shall be comparable, if not the same, as those adopted in the county’s zoning code to ensure that the proper enforcement of erosion and sediment control measures take place. The EPA’s ruling on the NPDES program under the Phase II Storm Water Rule did not take into consideration that the State of Tennessee allows for regional planning boundaries, now known as Urban Growth Boundaries and their associated approved planning regions. Within Sullivan County, Kingsport and Bristol each have regional planning commissions with regional planning jurisdiction within their Urban Growth Boundaries. This means that those two cities each have control over all new subdivision developments, even if they are outside of their city limits, but within their planning regions. The appropriate Phase II Storm Water regulations have been adopted and incorporated into their respective Subdivision Regulations; however until such future time of annexation, the county’s building inspectors and county highway department inspectors shall be responsible for enforcing any and all approved erosion and sediment control measures and other best management practices for the life of the construction project. For this very reason alone, it is crucial that the Northeast Tennessee Storm Water Planning Group, consisting of the local planners, engineers, public works and TDEC representatives, continue to hold joint-staff meetings on upcoming projects, as well as, long-range best management practice planning. The group should continue to advocate for policy and code changes, which will better serve each local MS4 by better serving the development community. Undoubtedly if the same or similar regulations, dealing with storm water planning and pollution protection are in place, it can only make it more user-friendly and acceptable to the development community. Developers have now learned there is one set of guidelines rather than multiple codes. The Northeast Tennessee Storm Water Planning Group should also continue region-wide (the area encompasses the First Tennessee Development District’s) planning meetings involving the local TDEC office to ensure access to the most up-to-date information, expectations, State support and assistance throughout the implementation of the 5-Year Phase II Storm water Pollution Prevention Plan. Currently, the group is working on pulling together a regional stormwater working group under the direction of the Statewide Stormwater Coordinator from the TDEC headquarters.

The Sullivan County Planning and Zoning Department has become the lead coordinating agency dealing with the storm water program on behalf of the County. As the lead administrator, the department has continued to coordinate and encourage local projects, such as the area-wide clean-up projects of illegal dumping. Weekly, the Sullivan County Sheriff’s Department makes available

prisoner day-workers for community service. Cleaning up roadside debris; illegal roadside dumping of tires, trash, appliances, etc., have been on going. In 2004, the department had six (6) complaints of illicit discharge near a man-made open drainage ditch or natural water body. Of those six (6) complaints, all were cleaned up through the efforts of the county jail inmates, recycling coordinator, sanitation department and the health and safety code enforcement officer. The County collected over 68,250 pounds from these six (6) sites. This is in addition to the on-going roadside litter pick-up. The standard inmate roadside collection program, a State-grant funded program, resulted in 176,298 pounds collected in 2004. These local efforts not only assist in the implementation and enforcement of the Illicit Discharge, Detection and Elimination Resolution, it is a great example of pulling resources together for a common goal of water quality. For further detail on current and proposed water quality planning and projects, refer to the most current *Storm Water Prevention Pollution Plan Annual Report* for Sullivan County, prepared by the Planning Director.

TOPOGRAPHY

Topography is defined as the general configuration of the earth's surface, including its slope, geological characteristics, and other natural features. Tennessee's topography is among the most varied in the United States, and the topography of Sullivan County is no exception. Sullivan County lies in two provinces of the Appalachian Highlands - the Valley and Ridge and the Blue Ridge. The Blue Ridge province covers that part of the county occupied by Holston Mountain. The Valley and Ridge province is subdivided into five minor physiographic divisions according to relief and underlying rock as follows: Eastern shale hills, limestone ridges and valleys, central shale hills, western shale hills, and the Bays Mountain.

Holston Mountain is chiefly a massive steep-sided narrow-crested ridge, but in places it has a few lateral spurs. Elevations range from about 3,000 to 4,000 feet above sea level. The mountain is underlain by early Cambrian highly metamorphosed sedimentary beds of conglomerate, quartzite, slate, and marble. The rock formations have been identified as Erwin quartzite, Hampton shale, and the Unicoi formation.



(Photograph by T. Earles, Snowcapped Holston Mountains, 2007)

The Valley and Ridge province is represented by a part of the Great Valley of east Tennessee, which is not a river valley but an inter-mountain belt consisting of a series of parallel ridges and intervening valleys extending in a northeast-southwest direction. The Great Valley lies between the Unaka Mountains on the southeast and the Cumberland Plateau on the northwest and in this county is about 40 miles wide. It slopes gradually southwestward, being more than 1,000 feet lower at Chattanooga than at Bristol.

Most of the county is characterized by smooth rolling hills and valleys. Mountain ranges make up a large portion of the landmass. Elevations range from about 1,200 feet along the Holston River to 3,800 feet in the Holston Mountain Range near the Carter, Johnson and Sullivan County lines. Other spot elevations are: Blountville, 1,595 feet; Kingsport, 1,220 feet; Bristol, 1,650 feet; High Point on Bays Mountain, 2,405 feet; and Overlook at Boone Dam, 1,420 feet.

Slope is a major topographic consideration impacting the developmental potential of sites. It affects access, floodability, erosion potential and soil capabilities. The rate of erosion increases exponentially with increases in the degree of slope and steepness. Deep gorges and valleys have been cut by geographic erosion, leaving steep slopes, cliffs and areas of rock material. Although the mountainous regions of Sullivan County provide excellent scenic and natural wealth, the rugged terrain has limited to some extent the development of this area for other uses. Slopes in Sullivan County range from below 5 percent to nearly 50 percent. In areas greater than 20 percent slope, limitations to development are severe and development should occur only under the most guarded conditions. Areas with significant topographic constraints are located throughout Sullivan County, and are integrated with the soil section within this chapter.

GENERAL DRAINAGE PATTERNS

As a result of the mountainous region, the drainage patterns in Sullivan County are well developed. A major portion of the watershed is drained by the Holston River, which flows through the central part of the county. The Holston River flows in a westerly direction from the northeastern area of the county, where it forms the South Holston Lake located in the center of the county. It later flows into the Watauga River in the south-central part of the county near the Washington County line to form Boone and Fort Patrick Henry Lakes. Generally, the creeks and branches throughout the county flow westward into the Holston River, or into one of the water bodies it forms. The creeks and branches in the extreme south-central part of the county, however, flow southwest into the Watauga River. A more detailed map of the drainage pattern and outfalls system can be studied from the [Sullivan County Storm Water Outfalls Analysis Map](#), 2007 as prepared by the GIS division of the Planning & Zoning Department.

While the rivers, creeks and branches carry off most of the drainage, subterranean drainage and stream piracy is fairly common. Limestone sinkholes occur throughout, but are more numerous in the broader, smoother valleys. Most of the sinkholes are about 200 feet in diameter with a few that cover three or four acres. The sinkholes are mostly well drained but some contain water throughout the year. Sinkholes and karsts soils have recently made development more challenging, not only due to guarded State regulations, but by the simple fact that most of the good flat land has already been developed. Unfortunately the lack of adopted residential building codes in the county offers little recourse to homeowners post development.

FLOODING

TVA has established recognized watershed boundaries and has an established watershed alliance. There are four watersheds designated for Sullivan County, which include:

- North Fork Holston, Tennessee and Virginia regions
- South Fork Holston, Tennessee Virginia and North Carolina regions
- Watauga, Tennessee and North Carolina regions
- Holston, Tennessee and Virginia regions

Sullivan County is in the Holston River drainage basin. The floodplains of Holston River, Reedy Creek, Horse Creek, and Beaver Creek are fairly wide and flat. The floodplains of most of the other streams in the county are narrow. Small streams, many of them intermittent, are located almost everywhere. Consequently, in the application of both floodplain and storm water regulations in the consideration of development proposals and enforcement can be very challenging. In Sullivan County, flood hazard areas encompass approximately 16.7 square miles or 10,688 acres and effect many properties in whole or in part. The portions of South Holston, Boone and Patrick Henry Lakes



cover about 13 square miles or about 78 percent of the flood hazard area. The lake levels are controlled by the TVA's Multi-Purpose System. This leaves about 3.7 square miles or 22 percent of the total flood hazard area on uncontrolled streams and rivers. According to the latest (June 16, 1993) Federal Emergency

Management Agency's Flood Insurance Study, the principal sources of flooding in Sullivan County are North Fork Holston River, South Fork Holston River, Kendrick Creek, Reedy Creek, Horse Creek, Fall Creek, Beaver Creek, Back Creek, and Whitetop Creek. Also according to the Study, Fort Patrick Henry, Watauga and South Fork Holston Reservoirs of the TVA's Multi-Purpose System, Beaver Creek Dry Retention Reservoir, and Clear Creek Reservoir provide Flood Protection to Sullivan

County. Sullivan County is very fortunate to have the flood control management from TVA on most of the flood prone areas. This results in better quality of life and assurance for lakefront property owners and users of the recreational lands.

A copy of the detailed study is available through TVA at the Gray Station Office, Sullivan County Planning & Zoning Office, FEMA and the Local Planning Assistance Office in Johnson City, Tennessee. For the purpose of this study, basic past flooding information for each source of flooding problems in the county are provided below.

North Fork Holston River

The largest known flood on the North Fork Holston River occurred in February 1862. It had an estimated discharge of 51,000 cubic feet per second (cfs), with an estimated recurrence interval of 170 years. The second largest flood occurred in March 1867. It had an estimated discharge of 47,000 cfs upstream, with an estimated recurrence interval of 100 years. The flood of May 1901 reached elevation 1188.6, with an estimated recurrence interval of 100 years. The recent flood of April 5, 1977, had a peak discharge of 41,000 cfs upstream, with an estimated recurrence interval of 60 years. No damage information is available for these floods.

South Fork Holston River

Flow conditions on the South Fork Holston River for the study reach were changed after closure of Watauga and South Fork Holston Dams in 1948 and 1950 respectively. Prior to closure of these dams, the largest floods on record in order of magnitude were those of 1867, 1901, and 1940. It is estimated that with present regulation, the peak discharge of the 1901 and 1867 floods would be 44,000 cfs, with estimated recurrence interval of 250 and 160 years respectively. No damage information is available for these floods. Although TVA controls the base flood elevation, there are still some properties and structures that are susceptible to damage during high water flows.



(Photo by T. Earles, South Holston Dam)

Kendrick Creek

The highest water-surface elevation for which profile information is available occurred March 30, 1975, with an elevation of 1426.4, with an estimated recurrence interval of 6 years. Another flood for which water-surface profile information is available occurred March 16, 1973, and reached an elevation of 1424.8. No damage information is available for these floods.

Reedy Creek

The flood of May 30, 1927 on Reedy Creek was the highest known to local residents in the area for a period extending back to 1919. It had an estimated discharge of 11,000 cfs, with an estimated recurrence interval greater than 500 years. The largest flood since the gauge was established in October 1963 occurred October 2, 1977, with an estimated recurrence interval of about 40 years. If those floods recurred today, they would be higher than they were because earth fills have been made in lower reaches of the floodplains without consideration of stream flow requirement. No damage estimates are available for the study area.

Horse Creek

The largest known flood on Horse Creek since about 1890 occurred March 30, 1975, and reached elevation 1209.4, with an estimated recurrence interval of about 100 years. Six houses were flooded to depths of up to 2.5 feet and a golf course was almost completely covered by the floodwaters. The next highest flood occurred on April 4-5, 1977, and reached an elevation of 1203.8 feet, with an estimated recurrence interval of about 10 years. No damage or discharge estimates are available. Expansions of the State Route 93/Sullivan Gardens Parkway and new subdivisions have substantially increased run-off affecting this watershed.

Fall Creek

The only available flood information on Fall Creek is a marked profile of the October 2, 1977 flood, with an estimated recurrence interval of 10 years. No damage information is available.

Beaver Creek

Flow conditions on Beaver Creek for the study area have changed gradually over the years due to development of Bristol, Tennessee, upstream. In 1965 Beaver Creek and Clear Creek Dams were closed, regulating 19.5 square miles of the Beaver Creek watershed, further changing flow conditions. There are no estimates of the recurrence interval of floods occurring prior to 1965. The largest known flood on Beaver Creek occurred on March 7, 1967. There are no flood-marks for this flood. The largest flood since closure of Beaver and Clear Creek Dams occurred on October 2, 1977, reached

elevation 1389.0, with an estimated recurrence interval of 12 years. No damage information is available.

Back Creek

The only available flood information for Back Creek is a water-surface elevation profile for the October 2, 1977 flood. It reached elevation 1422.6 and was caused by backwater from Beaver Creek. No damage information is available.

Whitetop Creek

The Whitetop Creek flood of October 2, 1977 reached elevation 1449.7, and had an estimated recurrence interval of 10 years. No other marked high water-surface profiles are available. No damage information is available.

Sullivan County is currently participating in the National Flood Insurance Program through the enforcement of the Flood Damage Prevention Resolution. In September of 1982 based on a study performed by the Federal Emergency Management Agency (FEMA), Sullivan County adopted the necessary floodplain management regulations to be converted into the regular flood insurance program. All county residents should carefully consider purchasing flood insurance if they reside in or near a flood hazard area. This resolution is enforced and implemented by the Planning and Zoning office.

According to the *Sullivan County 2004 Local Hazard Mitigation Plan*, flood risks on small systems are expected to decrease as Bristol, Kingsport, and Sullivan County implement the NPDES Phase II permit to regulate post-construction water quality components in the next years. This permit requires communities to develop detention and water quality standards for new development.

Detailed flood boundaries and flood elevations may be obtained from the Flood Boundary and Floodway Maps, and Flood Insurance Rate Maps prepared for Sullivan County and incorporated places by the Federal Emergency Management Agency (FEMA). Development in the identified flood hazard areas is regulated by the Sullivan County Flood Damage Prevention Resolution, which requires the lowest floor elevation to be at least one foot above the 100-year base flood elevation (BFE). The County designated the Building Commissioner to enforce this Resolution.

Of significance relating to flood mapping in Tennessee, including Sullivan County, is the Map Modernization Program being initiated throughout the State. FEMA in FY-2003 entered a renewed effort through its Flood Hazard Mapping Initiative to develop a modernized flood map inventory on a

national basis. This initiative proposed to update the nation's flood risk identification maps to a digital format and streamline FEMA's map operations in response to improved technologies and more sophisticated state and local systems. In March of 2004, the State of Tennessee through the Local Planning Assistance Office of the Department of Economic and Community Development prepared and submitted to FEMA its Business Case for the implementation of the Map Modernization Program. Sullivan County provided representatives with a list of priority areas in need of restudying and/or at minimum, providing base flood elevation information. This digitized information overlay used in conjunction with the Tennessee Base Mapping Program will provide more accurate flood information on a parcel-by-parcel basis. Release of these new maps was September of 2005. Further information relative to the Map Modernization Program may be obtained through FEMA and the Local Planning Assistance Office in Johnson City, Tennessee. The County Commission adopted these maps and accompanying Flood Damage Prevention Resolution in August of 2006. However, due to lack of coordination between FEMA and TVA, the County has officially requested a restudy of the floodplains to take into consideration that TVA controls the flowage easement of all of its reservoirs. FEMA did not consider the adopted TVA engineering reporting and Multi-Purpose Management Plan. TVA uses historical data to determine which areas fall within the 100-year chance of being flooded in any given year, while the newly adopted modernized Flood Insurance Rate Maps (FIRMs) prepared by FEMA, used computer modeling to create the flood prone boundaries. In all of the TVA controlled reservoirs, the new FIRMs are in conflict with the TVA flowage easements, resulting in hundred of land owners currently being forced to pay for flood insurance where previous they were not. Other floodplains were altered within the county that may require a restudy based upon historical data, claims reports, development trends and engineering findings. The 2006 adopted Flood Insurance Rate Maps (FIRMs) have greatly impacted the developable areas along the lakes, rivers and other tributaries. In addition it has caused undue hardship upon existing homeowners that was not expected. For the purposes of this plan, planning policies were derived using the historical data and old FIRM panels. *(Footnote, in July of 2007, FEMA agreed to reevaluate Fort Patrick Henry Lake floodplain data based upon the adopted TVA studies. Other FIRM panels within the TVA controlled reservoirs may be reevaluated in the future).*

SOILS

One of the most important factors affecting development in any community is the composition and capability of the area's soils. Understanding the characteristics of local soils is central in determining various development limitations and the appropriate land use for any particular site. Soil characteristics affecting development potential include such things as permeability and drainage qualities, depth to water table, flood potential, soil depth and depth to bedrock, load bearing strength and stability, and shrink or swell potential.

The many different processes of soil formation, acting in many different combinations on different types of parent materials, cause great variety in the soils. Some, but not all, of the spatial variability present in soils is predictable and mappable. For Sullivan County, much of this is predictable. Systematic variability is identified in the Soil Survey of Sullivan County, Tennessee, produced and published by the United States Department of Agriculture, Soil Conservation Service, which was last printed in 1994. The Soil Survey was mapped at a scale of 1:24000 feet, with a (4) four-acre minimum size map unit delineation. Delineations depict the dominant soils making up the landscape. Inclusion of other soils, too small to be delineated, are absent delineation. Enlargements of these maps to a scale greater than that at which they were originally mapped can cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale. Consequently, while the Soil Survey is highly useful in gaining broad understanding of landscapes, having such a survey in hand does not remove the need for on-site investigation in determining suitability of soils for septic systems or other similarly intensive land uses. Files related to the Soil Survey are dated and users are responsible for obtaining the latest version of the data. *(For technical information, contact the State Soil Scientist, Nashville, Tennessee, at (615) 736-5479).*

An important and valuable resource for this study is the Septic Suitability Map based on soil classifications as shown on Illustration 3-1, which is mapped at a scale of 1 inch equals 3.5 miles. The source of information utilized in mapping was derived from the Soil Survey of Sullivan County, Tennessee. The Survey was created in cooperation with the Tennessee Agricultural Experiment Station; Tennessee Department of Agriculture; United States Department of Agriculture, Forest Service; and the Sullivan County Board of Commissioners. The Survey was completed in 1987, and was approved in 1990. The survey was printed in 1994, and statements in this Survey refer to conditions in the survey area in 1987. The Sullivan County Planning Director used the GIS ArcView software to query the soil data and map by septic ratings, resulting in the Septic Suitability Map. The Septic Suitability Map includes three (3) septic suitability ratings as follows:

1. Slight: The limitations are considered slight if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome.
2. Moderate: The limitations are considered moderate if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome to minimize the limitations.
3. Severe: The limitations are considered severe if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

As Illustration 3-1 clearly depicts, Sullivan County is predominantly rated severe for septic suitability. To minimize this limitation, Sullivan County requires that subdivision of land meet a minimum lot size of ½ acre for all lots requiring septic systems and where public sewer is not available. Also, the Tennessee Department of Environment and Conservation (TDEC) has improved its septic approval process by requiring adequate land area reserved for duplicate field bed areas. In order for landowners and/or developers to gain smaller lot sizes, connection to or extension of public sewer for those lots is required, as well as rezoning districts in most cases. The connection to or extension of public sewer for development provides for not only smaller lot sizes, but also promotes high-density type development, which may afford a more efficient use of the land as opposed to rapid urban sprawl.

ILLUSTRATION 3-1 SEPTIC SUITABILITY

Based on a soils analysis, there is very little of Sullivan County that is considered suitable for urban development utilizing subsurface sewage disposal systems (septic). The pressure to convert farmland to urban uses continues to rise, regardless of the limitations of the soils. Communities that are prepared with sewer, well before development, are competitively stronger than those without. While this requires “up front” expenditures, it is an investment in the future of the area that cannot be ignored. With virtually the entire County unable to sustain additional septic systems without possible degradation of the ground water system, the County should prepare to extend trunk sewer lines into the County in support of development within its Planned Growth Areas.

Moreover, the County should continue to assess the established high-density areas that are in need of sewer conversion in order to clean up the ground water. The Director of Solid Waste/Sanitation for the County continues to prepare annual reports and recommendations to the County Commission for sewer expansion, while focusing on existing urbanized areas such as the Orebank, Bloomingdale, Colonial Heights, and Indian Springs Communities. These areas are then prioritized based upon his findings, costs, and feasibility per city engineering policies. Capacities of existing wastewater treatment plants will be affected and must be taken into consideration as plans are developed, as well as the capacities of existing waterways to handle additional demands. The expansion of public sewerage systems within these areas has already had a direct impact upon the health of the water bodies. The Planning & Zoning Department will continue to monitor and test the impaired streams in coordination with TDEC and the cities, in order to isolate the causes of these pollutants. E-coli bacterium continues to be a top concern, which may in part be due to failing septic systems and poor agricultural practices. For more information on the monitoring findings and recommendations, refer to the *Sullivan County Total Maximum Daily Load Monitoring Plan: A Protocol for Identifying the Pollutants and Improving the Health of the Impaired Water Bodies*, Parts I and II prepared in August and September of 2007.

Sullivan County should continue to coordinate with TDEC in identifying established developments and neighborhoods that have experienced chronic septic system failures leading to public health concerns. Such areas should then be scheduled for public sewer extensions as per *The City-County Sewer Agreement Plan and Program*. For more information on soil details and properties, contact the Sullivan County Soil Conservation Office in Blountville, Tennessee.

CHAPTER SUMMARY FINDINGS

- ◆ Like many counties in northeast Tennessee, the pattern of land use or development in Sullivan County has been significantly affected by natural factors. A combination of flooding, extreme slope, soil suitability, floodplains and topographic constraints have significantly restricted areas for growth and development in the county.
- ◆ Awareness of the limitations for each factor is useful in recommending the capabilities of a parcel of land for development. Natural factors limiting development for a particular use do not necessarily mean that the land cannot be developed for said use. It does mean that the limitations should be analyzed and then steps taken to overcome them in the best possible manner.
- ◆ The climate of Sullivan County and its effect on development can best be described as moderate. In general, climate has no great effect on development in the County as attested by the fact that the number of building permits varies little by month to month.
- ◆ Sullivan County has been designated by the State and EPA as a “non-attainment” county relative to air quality. However the County is engaged in the Early Action Compact, which potentially delays this “non-attainment” designation as the county makes voluntary improvements to air quality.
- ◆ Sullivan County should continue to compare the findings of the TMDL Monitoring Plan relating to the health of the water bodies to the reported failing septic systems and recommendations for sewerage expansions in order to improve the quality of life and health of the environment within established urbanized areas of the county.
- ◆ Sullivan County has been mandated by the State of Tennessee under the NPDES Phase II Program to reduce the amount of water pollution within the County. The County continues to adopt regulations to meet the requirements of the Program, and at present is not in violation of said Program.
- ◆ Water quality within Sullivan County should improve under the mandatory program, which requires a yearly report to be submitted to the State addressing their compliance or deficiencies with Phase II. A plan to improve deficiencies must be submitted with the yearly report.
- ◆ Slopes in Sullivan County range from below 5 percent to nearly 50 percent. In areas greater than 20 percent slope, limitations to development are severe; however careful planning and special engineering design standards may overcome such limitations. Despite this, major portions of land may be only suitable for natural recreation or designated as open space as part of overall development plans.

- ◆ Development within specified flood hazard areas is analyzed by planning staff and must meet the provisions of the County's Flood Damage Prevention Resolution. Of significance is the Map Modernization Program, which has updated the nations flood risk identification maps to digital format. The County submitted a list of priority areas in need of restudying and/or at minimum, providing base flood elevation information. This mapping provided more accurate flood information on a parcel-by-parcel basis, thus improving technical flood information relative to proposed development within flood hazard areas.
- ◆ Soil limitations are significant relative to natural factors effecting development. The pressure to convert farmland to urban uses continues to rise, regardless of the limitations of the soils. Prior to development, limitations should be analyzed and careful planning and special design practices must be initiated, which may be costly to developers, however minimizes the impact on other potentially affected residents. While the Soil Survey is highly useful in gaining broad understanding of landscapes, having such a survey in hand does not remove the need for on-site investigation in determining suitability of soils for septic systems or other similarly intensive land uses.

CHAPTER 4

SOCIO-ECONOMIC FACTORS EFFECTING DEVELOPMENT

INTRODUCTION

To understand the socio-economic factors that effect development, it is necessary to look at population and employment patterns, and to analyze their past, present and future trends for Sullivan County, Kingsport, Bristol and Bluff City. These trends are evaluated within the framework of regional, state, and national trends. In order to establish a base for the analysis, it is necessary to review local factors that effect population and economic activities. This chapter will present a summary of the population and employment trends pertinent to the preparation of this regional plan. Strategies for community development, projections of land use needs, and discussions of land use issues should reflect the findings on the population and employment trends identified in this chapter. These future trends in populations and employment must be understood in planning terms, and incorporated into the comprehensive plan.

TRENDS SUMMARY

For the purposes of this plan, the past changes in population and employment were examined for their implications for future development of Sullivan County. Parts of Johnson City and Kingsport are used in this plan because; these cities are split by the county boundary. The projected changes in the population and employment for Bluff City, Bristol, Johnson City, Kingsport, and the unincorporated portion of Sullivan County for the next 20 years are most significant for the purposes of this plan.

POPULATION

Table 4-1 shows the past, present and projected population growth for Bluff City, Bristol, Johnson City, Kingsport and the unincorporated portion of Sullivan County from 1980 to 2025. The population projections were developed by the University of Tennessee Center for Business and Economic Research to be used for the growth plans required under Public Chapter (PC) 1101. All numbers from 2005 and beyond are projected estimates. No records were recorded for Johnson City prior to 1990 as their first annexation into Piney Flats area of Sullivan County occurred in July of 1987 with the inclusion of the Summerfield Subdivision.

TABLE 4-1
PAST AND PROJECTED POPULATION GROWTH

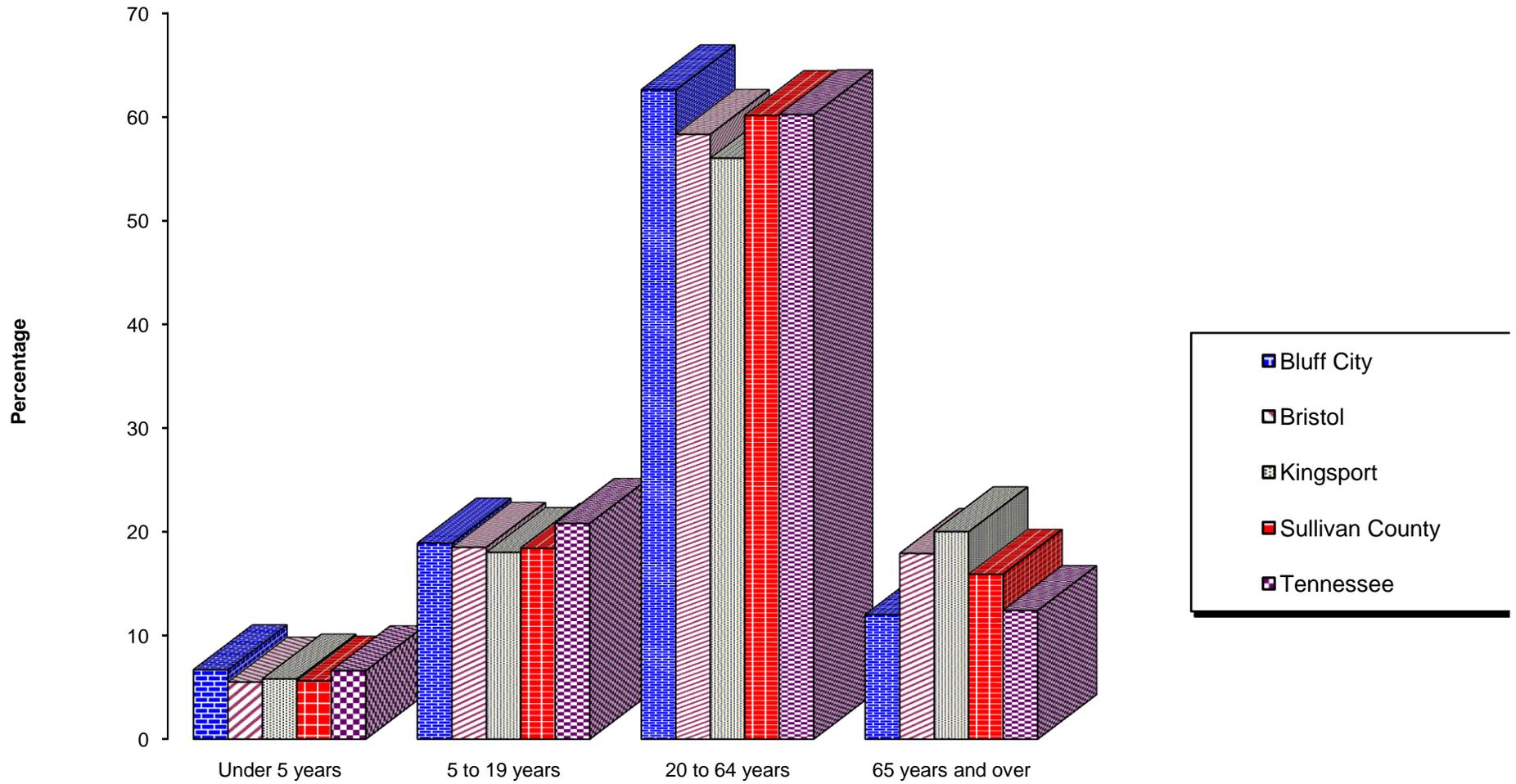
Location	1980	1990	2000	2005	2010	2015	2020	2025
Bluff City	-	1,390	1,559	1,571	1,601	1,621	1,630	1,629
Bristol	23,986	23,421	24,821	25,302	25,814	26,156	26,323	26,318
Johnson City	-	96	240	264	270	289	291	290
Kingsport	32,027	34,161	41,998	41,958	42,637	43,005	43,107	42,928
Sullivan County Unincorporated		84,528	84,430	86,419	88,239	89,396	90,040	90,098
Sullivan County Total	143,968	143,596	153,048	155,514	158,561	160,467	161,391	161,263
Tennessee	4,591,120	4,877,185	5,689,283	6,017,595	6,425,969	6,821,312	7,195,374	7,559,531

Source: U.S. Census, 1980, 1990, & 2000

Table 4-1 indicates the past and projected growth for Sullivan County, its municipalities and the State. All locations show an increase in population from 2000 to 2005, Johnson City exceeding the State rate with 10 percent in growth, with the exception of Kingsport, which has a population decrease of 0.10 percent. Marginal growth is predicted through 2020 for all locations. The population estimates between 2020 and 2025 show a slight decrease for Bluff City, Bristol, Johnson City, Kingsport, and Sullivan County. It should be noted that these projections do not take into consideration any annexations by the cities, as those cannot be predicted by the county. Therefore, the current plans for Kingsport to annex parts of the Rock Springs Community was not factored into these projections and therefore the city's growth will likely expand while the county's population will decline. The important thing to note is that over the projected period, the county as a whole has and will continue to experience overall steady growth in population based upon this conservative trends analysis.

The age distribution of the population of an area can give some indication of the population growth and migration patterns of its residents. Graph 4-1 gives the age distribution for the year 2000 of Bluff City, Bristol, Kingsport, Sullivan County and Tennessee by percentage for the age groups under 5 years, 5 to 19 years, 20 to 64 years and 65 years and over.

**GRAPH 4-1
2000
AGE DISTRIBUTION BY PERCENT**



The age distribution indicates the percentage of the population that is pre-school, school, working and retirement age. These categories provide valuable information for educational, economic and housing needs. As indicated in graph 4-1, Bluff City is just above the State average, 6.6 percent for “Under 5 years” of age with 6.7 percent. All other areas are just below the State average. In the category “5 to 9 years” Tennessee has a percentage of 20.8 while all others are in the 18 percent range. In the “20 to 64 year” category that indicates the working adults Kingsport has the smallest average of 56 percent and Bristol is 58.3 percent while all others are in the 60 percent range with Bluff City having the highest at 62.6 percent. For, the last category “65 years and over” Kingsport has the largest at 20 percent, Bristol has 17.9 percent and Sullivan County has 15.9 percent while Bluff City is just below the States average of 12.4 percent with 12 percent. With the availability of health facilities, public transportation, recreational facilities and senior housing developments, Kingsport may witness an even higher increase in attaining and attracting an aging population, while the more rural parts of the county may see a decline. A more detailed study of the aging “baby-boomers” generation will of course be of interest to developers and land surveyors who may consider appealing to this segment of the housing and service markets. An addition, the county’s Planning & Zoning Department has recently experienced a noticeable number of requests for rezoning and development approvals for medium to high-density planned developments catering to the needs of “empty-nesters” and rising “baby-boomers” as that population seeks downsizing their dwellings but not their quality of life.

EMPLOYMENT

Employment in Sullivan County has fluctuated over time. There are 5 major categories evaluated by location. The categories are construction/mining, manufacturing, transportation/utilities, trade and finance, insurance, service sector and real estate. The locations used in this analysis are the Johnson City - Kingsport - Bristol MSA, Sullivan County and the State of Tennessee. As with the national trend, the Tri-Cities area has an increasingly noticeable growth rate in the service sector in and around the major corridors of the county.

**TABLE 4-2
EMPLOYMENT BY SECTOR
1990**

	Construction / Mining	Manufacturing	Transportation / Utilities	Trade	Finance, Insurance and Real Estate
Johnson City Kingsport Bristol MSA	7,500	54,600	6,200	40,000	5,500
Sullivan County	5,475	18,749	3,732	15,586	2,667
Tennessee	98,600	595,800	116,400	517,200	82,500

Source: U.S. Census, 2000

**TABLE 4-3
EMPLOYMENT BY SECTOR
2000**

	Construction / Mining	Manufacturing	Transportation /Utilities	Trade	Finance, Insurance and Real Estate
Johnson City Kingsport Bristol MSA	11,000	46,400	8,100	46,600	7,600
Sullivan County	5,803	14,627	3,053	12,489	3,221
Tennessee	131,300	560,000	177,800	644,800	103,600

Source: U.S. Census, 2000

Table 4-2 shows employment by sector for 1990 and Table 4-3 details employment by sector for 2000. All calculations are rounded to the nearest 100ths of a percent. Comparing both tables it can be determined that the construction/mining category has experienced an increase over the past 10 years. Johnson City, Kingsport and Bristol's MSA grew by 47 percent, Sullivan County by 6 percent while Tennessee increased by 33 percent. All areas experienced a decrease in manufacturing. Sullivan County had the largest decrease of 22 percent, 4122 jobs of all categories, Johnson City, Kingsport and Bristol (MSA) decreased by 15 percent, 8,200 jobs and Tennessee showed a decrease of .6 percent, 35,800 jobs. Transportation/Utilities category increased for Johnson City, Kingsport and Bristol MAS by 31 percent and Tennessee by 53 percent but decreased by 18 percent, 679 jobs for Sullivan County. Trade also increased for the MSA and Tennessee but dropped by 20 percent for Sullivan County. All locations experienced growth in the finance, insurance and real estate category. The Metropolitan Statistical Area's (MSA) increased by 38 percent far above the State rate of by 25 percent while Sullivan County was more in line with the State at 21 percent.

PER CAPITA INCOME

Per capita income is the mean income computed for every man, woman, and child in a geographic area. It is derived by dividing the total income of all people 15 years and older in a geographic area by the total population in that area. Sullivan County and the MSA's within this geographic area are separate for this calculation. In comparing the per capita income of Sullivan County, the First Tennessee Development District's region and the State all areas experienced an increase over a four-year period. Sullivan County had an increase from \$23,227 in 1999 to \$26,306 in 2002, an increase of 7.9 percent. The FTDD also increased by 7.9 percent from \$21,060 in 1999 to \$23,653 in 2002. The State had a smaller increase from \$24,723 in 1999 to \$27,611 in 2002 of 7.5 percent.

CHAPTER SUMMARY FINDINGS

- ◆ Sullivan County is the largest county in the Northeast Tennessee Region and the 6th largest county in the state with a population of now over 153,048. It contains municipalities: Kingsport, Bristol and Bluff City with populations of 41,998, 24,821 and 1,559 respectively. The projected population increase indicates both sustainable growth that is not so overwhelming as to be difficult to manage with public services and other needs.
- ◆ Employment within the county is much like that of the entire State following the same cycle of up's and down's.
 - The MSA's exceeded the State average with 47 percent growth in the construction/mining category.
 - Sullivan County experienced a 22 percent decrease in the manufacturing, while the MSA rate was a 15 percent decrease.
 - The county was the only area to lose jobs in the transportation/utility sector as well as the trade sectors with all other areas having an increase of 31 percent and greater.
 - The county experienced 21 percent growth in the finance, insurance and real estate sector, which is close to the State's average of 25 percent while the MSA's had an increase of 38 percent in this area.
- ◆ The per capita income for Sullivan County as well as the FTDD rose 7.9 percent between 1999 and 2002 while the State had an increase of 7.5 percent. The increase is a reflection of the economic stability.

CHAPTER 5

EXISTING PUBLIC FACILITIES SUPPORTING DEVELOPMENT

INTRODUCTION

Sullivan County has a relatively large number of public, cultural and recreational facilities that are precisely placed throughout the county. Schools and churches are located in communities with residential development. The locations of Fire Stations are chosen for quick response times to residential, commercial and industrial developments. Community facilities such as libraries and government buildings are centrally located per municipality on major state highways throughout the county for easy public access.

As the population of Sullivan County grows, there will be an increased demand for more public and semipublic facilities and services. Schools, water and sewer systems, roads, parks, cultural, and other facilities and services will have to be expanded to meet increasing needs. Without planning to meet these future demands and needs, there is a strong likelihood of duplicating facilities, choosing poor locations, or being unprepared for the needed public expenditures when the need arises. County government provides some of the facilities and services, but it also has a responsibility to plan for and help facilitate for all the needed facilities and services.

People are devoting more time to recreational and cultural pursuits. One of the best ways to prepare for the future demands for service facilities is to acquire the land before development reduces the amount of land available, and raises the cost of the land. Some current facilities need to be upgraded to meet current standards and demand. Facilities and services will be more cost efficient and better serve the public if plans are made now to meet future demands.

The purpose of this chapter is to examine and evaluate existing community facilities that are available to serve the general public within Sullivan County. Planning for community facilities should be a continuing process with periodic reviews and updates carried out to meet changing conditions and circumstances.

WATER SUPPLY AND DISTRIBUTION

The county relies on municipal utility departments and privately owned utility companies to provide safe drinking water to county residents and fire protection where possible. This will promote development and a higher quality of life for county residents.

There are eleven (11) public water systems, of which four are municipal, six are semi-public, and one water authority, serving Sullivan County. These water systems provide public drinking water for most of the developable areas of Sullivan County that are not within the Cherokee National Forest located along the eastern boundary of the county. The information on these water systems is summarized in the table on the following page titled Water Systems Serving Sullivan County. The capacity utilized by these water treatment plants for their current daily operations ranges from 57 percent for Kingsport and Johnson City to 85 percent for Bluff City. There is enough extra capacity in the treatment plants to meet the needs of county residents in the near term or in emergencies because the water systems are interconnected. The area served by these water systems is shown on the next page on the illustration titled Utility Districts. There are about 63,844 water connections in Sullivan County with the Kingsport, Bristol, Bluff City and Johnson City Municipal Water Departments having about 48,140 connections or about 75 percent of the water connections in the county. These four municipal water systems provide public drinking water for their city residents, most of their urban growth areas and a small area of the county outside these areas (comprising of their Metropolitan Service Area or MSA). They require a minimum water line size of six inches for new developments, with fire hydrants installed to meet urban standards for fire protection within their corporate limits and urban growth areas. The other seven water systems have about 15,704 water connections or about 25 percent of the water connections. They serve public drinking water to some of the city urban growth areas and most of the rest of the county. The Sullivan County Regional Planning Commission requires new water systems to be installed with a minimum water line size of six inches to provide adequate flow for future development and fire protection. However, the county cannot enforce or impose this standard unless coordinated with the applicable utility provider. This issue has been an on-going discussion item by staff and planning commission. The commission should also consider requiring stub outs for fire hydrants to be installed when existing lines are upgraded.

TABLE 5-1
WATER SYSTEMS SERVING SULLIVAN COUNTY

Name	Number of Connections	Water Source	Treatment Capacity GPD	% Capacity Utilized
Kingsport Water Dept.	35,554*	South Fork Holston River	24,126,000	57%
σσJohnson City Water Dept.	N/A**	Watauga River	28,000,000	57%
Bristol Water Dept.	11,619	South Fork Holston River	7,437,000	65%
σBloomingdale UD	4,975	Reedy Creek	1,643,000	70%
Blountville UD	3,721	Bristol Water Dept. 2/3 Bristol / Bluff City UD 1/3	none	N/A
South Bristol / Weaver Pike UD	2,219	Bristol Water Dept. Bristol / Bluff City UD	none	N/A
Bristol / Bluff City UD	2015	South Fork Holston River	2,700,000	79%
Tri-Cities / Sullivan Co. UD	1,324	Bristol / Bluff City UD	None	N/A
Holston UD	996	Bristol Water Dept. 85% South Bristol / Weaver Pike UD 15%	None	N/A
Bluff City Water Dept.	967	Underwood Spring	285,000	85%
Intermont UD	454	Bristol Water Dept.	None	N/A
Washington Co. Va. Service Auth.	N/A***	N/A	N/A	N/A

Source: Local Planning Assistance Office

* Some water connections in Virginia and Hawkins County.

** Number of water connections in Sullivan County not available.

*** No Tennessee Department of Environment & Conservation data sheet for this water system.

σ In July, 2006, Blountville Utility District merged with Tri-Cities/Sullivan County Utility District.

σσ In 2005, Johnson City acquired Chinquapin Grove Utility District.

ILLUSTRATION 5-1 UTILITY DISTRICT MAP

SANITARY SEWER SYSTEMS

The provision of sanitary sewer systems to the urban growth and planned growth areas of the county are important to promote high quality development while protecting ground water in these areas. The county has planned for and helped facilitate the provision of sanitary sewers to the urban growth and planned growth areas of the county through a cost-sharing agreement the County entered into with Kingsport, Bristol and Bluff City to extend sewers in the county. This has helped promote development and a high quality of life for county residents, while also addressing existing established neighborhoods with relief from failing subsurface sewage disposal systems.

All four municipalities in the county provide sewage collection and treatment systems within their corporate boundaries with the exception of Bluff City, which sends its sewage to Bristol for treatment. Bristol, Kingsport and Johnson City have extended their collection systems into their urban growth areas and a few planned growth areas. The areas served by sanitary sewers in the county are shown on an illustration 5-2, titled Sewage Coverage Areas. It is important to note, that the coverage area may expand with each new development when it is cost-beneficial to do so. For example, the City of Johnson City may agree to provide public sewer to a development adjacent to or near existing sewer lines, if the density is great enough to generate a positive rate of return on the investment in the infrastructure. Often times, the cities require the developer to install or pay for the materials needed for the sewer extensions. This scenario places no burden upon the current utility customers but provides for higher quality developments.

These four municipal sanitary sewer systems are comprised largely of gravity lines with pump stations installed where needed. The percent of capacity used in the daily operations of these treatment plants range from 60 percent for Bristol to 72 percent for Kingsport. The percent of capacity utilized by the three wastewater treatment systems currently operating in the county is shown in Table 5-2.

Sullivan County had separate agreements with Kingsport, Bristol, and Bluff City to facilitate the extension of sanitary sewers into the unincorporated areas of the county. In 1996 the county and the three municipalities entered into a consolidated agreement to promote the extension of sewers in the county that superceded the prior separate agreements between the parties. The purpose of the new agreement was to expand sanitary sewer service in Sullivan County. The county paid about one million dollars to Kingsport and Bristol and ½ million dollars to Bluff City to buy capacity in their wastewater treatment plants. The county agreed to pay twenty million dollars to build major sewer trunk lines in the 1996 agreement. According to data received from the Water and Sewer Departments of Bristol, Kingsport and Johnson City to date \$10,000,000 of the projects with Kingsport

have been completed, \$6,000,000 of the projects with Bristol have been completed with \$1,500,000 currently in process, and the \$2,000,000 of projects with Bluff City are currently in process.

TABLE 5-2
WASTEWATER TREATMENT SYSTEMS SERVING SULLIVAN COUNTY

Name	Treatment Capacity (GPD)	Average Daily Flow (GPD)	% Capacity Utilized
Kingsport Sewer Dept.	12,400,000	9,000,000	72%
Bristol Sewer Dept.	15,000,000	9,000,000	60%
Johnson City (Knob Creek)	4,000,000	2,700,000	68%

Source: Local Planning Assistance Office – from data collected from each Water/Sewer Dept.

The 1996 agreement provided for the following items:

- ◆ The county would pay for the extension of the trunk lines (major lines serving large areas) including the acquisition of the necessary rights-of-way and/or easements. The municipalities would pay for the collector lines (lines that connect individual customers to the major trunk lines).
- ◆ The municipalities are solely responsible for the design, contracting, and construction of their respective sewer collection systems including trunk lines paid for by the county. The municipalities shall have the responsibility for maintenance and other costs associated with the normal operation of the entire sewer collection system.
- ◆ The municipalities are to fund the collector lines if sewer cost does not exceed \$7,500 for each property owner and at least 70 percent of affected property owners agree in writing to pay for the sewer connection fees and sewer user fees. This formula on collector line extensions has resulted in a small amount of collector lines being built. However, the municipalities may provide sewer service at their own discretion even if they do not meet the standards described above.

- ◆ The municipalities can continue or discontinue service to any customer, or raise or lower sewer user fees. The sewer user fees and minimum charges for residences in unincorporated areas of the county shall not exceed by more than fifty percent of those paid by residents in the cities. The extra fee is for expenses incurred during construction of collector lines in the unincorporated areas and cost of maintaining lift stations in areas of less dense population.

- ◆ Sewer policy for high-density developments is required in Sullivan County due to severe soils and failing septic systems in established high-density residential neighborhoods. History has illustrated the need of maintaining low-density growth unless sewer can be provided.

ILLUSTRATION 5-2 SEWER COVERAGE MAP

ELECTRICAL

Sullivan County residents and businesses are served by three electric distributors. American Electric Power (AEP) is a private company that serves Kingsport and a portion of its urban growth area (except for Colonial Heights). AEP is the largest electricity generator in the United States, and it has more than five million customers on its eleven State electricity transmission and distribution grid. The City of Bristol owns the Bristol Tennessee Essential Services (formerly called the Bristol Tennessee Electric System), and the electric system serves Bristol Tennessee, Blountville, Bluff City and portions of Piney Flats. The City of Johnson City owns the Johnson City Power Board, and the electric system serves Colonial Heights and portions of lower Piney Flats. TVA supplies electricity to the BTES, and the Johnson City Power Board. These three electric distributors adequately serve the county.

NATURAL GAS

Atmos Energy Corporation provides natural gas service to Sullivan County residents and businesses. It is one of the largest natural gas distributors in the United States with about 1.7 million residential, commercial, industrial and public customers. The Tri-Cities area is supplied by a major natural gas pipeline that runs from Texas to Roanoke, Virginia, which roughly parallels Interstate 81. This is a high-pressure 36-inch pipeline with pump stations approximately 60 to 90 miles apart. The availability of natural gas within the county is an economic development asset giving both businesses and residents an important energy option where available. The extension of natural gas distribution lines and facilities are dependent on a cost-benefit evaluation made by the company. The areas served by natural gas in the county are shown on the illustration 5-3, titled Natural Gas. The county has adequate natural gas service, but could benefit greatly with a broader distribution area as an alternative source for heat and energy.

ILLUSTRATION 5-3 NATURAL GAS MAP

LAW ENFORCEMENT AND PROTECTION

Law enforcement and protection is one of the most important basic services provided by counties and municipalities. The cities of Kingsport, Bristol, Johnson City (limited area) and Bluff City supply enforcement and police protection within their respective corporate limits. The Sullivan County Sheriff's Department supplies enforcement and protection for the unincorporated areas of the county. The Sheriff's Department has a full-time equivalency of 212 personnel. Approximately 45 patrol officers are assigned to eight zones distributed throughout the county. There are mutual aid agreements in place with the surrounding cities for supplemental assistance as needed and the State Highway Patrol.

The Sullivan County Sheriff's Department is responsible for providing jail facilities for the whole county including the municipalities. The jail facilities have a capacity of 623 inmates, but have had as many as 650 inmates recently. The \$6,600,000 expansion of the jail a few years ago has already been outgrown. The next phase of long-term expansion is a \$10,000,000 plan to expand the jail. The county has recently completed the construction of a workhouse to solve the overcrowding problem. Workhouses are for non-violent inmates with many sentenced for misdemeanors and on work release during the day. Workhouses can use a dormitory or barracks design that requires much less space per inmate. The county may average about 200 inmates that could be housed in this type of facility. This appears to be a cost-effective way to solve this problem, as has been evident in the Greene County Workhouse.

FIRE PROTECTION

Thirteen fire departments deliver fire protection services within Sullivan County, which are detailed in Table 5-3 that includes their individual Insurance Services Organization (ISO) rating. Bluff City has an all-volunteer force; and the City of Bristol, Kingsport and Johnson City have paid full-time personnel. The Airport area has a volunteer fire department capable of responding to aircraft fires. Volunteer departments assigned to defined districts serve most of the unincorporated areas of the county. *The Sullivan County Growth Plan*, adopted in 1999, states that the Urban Growth Boundaries and Planned Growth Areas need to become a priority for upgrades in fire departments and fire hydrants necessary to achieve an urban level of fire protection. In addition, Mutual Aid Agreements are in place between the county and municipalities related to fire protection.

TABLE 5-3
FIRE DEPARTMENTS

Fire Service Area	City	ISO Rating
Area 421 Emergency Services	Bristol	9
Avoca VFD	Bluff City	6/10
Bloomington VFD Inc.	Kingsport	7/10
Bluff City Fire Department	Bluff City	6
Bristol Fire Department	Bristol	3
Sullivan East County VFD	Bristol	9/10
Hickory Tree VFD Inc.	Bluff City	9/10
Kingsport Fire Department	Kingsport	3/9
Piney Flats VFD (2 locations)	Piney Flats	6/10
Sullivan County VFD	Blountville	8/9
Sullivan West County VFD	Kingsport	8/10
Warriors Path VFD	Kingsport	7/10
Johnson City Fire Department	Johnson City	3/9

Source: Local Planning Assistance Office

These fire districts are shown on the illustration 5-4 on the next page entitled Fire Service Areas. These volunteer fire districts do not coincide with utility district service areas. This results in fire departments having little or no control over water quantities or pressures. However, the Sullivan County Regional Planning Commission requires a minimum water line size of six inches to provide adequate flow for future development and fire protection. The commission should also consider requiring stub outs for fire hydrants to be installed. The Sullivan County Board of Commissioners supplies most of the funding for the volunteer fire departments on an annual basis. Additional monies are obtained through grants and donations from property owners.

ILLUSTRATION 5-4 FIRE SERVICE AREA

EMERGENCY SERVICES AND DISASTER PLANNING

The Federal Emergency Management Agency was established in 1979 to consolidate Federal programs dealing with all types of disasters, and to provide disaster relief. The Sullivan County Emergency Management Agency (EMA) has the county responsibility to deal with natural disasters, power failures, nuclear incidents, hazardous material incidents, terrorism attacks, and large scale attacks on the United States, etc. The county EMA has developed a Sullivan County Emergency Management Plan for the above-described emergencies. The plan provides for an Emergency Operations Center to provide the command and control system for response to all types of disasters. The plan assigns primary responsibilities to public and private agencies and organizations for disaster relief in the county. There are three emergency dispatch services (Bristol, Kingsport and Sullivan County) that serve the county. Graph 5-1 from the Sullivan County Emergency Management Plan, which assigns these responsibilities, is shown on the next page. The page following graph 5-1 lists the five rescue squads and two emergency ambulance services operating in the county.

Sullivan County has also developed a Multi-jurisdiction Local Hazard Mitigation Plan, 2006. This plan consists of risk assessment which includes river flooding, small stream flooding, sinkhole/subsidence, tornadoes, earthquakes, severe winter/ice storms, severe thunderstorms and hailstorms, wild fires, dam failures, hazardous material spills, drought, and terrorism.

Based upon the hazard ranking procedure provided in the study the following hazards were considered minimum to high priority hazards: earthquakes, hazardous material spills, terrorism, small stream flooding, severe weather (thunderstorms, winter storms, tornadoes.)

The plan also provides overall goals for Sullivan County.

Goal 1: Protect community lifelines

Goal 2: Ensure that public funds are used efficiently

Goal 3: Better manage flood hazard areas

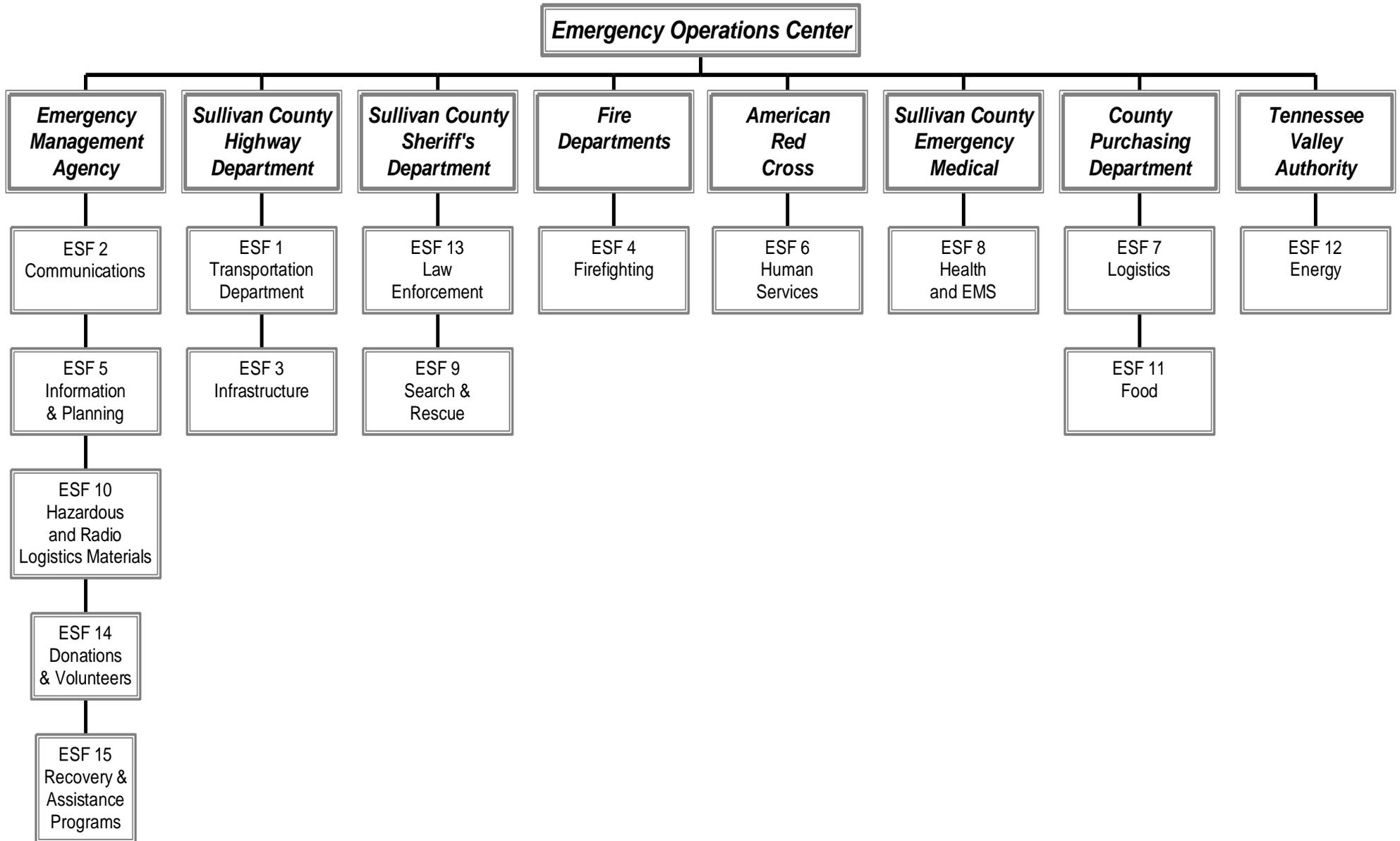
Goal 4: Protect community historic preservation resources

Goal 5: Improve and maintain coordination and communication between all jurisdictions

Goal 6: Educate the public on community hazards, prevention and mitigation measures

GRAPH 5-1 EMERGENCY RESPONSE CHART

Source: Sullivan County Emergency Management Service



Rescue Squads

Blountville Emergency Response & Rescue
Bluff City Rescue Squad
Bristol Life Saving Crew
Hickory Tree Rescue Squad
Kingsport Life Saving Crew

Emergency Ambulance Services

Bristol Fire Department
Sullivan County EMS (6 sites serving all Sullivan County except Bristol)

Other public, private and volunteer organizations provide emergency services to county residents. Mutual aid agreements are in place. The available emergency services meet the counties current needs, and should benefit from increased funding for homeland security.

EXISTING TELECOMMUNICATION FACILITIES

In the mid 1990's Sullivan County faced a widespread occurrence of requests for telecommunication tower development. Zoning codes and policies were then put in place to assist with the needs for this type of facility, while offering protection to the community. In 2000, the zoning code was amended with the assistance from the telecommunication companies and the State Local Planning Assistance office. In 2000 and 2003, the technology improved to digital capabilities and therefore required a change in policy. Due to the changes from analogue to digital telecommunication technologies, more towers had to be constructed. In simple terms, analogue cellular phones required fewer but higher towers to make the network connections of the mountainous landscapes of East Tennessee. However digital technology, including two-way radios, requires more towers but can be limited to less than 200 feet in height. Without such towers in place, the calls are completely dropped, whereas analogue would continue to fade in and out. There are pros and cons with the new technology; however Sullivan County was able to respond wisely. Such facilities are critical for emergency purposes and therefore, several new towers were approved. In addition, co-location of antennas and carriers were allowed and encouraged through policy and code. The following map, Illustration 5-5, details the location of each tower as approved. Most recently, Sullivan County has approved on average, 2 to 3 co-location plans per month, allowing more and more cellular phone companies to utilize existing towers and facilities.

ILLUSTRATION 5.5 MAP OF CELL TOWERS

WASTE MANAGEMENT PLANNING

Sullivan County currently has a *Waste Management Plan* prepared pursuant to the State Solid Waste Management Act, and is compliant with waste reduction, collection and other regulatory requirements. There are no sanitary landfills in operation in the county at present; however, there are two demolition landfills. All city and unincorporated county wastes are transported to three out-of-county licensed facilities. Transfer stations are provided, equipped and operated through a cooperative agreement between the cities and the county. The county currently has eight permanent recycling drop-off stations and two convenience stations serving as recycling centers. The recovered material processing facility (transfer station) was recently closed. A private solid waste disposal company now performs the function of collecting such recovered material for processing. The drop-off stations accept newspapers, magazines, cardboard, plastic, glass, aluminum and tin cans. The convenience stations accept newspapers, magazines, cardboard, plastic, glass, aluminum, tin cans, used oil, batteries, and appliances. Municipal governments provide collection services within their corporate boundaries. Residents and businesses in the unincorporated areas contract with private collectors for waste pick-up. All Sullivan County schools participate in the recycling program. Recycling containers are placed in the halls, classrooms and offices of each school to encourage participation in the program. The Sullivan County School System receives 100 percent of the proceeds generated for the aluminum they recycle. The county solid waste collection and disposal system serves county residents well. A table of solid waste collection facilities is on the next page followed by a map illustrating the current locations of each recycling and transfer station.



(New Sullivan County Drop-Off Convenience Center, Lakecrest Drive, Colonial Heights area)

TABLE 5-4

SOLID WASTE COLLECTION AND RECYCLING PROGRAM

Sullivan County Drop-Off Sites

Blountville Middle School Football Field – 1651 State Hwy. 37
Warrior Path Fire Station – 1910 Moreland Dr. (closed –2006)
Holston Valley Middle School – 1717 Bristol Cavern Hwy.
Sullivan Middle School Football Field – 4154 S. Wilcox Dr.
Kingsport Civic Auditorium – 1598 Fort Henry Dr.
Little League Field – 4182 Bluff City Hwy.
Indian Springs Elementary School – 333 Hill Road
Piney Flats Volunteer Fire Department - Sullivan County Industrial Park
Ingles Store - 101 Lakecrest Drive, Colonial Heights (new site in 2007)

Convenience /Transfer Stations

1921 Brookside Ln, Kingsport
804 Raytheon Rd. Bristol

Recovered Material Processing Facility

1921 Brookside Ln. Kingsport (closed – 2006)

Source: Sullivan County Sanitation Department

Illustration 5-6, Recycling Center and Transfer Stations Operated by Sullivan County

EDUCATION SYSTEM

Bristol, Kingsport, Johnson City and Sullivan County operate independent school systems. Bluff City does not operate the schools within its city limits; rather the two public schools are part of the county system. These systems are all recognized for academic excellence and serve all county residents well. There are also five private schools that serve the county.

The county system consists of thirty schools: four high schools, seven middle schools, sixteen elementary schools, a middle/elementary school, an alternative learning school and a preschool. The schools are geographically dispersed throughout the county so that students are located as close to home as possible. The illustration 5-7 shows the location of the schools and other properties owned by the Board of Education in the unincorporated parts of the county. No new schools or large additions to existing schools are currently planned because student enrollment has been relatively flat in recent years. There have been some minor shifts in the location of the school age population that have resulted in overcrowding in some schools and under capacity in others. The school system plans to make minor adjustment to the school zones to mitigate this problem. The county school system is always monitoring all of its schools for mandated federal improvements, improvements required by the fire marshal, and needed improvements to school facilities to keep them in good condition. The school system is planning an extensive study of these matters in the next year, and will develop a plan to address the issues discussed above. Detailed population studies can estimate the increase in school age population, but the impact of annexation on the county school population cannot be determined because the municipalities have not given the county any annexation schedules. The construction of any new school facilities should consider the impact of possible annexations.

There are several higher education facilities serving the county. East Tennessee State University (ETSU) and the University of Tennessee (UT) offer a satellite campus for both undergraduate and graduate classes at the Kingsport Allendale location. Northeast State Technical Community College's (NSTCC) main campus is located near the airport with satellite locations in Kingsport's downtown and Allendale areas.

ILLUSTRATION 5-7 SCHOOL LOCATIONS MAP

COMMUNITY FACILITIES

Sullivan County operates several community facilities throughout the urbanized areas of the county. There are five (5) libraries, three (3) Justice Centers, and one Regional Park called Observation Knob Park. The Observation Knob Park is situated along South Holston Lake and was originally laid out based upon a development plan prepared by the State Local Planning Assistance Office. Currently there is a special committee appointed by the County Commission whose mission is to develop a new plan for short-term and long-term improvements to the park. Top priority is to improve accessibility to the park for all citizens, to improve the swimming area, open space, camping facilities, picnic areas, as well as, developing a trail system. Long-term goals are to expand the park, which may incorporate a nature center and serve as a trailhead to the Overmountain Victory National Historic Trail. This committee is comprised of representatives from the Tennessee Department of Environment & Conversation, Parks & Recreation Technical Advisory Service, local elected officials, the Director of Tourism for Sullivan County, and the Director of Planning & Zoning. Illustration 5-8 locates each community facility operated by the county.

Other existing community facilities under renovation include the Old Deery Inn, the Rutledge House, the Old Sheriff's Home and also the Anderson Townhouse of Historic Blountville. These facilities are currently being renovated for the adaptive reuse of meeting centers and information centers for Sullivan County.

CULTURAL

Some cultural attractions can be found in Sullivan County. Kingsport offers the Kingsport Renaissance Center, Symphony Orchestra and art galleries. Bristol offers the Paramount Center for Performing Arts, Theater Bristol and the Birthplace of Country Music Museum.

ILLUSTRATION 5.8 COMMUNITY FACILITIES



(PHOTO BY A. TORBETT)

RECREATION

In addition to city and county community facilities, the areas lakes and rivers provide for much of the recreational opportunities for the residents and tourists. South Holston Lake is the largest of the Tennessee Valley Authority (TVA) lakes originally built for flood control. The 7,580-acre TVA lake runs for 24-miles and includes five marinas – four in Tennessee and one in Virginia. Few public boat ramps can be found on the lake although it is seen as a recreation destination for all kind of boats. Although the lake has only 24-miles in acreage, it has 169-miles of shoreline, 25 percent is privately held and the remaining 75 percent is Federally owned predominately in Tennessee. Several public and private golf courses, as well as other recreational sites, can be found in Kingsport, Bristol, Blountville, Bluff City as well as the County. Illustration 5-9 identifies the approximate locations of the above-mentioned recreational sites in the county, the regional parks managed by the cities and other privately-operated facilities.

Downstream from the South Holston Dam, the South Fork of the Holston River enters Bluff City just before becoming Boone Lake. Boone Lake is a 4,300-acre lake that is a popular boating and fishing area where 85 percent of the 130-mile shoreline is privately owned. Boone Lake sits at the apex of



the Tri-Cities, stretching from Bluff City to Blountville to the outskirts of Kingsport. Several marinas and dockside eatery's are in business on its banks. Boone Dam Recreational Area, off State Route 75 near Tri-Cities Airport, includes a boat launch, picnic sites, sandy beach and a hilltop overlook.

(photographs by T. Earles)

Local residents and tourists also enjoy hidden treasures such as pocket parks along the rivers and lakes. To the right is a picture of the footbridge leading from the weir dam picnic site to the Osceola Island along the Holston River. Once on the narrow island, folks can enjoy the viewshed, bird watching or fishing while walking the short trail in this natural habitat preserve.



Fort Patrick Henry Lake is another TVA lake located in Kingsport and its vicinity. This lake spans 10-miles and 872-acres. A public picnic area and overlook are located near the dam off State Route 36. Warrior's Path State Park is situated on the shores of Patrick Henry Lake and consists of 950-acres. The park offers, educational workshops covering the many types of plants and wildlife found within the park, boating and a disc golf facility.



Observation Knob Park

located 9-miles from Bristol on US 421 is the County's only managed park. The park offers many attractions such as access to a public playground area, fishing, swimming, biking,

hiking and jogging nature trails and jet skiing. The county leases the land from TVA for purposes specific to public recreational use.



(photos by Tourism Dept.)



Steele Creek Park is one of the largest municipal parks in the State of Tennessee. Located in Bristol, off Steele Creek Park Drive, this park has a total acreage of over 2,000, and offers bicycling, boat rental, fishing, hiking/nature trails, wildlife viewing, picnicking and golf.

Bays Mountain Park is a nature preserve owned and operated by the City of Kingsport. This facility includes a 3,000-acre outdoor classroom, a 44-acre lake, 25-miles of trails, and a nature center/museum, inside of which is a 40-foot diameter dome. The park programs are an integral part of the curriculum of local school children. The park is nestled in the northeastern end of the Bays Mountain formation, only a few miles from downtown Kingsport. The park lies in a natural basin and is a protected haven for wildlife.

The Cherokee National Forest stretches from Chattanooga to Bristol along the North Carolina border. The 640,000-acre Cherokee National Forest is the largest tract of public land in Tennessee and is home for more than 20,000 species of plants and animals. The original purpose for their creation was to protect water quality and provide a continuous supply of timber. Today, national forests are managed to provide outdoor recreation, wildlife and fish habitat, wilderness, water, minerals, wood products, and much more. Because of Cherokee's majestic mountains, tumbling streams, and diverse vegetation, recreation opportunities are plentiful. Located within the park are 30 campgrounds, 30 picnic areas, 700-miles of trails, hundreds of miles of cold water streams, seven whitewater rivers, thousands of acres of dispersed opportunities, and abundant populations of wildlife that are here for enjoyment. Within Sullivan County, there are two campgrounds operated by the CNF, several boat launch areas, several picnic areas and trails. The Appalachian National Scenic Trail also has a trailhead in the "off-set" area of the county.



The Overmountain Victory National Historic Trail slices through the heart of the county running along major routes connecting Abingdon, Virginia to the Battle of Kings Mountain, South Carolina. Within the county, the historic route of the Patriot Militia Men of the Revolutionary War, followed trails near the historic Pemberton Oak site near South Holston Lake to Fort Womack and Choate's Ford in Bluff City then continued to Sycamore Shoales in Carter County. Currently the National

Park Service has placed signs along major roads, such as Hwy 11-E and Hwy 19-E depicting the Commemorative Motor Route of the Overmountain Victory National Historic Trail. However, a committee has been formed and Challenge-Cost Share grant money has been secured from the NPS, to begin development of the physical non-motorized walking trail that can then be hiked by residents and tourists. Like the Appalachian National Scenic Trail, the OMVT could be one continuous trail over private and public lands. The Sullivan County OMVT Committee is currently preparing a Comprehensive Master Plan for the Identification and Construction of the OMVT within Sullivan County. *The Choate's Ford Walking Trail* was recently certified by the National Park Service on September 24, 2007 in conjunction with the annual two-week Overmountain Victory Trail Association's reenactment march. This half-mile segment will take on much needed improvements within the year's end that will enhance the historical experience a student, citizen or tourist may feel during one's walk. Such enhancements planned shall include: a series of interpretative wayside signs, a brochure, two parking lots at each end of the swinging footbridge over Holston River, lighting, park benches, improved crosswalks and trail paving. The Town of Bluff City, with assistance from the County Planning Department, is also making preparations for obtaining certification of the actual Choate's Ford crossing on the Holston River, which is approximately 300 yards east of the town's Riverfront Park and Pavilion Area.



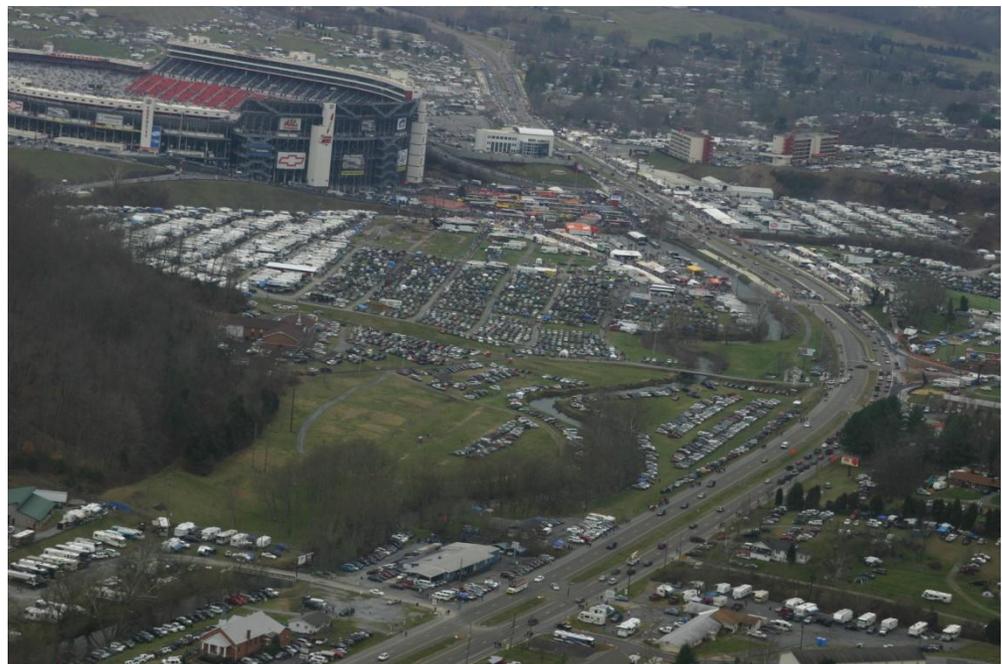
Both the **Bristol Motor Speedway** (BMS), “The Worlds Fastest Half-Mile” oval, and the **Bristol Motor Dragstrip** can be found in the City of Bristol. Although an enormous sports facility, a tremendous amount of private land is dedicated for temporary campgrounds for only two events a year.

(Bristol Motor Speedways Facility during the off-season)



For a few short weeks within the spring and summer race events, tourists from all over the nation come to the track to participate in the NASCAR activities. During these times, the surrounding farmlands, open parking lots, church properties and even private residential yards are temporarily converted to the overnight parking and campground

facilities to help house these spectators, as hotel and motel accommodations are few and far between. With thousands of ticket holders, vendors, volunteers, and other tourists, the center of the county becomes the major hub of activity requiring all city, county and state law enforcement, emergency crews, and transportation engineers to ensure the safety of all involved.



(NASCAR fans scatter the landscape – March 2008)

ILLUSTRATION 5.9 RECREATION SITES

HISTORIC

This area of East Tennessee had been of strategic value since the railroad served as a vital link between the upper Confederacy of Virginia and the States of the lower south. Sullivan County is rich in history ranging as far back as the 1700's. There are several historic sites located in the county as well as each of its municipalities. Kingsport, Bristol, Bluff City and Blountville all have significant historical districts. Historic homes, inns, churches, cemeteries, battlegrounds and living museums can be found within its boundaries.

- ◆ Allendale Mansion – Kingsport's "White House" built in 1950 although not that old, a portion of the house on site that once was the home of Robert Netherland, built in 1851 was intergraded into the current mansion.
- ◆ Exchange Place – Restored farm complex named for the exchange of currency and horses as it once served travelers along the Old Stage Road.
- ◆ The Netherland Inn House Museum and Boatyard Complex – All three of the U.S. Presidents from Tennessee, Andrew Jackson, Andrew Johnson and James K. Polk, stayed at this inn, which once served as a popular stagecoach stop.
- ◆ Rocky Mount – Living historic museum of the oldest original territorial Capitol in the U.S.
- ◆ Deery Inn – Served many distinguished travelers, including Andrew Jackson, Andrew Johnson, James K. Polk, the Marquis de Lafayette, and Prince Louis-Philippe.
- ◆ Rutledge House, Anderson Townhouse and the Old Sheriff's Home in the Historic District of Blountville.
- ◆ Bristol Caverns and gift shop.
- ◆ Appalachian Caverns.

Downtown Blountville's Historic and Conservation Overlay Zoning Districts:

In August of 2003, the Sullivan County Board of County Commissioners unanimously adopted the resolution of the Historic and Conservation Overlay Zoning text and accompanying districts map. At that time the Sullivan County Regional Historic Zoning Commission (HZC) was established for administrating the resolution. Concomitantly, the HZC worked with a local architectural firm to prepare a Vision Plan for Downtown Blountville. Such Vision Plan was then presented to the County Commission in the fall of 2004. The Vision Plan includes a detailed map outlining the proposed improvements to the Great Stage Road (main street) such as sidewalk enhancements, underground utilities, streetscaping, parking, and most notably the renovation projects of several of the Historical Landmarks. The county, with guidance from the Historic Zoning Commission and the Sullivan County Historic Preservation Association, hired a local engineering firm to develop such renovation plans.

These plans have recently been approved by the Tennessee Historical Commission's State Historic Preservation Officer. Sullivan County was fortunate to have received a substantial TDOT enhancement grant to begin such preservation projects.

The historical landmarks and properties within the district shall be adapted to meet the needs of the community while preserving the historical integrity of the structures to the greatest extent possible. Several of the structures, once renovated, will hold facilities such as meeting rooms, a library, art displays, as well as a Visitor Center. The Visitor Center will be the hub for planning and coordinating public tours, such as the Heritage Trail along the Great Stage Road.

Battle of Blountville's Heritage Trail and Vision Plan

As the center of commercial activity and Sullivan County's seat since 1782, Blountville's Historic District represents an important part of the community's heritage and will be a valuable community resource when properly planned, developed and redeveloped. A local movement to rehabilitate and



preserve the historic district's structures and sidewalks is infusing new life into Sullivan County. Preserving and building on the investment of previous generations will enhance downtown Blountville. Encompassing Sullivan County's original center of commercial activity, Blountville's Historic District includes the Historic Courthouse of 1853, the Old Deery Inn, the original 1795 Anderson Townhouse and more authentic old log homes along its main street (Great Stage Road) than any other town in Tennessee.

Downtown Blountville is a good example of how an urban trail (sidewalk) can link community points of interest such as, the Historic but fully operational Courthouse, the historic churches, homes, schools, park, businesses and banks to one another. As parking becomes a premium in any downtown, whether historic or contemporary, sidewalks offer an alternative safe way of doing business in the district. The Battle of Blountville Interpretative Walking Trail (under rehabilitation) or the Heritage Trail, as the former official name of the cobblestone and stone sidewalks, runs along both sides of the Great Stage Road/Hwy 126. The trail begins at the Old Mill and Spring Street Park at the bridge over Muddy Creek and down through the central business district and beyond. The trail commemorates

the Battle of Blountville during the Civil war and is part of the Tennessee Civil War Trails Program – a partnership for tourist development and education between the Tennessee Department of Tourist Development and local governments. The Battle of Blountville walking trail will be adding new interpretative signs offering insight into the civil war time period within the historic district.

Sullivan County has recently developed a downtown Blountville Vision Plan for the district and its surrounding areas in hopes of expanding and improving the Heritage Trail to gain better, safer and more accessible alternative routes to the Blountville Elementary and Middle Schools, as well as, other community centers. The plan calls for improved pedestrian access, streetscaping, improved parking for loading and handicap reserve spaces, underground utilities, lighting and other improvements. The plan will be completed in phases as grants and funding permit. The major outcomes of the Vision Plan for the Battle of Blountville Walking Trail of Downtown Historic Blountville are: increase pedestrian safety and accessibility; public education on the battle and of the remaining historic structures; economic benefit from increased tourism activity, civic pride, community involvement, recreation and health improvement for downtown employees, school children and residents. The county has been very fortunate to have the expertise of several local historians and an architect in the research and development of the Vision Plan. A vision that has drawn on the strong civic oriented past to sustain its future.

CHAPTER SUMMARY FINDINGS

- ◆ There is enough extra capacity in the treatment plants to meet the drinking water needs of county residents in the near term or in emergencies because the water systems are interconnected. The county planning commission requires a minimum water line size of six inches to provide adequate water flow for future development and fire protection. The commission should also consider requiring stub outs for fire hydrants to be installed.

- ◆ The three sanitary sewer systems have enough extra capacity to meet county needs for the near term. The county has entered into an agreement to extend trunk lines in the county, and has spent about \$2,500,000 to purchase sewer treatment capacity and committed \$20,000,000 to construct trunk lines with about \$16,000,000 being completed and about \$2,000,000 in process. The construction of collector lines has been less than expected. A way to promote the extension of collector lines needs to be considered.

- ◆ The county has adequate electricity and natural gas service.

- ◆ The Sheriff and the municipal police department provide adequate protection for county residents. The county jail task force has recently been considering the construction of a workhouse to solve the overcrowding problem for nonviolent inmates. The construction of a Workhouse appears to be a cost-effective way to solve this problem.

- ◆ The municipalities have adequate fire protect for their residents. Much of the urban growth areas and planned growth areas do not have adequate fire protection. The county planning commission requires a minimum water line size of six inches to provide adequate flow for future development and fire protection in major developments. The commission should also consider requiring stub outs for fire hydrants to be installed. Investments in fire protection in the urban growth areas and planned growth areas need to be a priority.

- ◆ The available emergency services meet the counties current needs, and should benefit from increased funding for homeland security. The county emergency management plan provides for an emergency operations center to manage the response to disasters.

- ◆ The county solid waste collection and disposal system serves county residents well, and is compliant with the state solid waste management act and other regulatory requirements.

- ◆ Sullivan County has ample recreational facilities to meet the needs for the period of time outlined in the study.

- ◆ The county is well served by the public school systems, private schools and higher education institutions within the county and region, although population shifts and school capacities continue to challenge the Board of Education with school zoning and facilities planning.

ILLUSTRATION 5.10 THE BLOUNTVILLE HISTORIC AND OVERLAY DISTRICTS

CHAPTER 6

EXISTING LAND USE AND TRANSPORTATION ANALYSIS

INTRODUCTION

As a prerequisite to preparing a plan for future land use and transportation, a survey and analysis of the existing patterns and characteristics must be completed. The data from this Chapter's existing analysis when integrated with information pertaining to natural factors affecting development, the population, economic factors, and transportation facilities are vital in determining what areas are best suited for the various land uses and transportation facilities over the period encompassed by this plan.

EXISTING LAND USE (1999)

To a large degree, existing land use patterns in Sullivan County correspond with topography and other natural features that promote or restrain development. Land capability and land suitability are major restraining factors, often mitigated, however, by infrastructure designed to overcome these restraints. The processes by which the cities and the County accommodate development pressures represent a balancing act, and these processes are readily discernable in the patterns that emerge from the data and are observable in the physical landscape. This section is designed to analyze the statistical data and to describe the development patterns these data translate into when viewed in their physical setting.

Illustration 6-1 depicts the various land uses in Sullivan County as determined by a land use survey completed by the Local Planning Assistance Office using 1999 property assessor data. The table directly corresponds to the Existing Land Use Map of 1999, Illustration 6-1 that follows. In addition, a closer look at the existing land use was mapped using the fire service area boundaries, as they are a good representation of land use by community. The land uses identified in the 1999 analyses, are grouped into the following categories: agricultural; single-family residential; multi-family residential; mobile home parks; commercial; industrial; public/semi-public; waters of the State; and vacant lands.

Agricultural: Land suitable for the growing of crops, animal husbandry, dairying, forestry, and other similar intensive agricultural activities, which generally occur and characterize rural rather than urban areas. These districts are designed to provide for very low-density residential development generally on un-subdivided tracts of land. Single-family residential detached dwellings, residential accessory structures, customary home occupations and farm employee housing on large tracts of land are suitable for this district.

Single Family Residential / One Mobile Home Per Lot: Land that single-family detached dwellings and other accessory structures are located. And lots that have only one singlewide mobile home on it – therefore not considered a mobile home park or trailer court.

Multi-Family Residential: Land on which housing with individual leased units contained in a building or cluster of buildings held under one ownership on one parcel; or condominium developments with multi-ownership.

Mobile Home Parks: Land containing, or designed for the location of, several mobile homes for the exclusive use of the occupants of a singlewide mobile home in a designated mobile home park as identified by the local property assessor. Zoning definition of a mobile home park is two or more singlewide mobile homes on one parcel of land; however the assessor's office has identified the actual parks.

Commercial: Land on which retail and wholesale trade activities and/or services occur. Land where private firms provide special services is located. This category includes hospitals, banks, cemeteries, professional offices, personal services, repair services, etc. and vacant floor space.

Industrial: Land on which the processing, conversion and manufacturing of materials or products predominantly from extracted or raw materials, or manufacturing assembly, processing or fabricating of raw materials or products or the distribution or warehousing of such goods takes place.

Public/Semi-Public: Land on which educational and religious facilities, museums, libraries, parks, and similar uses and all federal, state, and local governmental uses are located. This is a large grouping of several types of uses that could be queried separately if needed. However these uses are generally tax-exempt lands and typically permitted in most if not all of the zoning districts. Therefore for purposes of analyzing the existing land use as a guide for future land use decisions, tax-exempt community facilities such as churches, public buildings, and schools are typically not opposing uses that would cause major incompatibilities with other land uses, assuming adequate utilities and land mass.

Waters of the State: Waters within the territorial limits of the State of Tennessee, TCA 70-1-101(39). "Waters" means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those

bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters, TCA 69-3-103(33).

Vacant Land: Land that either has not been or cannot be developed. Vacant land can be divided into two general categories:

1. Vacant Unimproved – land that currently lies idle or is used for agricultural or open space purposes and lacks the infrastructure necessary for development.
2. Vacant Improved – Land located along streets with water and/or sewer currently accessible to county services such as vacant subdivision lots.

METHODOLOGY

The statistical data that are presented here were derived from the Geographic Information System (GIS) maintained by the Local Planning Assistance Office. Information from the Sullivan County Property Assessor's database, for the tax year of 1999, was used to prepare an inventory of uses by parcel, location, and acreage. An analysis was then developed using the statistical data to document the extent and intensity of current development; to identify areas of potential planned growth; to show the extent of rural influence; and to determine whether there is a need to develop large amounts of raw, unimproved land.

Table 6-1 presents a complete analysis of land uses in the unincorporated areas of Sullivan County based upon the 1999 data provided. A summary of conclusions and a description of development patterns follow. For comparison purposes, the 2006 CAAS data (Computer Assisted Assessor System III) was queried in the same manor. The 2006 Existing Land Use Map, Illustration 6-12 can be found towards the end of this chapter.

The general conclusion from Table 6-1 is that the predominant land uses in unincorporated Sullivan County continue to be semi-rural, in the sense that densities are relatively low and there remains a substantial amount of vacant agricultural and forested land even outside the national forest.

ILLUSTRATION 6-1 COUNTYWIDE EXISTING LAND USE MAP – 1999 DATA

TABLE 6-1
EXISTING LAND USE (1999 DATA) - SULLIVAN COUNTY, TENNESSEE

Land Use Category	Acres	Percent of Developed	Percent of Total Land	Number of Units	Density in Acres Per Unit
One Mobile Home per Lot on Lots 2 Acres or greater	18,881	11.6	8.2	1,672	11.29
One Mobile Home per Lot on Lots less than 2 acres	1,934	1.2	0.8	2,621	0.74
One Single Family Dwelling on Lots 2 Acres or greater	72,884	44.7	31.7	6,208	11.74
One Single Family Dwelling on Lots less than 2 Acres	12,479	7.7	5.4	20,562	0.61
Multi-Family Equal to or greater than 4 Units	390	0.2	0.2	177	2.20
Apartments	117	<.01	<.01	639	0.18
Mobile Home Parks	2,795	1.7	1.2	957	2.92
Commercial	689	0.4	0.3	513	1.34
Industrial	2,212	1.4	0.9	390	5.67
Public/Semi-Public	42,992	26.4	18.7	N/A	
Utilities	150	<.01	<.01	N/A	
Transportation	7,552	4.6	3.4	N/A	
<i>Total Developed Land</i>	<i>163,075</i>	<i>100</i>	<i>71</i>	<i>33,739</i>	
<i>Vacant Land</i>	<i>66,610</i>		<i>29</i>		
Total Unincorporated Land	229,685		100		
(Total County Land Area	264,320)				

Source: Sullivan County Property Assessor's Computer Assisted Appraisal System III data

Evidence of that conclusion is as follows:

- ◆ Only apartment-type residential, commercial and industrial uses exhibit the higher density characteristics associated with urban development, and these land uses comprise less than two percent of the total developed land in the county.
- ◆ Developments of more moderate density occur as single-family residential, multi-family residential of four or fewer units, and mobile homes on individual lots. These uses are found on approximately nine percent of the county's total developed land area. Utilities, transportation, and the remaining moderate to high-density (urban) development, constitutes only 15 percent of the total unincorporated land area.

- ◆ Over 56 percent of the developed land areas shown in Table 6-1 have one residential unit on an average lot size greater than eleven acres. When looking at the total land area, over 58 percent is being used in tracts of greater than eleven acres.

RESIDENTIAL

Moderate to High Density Residential Development: An estimated 75 percent of the 82,153 persons living in the unincorporated portions of Sullivan County reside in moderate to high density residential developments on about 8 percent of the total land area. This consists of apartment units, multi-family complexes of four or fewer attached units, mobile homes located in established parks, single-family dwellings and mobile homes on single lots of two acres or less.

Mobile Home Parks: Even though some mobile home parks and multi-family attached dwellings are concentrated in higher densities at specific locations, their overall density is greater than two acres per unit. This indicates the potential for additional units in established developments if public utilities are in place to support the increase in density. The Sullivan County Land Use Map indicates that twenty-nine parcels located south of the Holston River, and outside any incorporated places, have mobile home parks located on them. Fourteen are located west of Kingsport and seven are located southeast of I-81 in the vicinity of Colonial Heights at the interchanges of exits 59 and 63. In addition, several mobile home parks are scattered around Boone Lake area within Sullivan County, which can be attributed to the fact that land use regulations were not in effect until 1995 within the two primary civil districts of the lower end of the county. Mobile homes on individual lots of less than two acres are located throughout the county and rarely appear in high concentrations. Other parcels with mobile home parks are scattered across the county.

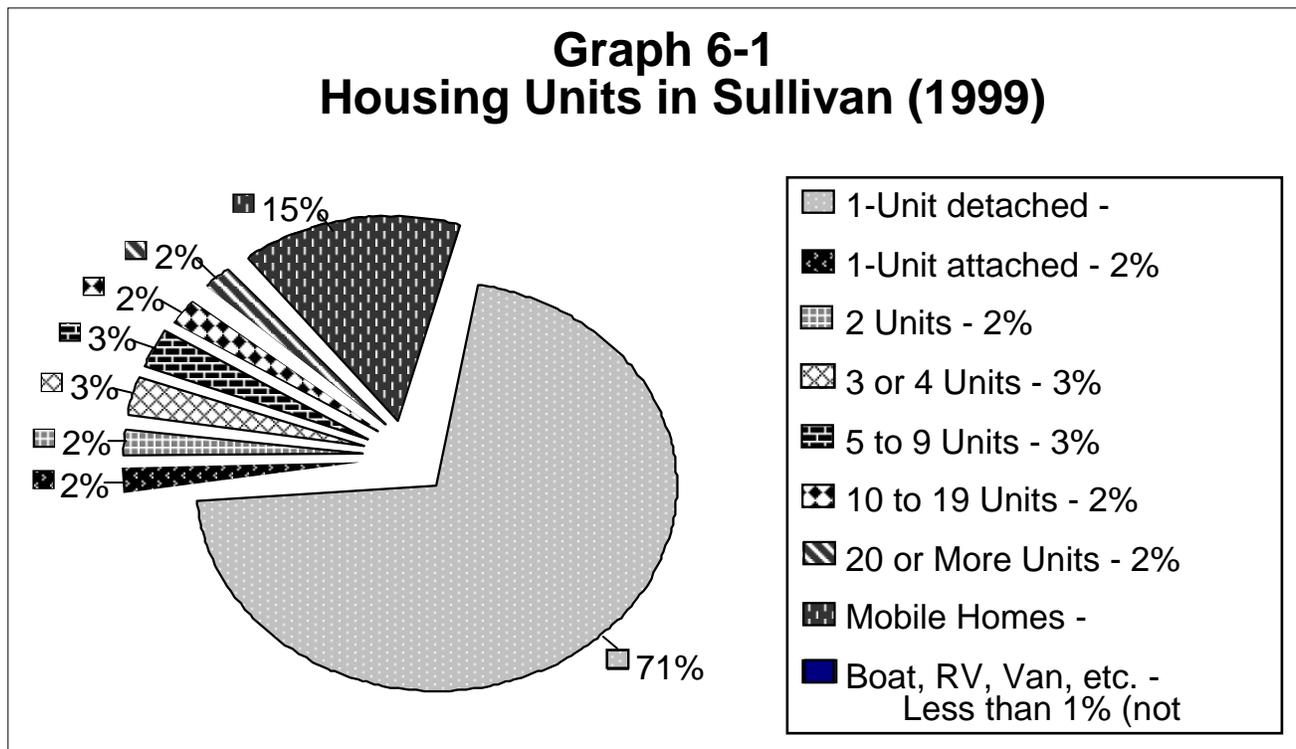
Multi-Family Residential: The majority of the 639 multi-family units appears to be on two parcels, one located in the Blountville area and the other located to the northeast of I-81 at interchange exit 63. Duplex, triplex and quadra-plex developments are not concentrated at any specific location, but most are located on or near major collector streets and highways, as public sewer is often needed to support these densities.

Single-Family Homes: Traditional single-family subdivisions are located throughout the county; however, the Colonial Heights and Fort Henry Dam areas have high concentrations of single-family development. Much of the subdivision development is located on major highways and in proximity to Blountville, Bluff City, Piney Flats, Bristol, and Kingsport. This is to be expected because of the

extension of public water and some public sewer along the major arterial and collector highways between the primary urban centers. It also lends to the *perception* of extensive urban development throughout the county, if viewed only from primary roadways.

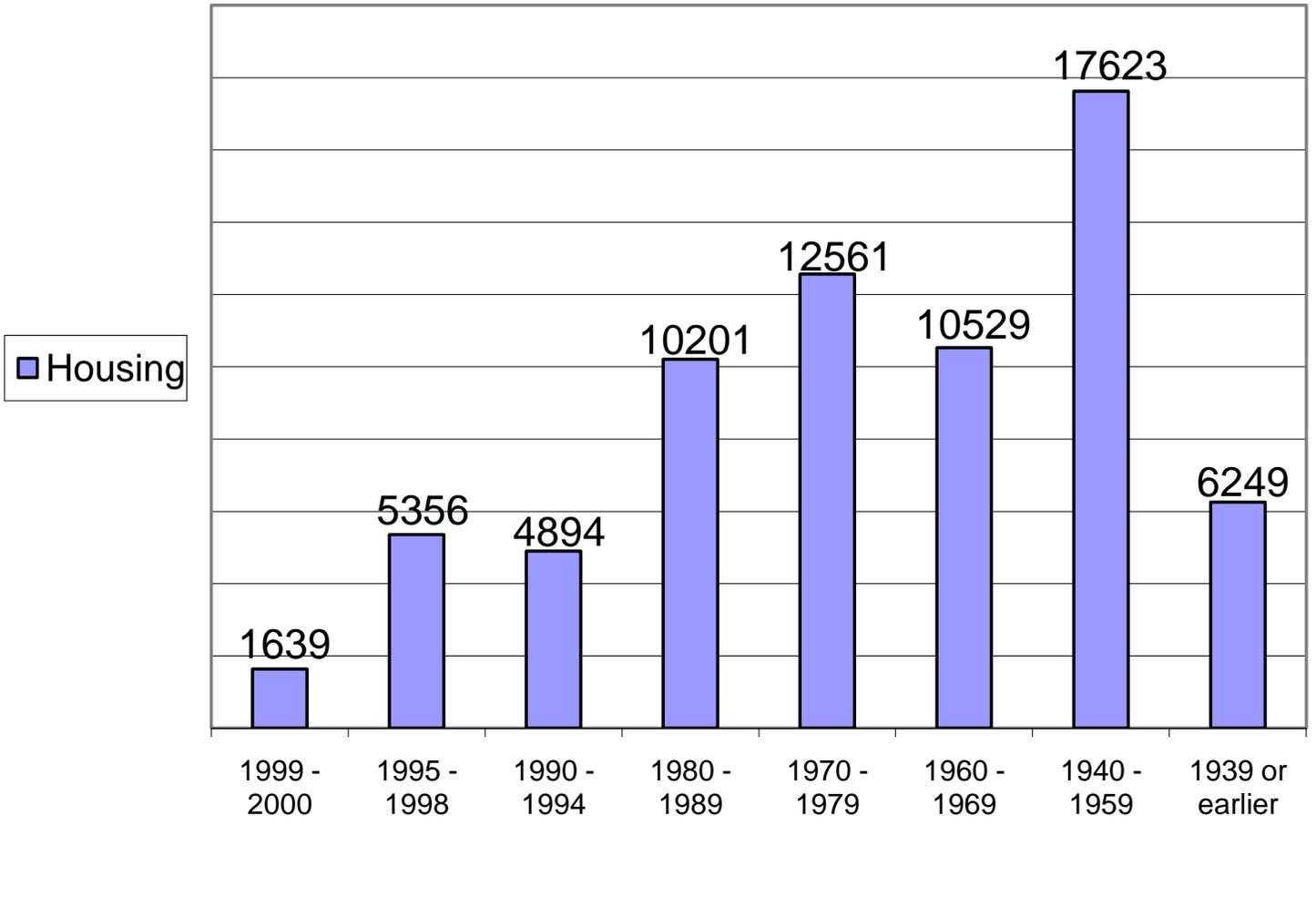
Low Density Residential Development. Table 6-1 reveals that 7,880 single-family units and mobile homes are located throughout the county on lots that average greater than eleven acres. Almost 40 percent of the total unincorporated land areas of Sullivan County have either a single house or a single mobile home located on it. Only 25 percent of the unincorporated population resides on these properties, which are located randomly across the county. These properties represent future development potential. Table 6-1 shows that 4,416 of the 6,171 parcels, which are greater than two acres that have a single-family dwelling on them, average 4.75 acres and are classified as residential by the property assessor. The remaining 1,755 parcels are classified as agriculture (1,693) or forest (62), but these may also have a house or mobile home located on them.

As indicated in Graph 6-1 the largest majority of housing in Sullivan County at 71 percent is single-family detached. Mobile Homes with 15 percent are the second largest. All other types of housing units are 2 percent each with the exception of 3-4 unit and 5-9 unit housing being 3 percent.



Source: Property Assessor's CAAS - 1999

Graph 6-2 Age of Housing in Sullivan County



Source: US Census, 2000

The age of housing as represented in Graph 6-2 reflects the growth in population, economic conditions, structural conditions and possible areas of concern for fire protection. With the majority of housing in the county being twenty years and older there is the possibility that the aging population, who primarily own the older homes may find that they do not have the financial means to properly maintain their homes which could result in unsafe living conditions. For example, there are sizable neighborhoods or communities within the county, such as Bloomingdale, Colonial Heights, and in and around the cities that were developed during the early 1940s to the 1970s. Within such established neighborhoods, the highest percentage of the homeowners is considered by the US 2000 Census as being of retirement age or older. On the other hand, the highest percentage of young families is

concentrated in newly constructed developments. This trend of housing selection has been fueled by the surge in single-family startups during the late 1990 to early 2000, with a slight downturn in the number of permits issued post 2001. Conclusions were derived by comparing the US Census 2000 housing data, the local Building Permit Records for the county and The Market Edge Quarterly Reports.

AGRICULTURAL/FOREST/VACANT

Table 6-2 shows the breakdown by assessment classification for single-family and mobile home lots greater than two acres and undeveloped vacant land. Almost 69 percent of the single-family lots greater than two acres classified as agriculture and average of 29.66 acres. An additional 2.4 percent is classified as forest, averaging slightly more than 28 acres in size. Over 65 percent of all vacant land is classified as agriculture with an additional 4.9 percent classified as forest.

Property assessment classification data indicate that 44,270 vacant acres in Sullivan County are used for some type of agricultural, forest or open space activity. An additional 51,969 acres have an agricultural or forest use. There are 17,203 parcels averaging 3.87 acres that are vacant and have been classified as residential by the assessor.

COMMERCIAL/PRIVATE SERVICES

The commercial areas of Sullivan County are scattered throughout the county. These areas contain banks, grocery stores, hardware stores and miscellaneous shops with most having on premise parking. Concentrated commercial developments are located near highways 11E, 11W, 421, 19E, and 36. This is a typical highway business area with service station-convenience marts, restaurants and other establishments.

The area in Sullivan County with the greatest future potential for commercial development is the Highway 11E and State Route 394 area. Portions of this area are beyond the county's sewer system at the present time but are close enough that sewer connections are a possibility for the future.

INDUSTRIAL

Tri-County Industrial Park, located near State Route 11E in Sullivan County, is central to the Johnson City-Kingsport-Bristol, TN/VA Metropolitan Statistical Area, and a growing region of 485,300 people. The Park is uniquely situated to draw from the labor force (232,700) of the entire metro area.

Tri-County Industrial Park contains 750 acres of which approximately 100 acres remain to be sold. Sites from 2 acres to 24 acres can be made available. Land in the park is gently rolling. The park is fully served by utilities including water, sewer, gas, electric and computer-use quality phone service. Sites served by the Norfolk/Southern Railroad are also available within the park. Source: Sullivan County Economic Development Commission Office.

TABLE 6-2
LAND WITH POTENTIAL FOR MORE INTENSE DEVELOPMENT
SULLIVAN COUNTY

Parcels With One Single Family Unit Land Use Category	Number of Acres	Percent of Total Acres	Number of Parcels	Average Parcel Size
Single Family Residential on lots greater than 2 Acres	20,915	28.7	4,416	4.74
Single Family Agriculture on lots greater than 2 Acres	50,218	68.9	1,693	29.66
Single Family Forest on lots greater than 2 Acres	1,751	2.4	62	28.24
<i>Total Single Family lots on greater than 2 Acres</i>	72,884	100	6,171	11.81
Undeveloped Vacant Land Land Use Category	Number of Acres	Percent of Total Acres	Number of Parcels	Average Parcel Size
Agriculture	40,957	61.5	1,469	27.88
Forest	3,287	4.9	83	39.6
Open Space	26	<.01	2	13
Residential	22,340	33.5	15,649	1.43
<i>Total Undeveloped Land</i>	66,610	100	17,203	3.87
Parcels With One Mobile Home Land Use Category	Number of Acres	Percent of Total Acres	Number of Parcels	Average Parcel Size
One Mobile Home per Lot on lots greater than 2 Acres	18,881	100	1,672	11.29

Source: Local Planning Assistance Office using local CAAS data from 1999

Table 6-2 indicates that the largest category of undeveloped land in Sullivan County is Agriculture with 61.5 percent, with over 50,000 acres being identified as single-family residential with greater than 2 acres. The second largest category in both developed and undeveloped land is residential followed by forest. Poor soils and topography play a large part in the development of the county.

The existing land use map was also analyzed for each Fire Department Service Area. There are ten (10) volunteer fire departments within Sullivan County (Illustration 6-2 through 6-11). Fire Department Service Areas generally represent the 10 major pockets of communities within the county, excluding the incorporated areas. These fire service areas were chosen, as they are a closer look at the communities within the county. Each fire district closely matches the individual area represented by each of the Sullivan County Regional Planning Commission members. In addition, several of the local volunteer fire departments apply for grant funding from time-to-time and therefore it only made sense to provide the breakdown of land uses by type for their use. Table 6.3 illustrates the percentage of residential, commercial and agricultural land uses by fire service area using the 1999 data.

TABLE 6-3					
<u>SULLIVAN COUNTY VOLUNTEER FIRE DEPARTMENTS</u>					
<u>SERVICE AREA PERCENT LAND USE</u>					
VFD	Population	Area (Sq. Mi.)	Residential	Commercial	Agricultural
421	5,134	66.60	22.9%	0.1%	77.0%
Avoca	4,628	13.49	53.4%	0.7%	45.9%
Bloomington	20,655	20.71	66.7%	1.0%	32.3%
Bluff City	5,557	9.91	62.2%	1.6%	36.2%
E. Sullivan	8,683	21.37	58.4%	0.7%	40.0%
Hickory Tree	4,353	48.70	30.4%	4.3%	65.3%
Piney Flats	8,200	41.94	55.4%	2.2%	42.4%
Sullivan County	23,318	67.08	59.3%	1.5%	39.2%
Sullivan West	9,573	33.38	57.9%	2.5%	39.6%
Warriors Path	21,927	35.40	61.4%	3.9%	34.7%

ILLUSTRATION 6-2 - 421 VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-3 - AVOCA VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-4 - BLOOMINGDALE VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-5 - BLUFF CITY VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-6 - EAST SULLIVAN COUNTY VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-7 - HICKORY TREE VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-8 - PINEY FLATS VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-9 - SULLIVAN COUNTY VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-10 - SULLIVAN WEST VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

ILLUSTRATION 6-11 - WARRIORS PATH VOLUNTEER FIRE DEPARTMENT EXISTING LAND USE

LAND USE ANALYSIS USING THE 2006 DATA

The above land use analyses were developed utilizing the 1999 existing land use data. This data was extracted from the Sullivan County Property Assessor's CAAS database and then correlated to the 1999/2000 tax maps using ArcView software in GIS. The data was analyzed by the State Local Planning Assistance Office and later mapped by the county's GIS division. Over the course of the years in developing this plan, the author opined that it would be wise to include updated land use information as a means of comparison of the 5-year time span as well as offering a better perspective on future land use forecasting.

METHODOLOGY

The Sullivan County Planning & Zoning Department's Division of GIS analyzed the 2006 parcel data developed by the local Property Assessor's Office. Through the use of ArcGIS attribute data derived the land use data by comparing the Property Type by Improvement Type by the Land Type within CAAS. This process, by comparing all three fields within the Property Assessors' CAAS data was critical in understanding exactly how the property is being used with regards to planning and zoning. That is to say, a parcel may be taxed commercially but the land use is multi-family apartments. Taxation and land use planning do not necessarily match. This extensive comparative approach using the 2006 CAAS database was then illustrated by parcel on the updated Existing Land Use map (Illustration 6-12). After the initial sorting of the data (by Property Type, Improvement Type and Land Type), the map was further refined using the standard windshield survey. The Building Commissioner reviewed the map in the field, which resulted in a few changes. This updated land use analysis took approximately 9 months to perform by the GIS, planning and building staff. For purposes of this plan, a more careful inspection survey was performed on lands outside of the city-limits. The problem with this refined methodology, using updated software and direct accessing of the local database, is that it results in categories of land uses that may not exactly be comparable to those base categories of the 1999 data. As GIS technology advances and through the continued cooperation and sharing of data between the planning department and local property assessor's office, land use plan updates will surely illustrate a truer picture of the state of the community. That is to say, that the easier GIS software geocodes the attribute data within the local property assessor's CAAS database, the more accurate the land use map will depict. However, the downfall is that it becomes difficult to compare one map to the next.

Existing Land Use Map for 2006 – Illustration 6-12

EXISTING LAND USE ANALYSIS USING THE 2006 DATA

The following tables represent the total number of parcels by land use type illustrating the primary land use for that parcel. While many parcels of land have more than one use, the primary land use was selected based upon further refinement of the CAAS data provided by the Property Assessor's office and the on-site windshield surveys. While the following data tables express exact numbers accounting for every parcel in the county in the database, the findings are only as valid as the data can provide using the best available method for analyses as described above. Furthermore, the division, conveyance and development of land occur daily and therefore the following data should be interpreted as for general purposes only. For example, comparing the predominant land uses from one to another. For basic understanding of the uses of land within the county, these categories could be combined as follows:

- **Residential** (single-family, manufactured home, vacant single-family, high-density, mobile home park and medium residential) would account for:
 - 65,961 parcels of land at over 88% of the total number of parcels, which is 100,336 total acres of land dedicated to residential land uses of the county as a whole;
- **Agricultural** (Agricultural, vacant agr, vacant unidentified, forest, recreation) would account for:
 - 2,844 parcels of land at over 3.82% of the total number of parcels, which is approximately 128,697.91 total acres of land dedicated to agricultural, forest and open recreational land uses – the largest category of all;
- **Commercial** (general commercial, vacant commercial, neighborhood commercial, commercial campground) would account for:
 - 3,168 parcels of land at over 4.25% of the total number of parcels, which is approximately 6,646 total acres of land dedicated to occupied or designated commercial lands;
- **Public or Non-Profit** (such as religious, government, utility, non-profits, institutional, and vacant utility) would account for:
 - 2226 parcels of land that are primarily tax-exempt land at only 2.99%, which is approximately 50,586.67 acres of land;
- **Industrial** (light, general and vacant industrial) would account for:
 - 292 parcels of land at over .392% of the total number of parcels, which is approximately 3,773.64 total acres of land dedicated to occupied or designated industrial sites – this is the smallest category of all land uses.

TABLE 6-4

SORTED BY HIGHEST PERCENTAGE OF TOTAL PARCELS BY LAND USE TYPE

Land Use	Total Parcels	Percent of County Total	Total Acres
Sullivan County	74,491	100.0000%	290,039.67
Single Family Residential	56,212	75.4615%	56,365.72
Manufactured Home	4,589	6.1605%	8,213.02
Vacant Single Family	3,684	4.9456%	32,660.57
Commercial	2,805	3.7656%	4926.5
Agricultural	2,504	3.3615%	95,680.43
High Density Residential	1,021	1.3706%	746.28
Religious	997	1.3384%	1,392.16
Public	919	1.2337%	48,167.10
Mobile Home Park	277	0.3719%	1,975.90
Vacant Commercial	248	0.3329%	1,068.07
Light Industrial	196	0.2631%	2,155.80
Med Density Residential	178	0.2390%	374.85
Vacant Agricultural	170	0.2282%	16,072.63
Utility	123	0.1651%	275.97
Institutional	94	0.1262%	348.82
Vacant Forest	93	0.1248%	4,375.76
Semi-Public / Non-Profit	91	0.1222%	389.75
Neighborhood Commercial	86	0.1155%	132.04
Industrial	51	0.0685%	508.73
Vacant Industrial	45	0.0604%	1,109.11
Vacant	40	0.0537%	447.41
Commercial Campground	29	0.0389%	519.50
Vacant Farm	21	0.0282%	1,225.32
Recreation	16	0.0215%	10,895.36
Vacant Utility	2	0.0027%	12.87
TOTAL	74,491	100.0000%	290,039.67

Source: Sullivan County Property Assessor's Data using CAAS and Base Mapping Database in GIS.

TABLE 6-5
SORTED BY HIGHEST TOTAL ACREAGE BY LAND USE TYPE

Land Use	Total Parcels	Percent of County Total	Total Acres
Sullivan County	74,491	100.0000%	290,039.67
Agricultural	2504	3.3615%	95,680.43
Single Family Residential	56212	75.4615%	56,365.72
Public	919	1.2337%	48,167.10
Vacant Single Family	3684	4.9456%	32,660.57
Vacant Agricultural	170	0.2282%	16,072.63
Recreation	16	0.0215%	10,895.36
Manufactured Home	4589	6.1605%	8,213.02
Commercial	2805	3.7656%	4,926.50
Vacant Forest	93	0.1248%	4,375.76
Light Industrial	196	0.2631%	2,155.80
Mobile Home Park	277	0.3719%	1,975.90
Religious	997	1.3384%	1,392.16
Vacant Farm	21	0.0282%	1,225.32
Vacant Industrial	45	0.0604%	1,109.11
Vacant Commercial	248	0.3329%	1,068.07
High Density Residential	1021	1.3706%	746.28
Commercial Campground	29	0.0389%	519.50
Industrial	51	0.0685%	508.73
Vacant	40	0.0537%	447.41
Semi-Public / Non-Profit	91	0.1222%	389.75
Med Density Residential	178	0.2390%	374.85
Institutional	94	0.1262%	348.82
Utility	123	0.1651%	275.97
Neighborhood Commercial	86	0.1155%	132.04
Vacant Utility	2	0.0027%	12.87
TOTAL	74,491	100.0000%	290,039.67

Source: Sullivan County Property Assessor's Data using CAAS and Base Mapping Database in GIS.

SUMMARY OF FINDINGS FROM THE UPDATED EXISTING LAND USE ANALYSIS (2006 DATA)

- Tables 6.4 and 6.5 have the exact same data sorted by land use type. However Table 6.4 is sorted with the highest percentage of the total number of parcels by land use type from greatest to least percentage, whereas Table 6.5 is sorted with the highest total acreage by type from greatest to least amount.
- According to these tables, lands dedicated primarily for agricultural practices consume the most in total acreage by category at 95,680 total acres as compared to single-family residential consuming 56,365 acres. However the single-family residential land use type consumes 56,212 parcels (the total number of parcels with a primary use of single-family), which accounts for over 75% of the total number of parcels in the county. Thus, the single-family residential land use occurs more frequently than any other land use type but with the amount of land (in total acreage) still remaining as agricultural.
- Furthermore if the vacant lands of all types, recreational lands and agricultural lands were added together, it would be safe to state that most of the land within the county remains undeveloped, underdeveloped or for the most part low-density.
- Industrial sites occupy the least amount of land within the county.

EXISTING TRANSPORTATION ANALYSIS

INTRODUCTION

There are numerous man-made elements found within a rural environment but few more important than a sound, efficient, and functional transportation network. A community's growth hinges on the movement of its people and goods. The welfare of the social environment and economic base is dependent on the speed and efficiency with which people can interact on a day-to-day basis. The development of a strategic transportation plan is essential for successfully moving people and goods in the rural environment.

Transportation networks must keep pace with the changing world around the. As land use patterns shift, the original design of an established transportation network may become outdated. Improvements are mandatory; otherwise, an inefficient and disproportionate transportation system will exist that cannot maneuver people from residences and employment functions in the desired time frame thus stifling commercial and residential growth while increasing safety and emergency concerns.

A good transportation network can spur commercial growth, assist the average employee and employer in achieving employment goals, provide the residents a more convenient means of getting to and from home, facilitate the movement of goods, and generally provide all travelers with a safe and convenient means of getting from one location to another.

The transportation network in Sullivan County consists of interstates, federally designated routes, state highways, and the local city and county road system. Collectively, these networks consist of approximately 1,550 miles. Exclusively, the county road system consists of approximately 914.17 miles and over 253 bridges, which is a substantial amount to be maintained by the county. This figure goes up every year with the official updates of the County Road Atlas adopted by the Board of County Commissioners. Since new developments require frontage along existing or newly constructed public roads, the County Road Atlas map must periodically be edited (Source: Office of the Sullivan County Commissioner of Highways).

COMMISSIONER OF HIGHWAYS

The county highway system was analyzed in this transportation element of the study. The road system was classified and the major road plan was updated, problems identified, and improvements recommended. This section focuses on the road resurfacing cycle for the unincorporated areas of the county. According to the Sullivan County Highway Department, the county maintains about 730 miles

of roads. This does not include federal and state roads maintained by the State of Tennessee or State-Aid routes. The county annually resurfaces about 8 miles of roads, and spent \$200,000 on resurfacing in the fiscal year 2005-2006. This puts the county on a ninety-year resurfacing cycle that is inadequate and poor. Most resurfacing cycles are on a 15 to 20-year cycle. The county should resurface about 35 miles of roads a year. Unfortunately the budget for the county highway department has not increased proportionately with the rising costs of fuel, asphalt, equipment and stone, but the total linear footage of county-maintained roadways continues to increase.

THOROUGHFARE CLASSIFICATION

The primary or intended use of a thoroughfare varies from that of providing access to residential and other structures, to providing uninterrupted movement of high-speed traffic. To clarify the usage, a classification has been established denoting the function served. These classifications include (1) interstate highway, (2) arterial streets, (3) major collector streets, (4) minor collectors, and (5) local streets.

Interstate Highway: Access controlled roadway connecting major population centers devoted to serving high traffic volumes and long distance trips. Sullivan County has access to two major interstates, I-26 (formerly named I-181) and I-81. Interstate 26 is the primary interstate route to the west and southeast. It originates in Charleston, South Carolina, enters Sullivan County from Washington County, Tennessee, and terminates at exit 46, the Kingsport City limits, where it intersects with I-181/US 23 and Hwy 11-W/Stone Drive. Interstate 181 currently serves the tri-cities region of Northeastern Tennessee between Kingsport city limits at Stone Drive and Virginia line. All of Interstate 181 south of Stone Drive/Hwy 11-W is now apart of Interstate 26. Speculation arose and Kingsport requested renumbering all of Interstate 181 in Sullivan County to Interstate 26. The American Association of State Highway Transportation Officials (AASHTO) denied a petition by the State of Tennessee to renumber the remaining Interstate 181 in July of 2003. Therefore Interstate 181 remains in place from the original terminal at U.S 11W to the State line. Interstate 81 begins near Dandridge, Tennessee at Interstate 40 and follows the spine of the Appalachian Mountains before termination near Fishers Landing, New York. Combined with Interstates 59 and 75, Interstate 81 follows U.S. 11 from its entire journey from New Orleans to northern New York State. Interstate 81 does not enter major metropolitan areas. Instead it serves smaller cities and provides a link between the Northeastern Megalopolis to points in the Mid-Southern states, adding to its appeal as a major trucking route.

Arterial Street: Roadways that link population centers often lack controlled access and traffic-flow separation. Usually these are numbered U.S. Highways/State Routes. State Route 11-E enters Sullivan County from Washington County, Tennessee, and extends in a northeast direction through the City of Bristol entering into Washington County, Virginia. State Route 36 also enters Sullivan County from Washington County, Tennessee and runs north under Interstate 81 to Kingsport before entering Scott County, Virginia. State Route 75 enters the county from Washington County, Tennessee in an easterly direction passing the Tri-Cities Regional Airport before terminating at State Route 126. State Route 357 originates at State Route 75 and travels in a northerly direction before termination at the intersection of Interstate 81. State Route 93 enters from Jonesborough through Kingsport north to Scott County, Virginia. State Route 126 originates in Kingsport as Memorial Boulevard changing to State Route 126 after entering the county, moving easterly to Blountville, though the county-seat of Historic Blountville called The Great Stage Road, before terminating in Bristol, Tennessee at West State Street. State Route 421 enters Sullivan County from Johnson County, Tennessee moving in a westerly direction to Bristol, Virginia terminating at the intersection of 19-E. State Route 394 originates at the intersection of State Route 421, traveling through the southern portion of Bristol, Tennessee before terminating at the State Route 11-W intersection. State Route 11-W enters from Hawkins County moving in an easterly direction through the northern portion of Kingsport then entering into Washington County, Virginia. Obviously, there is an adequate number of State Routes to slicing through the county.

Major Collector: Roadways that link arterial streets and distribute traffic onto minor streets. These links also provide direct access to major traffic generators. There are several major collectors located throughout Sullivan County. They are as follows: Pickens Bridge Road, Bloomingdale Road, White Top Road, Silver Grove Road, Weaver Pike, Chinquapin Grove Road, Hickory Tree Road, and Emmett Road.

Minor Collector: Roadways that link and provide access to and between local roads and minor streets. Ideally these are internal to or abutting neighborhoods. There are numerous minor collectors in Sullivan County. For purposes of planning, major and minor collector roads were grouped together.

Local Road/Minor Street: Roadways that function primarily as the means for accessing individual properties. Most often minor streets are intended for limited capacities, carrying traffic for short distances, and serving residential uses. The majority of Sullivan County's roads are of this classification.

ILLUSTRATION 6-13 - EXISTING MAJOR THOROUGHFARES PLAN MAP

METROPOLITAN PLANNING ORGANIZATIONS

There are eleven Metropolitan Planning Organizations (MPO) in the State of Tennessee and out of these three occupy the Upper East Tennessee area. Two MPO's exist within Sullivan County. The Bristol MPO and the Kingsport Area MPO are responsible for the urban areas of Bristol, Kingsport and boundaries extending beyond the limits of these respective cities. The urban areas identified on the maps are those areas as defined by the US Census 2000 – not to be confused with the 2000 Growth Plan for the Urban Growth Boundaries. While similar, these boundaries are not the same boundaries. The Metropolitan Planning Organizations of Bristol, Kingsport and neighboring Johnson City have Long Range Plans in place that have been or are currently being updated to meet the requirements of the August 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) appropriations bill.

Bristol: The Bristol Urban Area Long-Range Transportation Plan 2025 has plans to continue maintaining a functional transportation system for the Bristol area. The objectives to establish long-range goals were based on developing a safe and efficient transportation system keeping in mind the need to sustain and preserve the natural environment throughout the MPO area.

Johnson City: The Johnson City Urbanized Area has grown tremendously as a regional educational, health, and employment center. The 20-year plan continues to study sustainable growth and provide support for the area's future transportation system. The completion of the Interstate 26/ corridor will provide significant improvements on travel demands and travel times by improving the connectivity between the Interstate 81 and Interstate 40 highway systems. Although the JC MPO area is not within Sullivan County, the JC MPO Study Boundary and Urbanized Area map was included in this plan in order to illustrate its proximity to the county and its major collectors and arterials connecting the growth centers of Sullivan County to the extended city limits of Johnson City. Ironically, the city limits of Johnson City have continued to expand along the 11-E corridor in Piney Flats with the respective Urban Growth Boundary; however the MPO boundary has not changed. The next decennial Federal Census may alter the JC MPO boundary.

Kingsport: The Kingsport Metropolitan Area 2025 Transportation Plan provides a 25-year plan for improving traffic flow along its city streets and highway network. The Plan focuses on less congestion, safety for motorists, improved travel times, in addition to the on-going objective to move people and goods efficiently and effectively. Being a main area for industry, Kingsport's transportation network is mainly composed of commuter traffic. Thus, less congestion on its major arterial and collector streets would be significant, particularly during peak commuter travel times.

RURAL PLANNING ORGANIZATION (RTPO)

The Federal Highway Administration (FHWA) passed regulations requiring representation of rural areas in the transportation planning process. To comply with these regulations, the Tennessee Department of Transportation (TDOT) has created the Rural Planning Organization (RPO). The RTPOs represent all areas not currently included in a Metropolitan Planning Organization (MPO). Areas in Sullivan County not served by an MPO have representation on the newly formed RPO with a staff planner at the Tennessee Department of Economic & Community Development, Division of Local Planning Assistance. The purpose of the LPA office Rural Planning Organization planner is to involve local officials in multi-modal transportation planning. The goal is to allow local officials and citizens to have input into the transportation process and to promote unified regional transportation goals. The RPO planner used to be housed in the First Tennessee Development District office in Johnson City, but recently moved downstairs to the Local Planning Assistance office. This planner is responsible for coordinating between and among the MPOs, TDOT and the rural areas now served by the RTPOs. Sullivan County is fortunate to have two MPOs covering most of the urban and developing portions of the county within their planning area, with the remaining lands dedicated to the Cherokee National Forest. The only portion of the county that is experiencing growth and not contained within a MPO planning boundary is the lower end in and around Piney Flats.

EARLY ACTION COMPACT PROGRAM RELATING TO THE NON-ATTAINMENT AIR QUALITY STANDARDS PER EPA (TCA 13-7-118)

The counties within the Kingsport and Bristol Area Metropolitan Planning Organizations, with the exception of those within Virginia, fall under the Tri-Cities Early Action Compact (EAC) and the Environmental Protection Agency Deferral of Effective Date of Non-Attainment Designations for the new 8-Hour Ozone National Ambient Air Quality Standards for Early Action Compact Areas. Specifically, the Early Action Compact entailed demonstrating the ability to comply as close as possible with the 8-Hour standard. Jurisdictions within the EAC had to ensure compliance within the 8-Hour ozone National Ambient Air Quality Standard (NAAQS) by December 31, 2007. The local EACs are managed by the Northeast Tennessee/Southwest Virginia Ozone Action Partnership Team, which falls under the umbrella agency of the First Tennessee Development District Office. Both Metropolitan Planning Organizations have been a part of the OAPT since its creation in 2000. Some of the adopted local control measures to help in the reduction of ozone pollutants are outlined in the Long Range Transportation Plans of both MPOs. Such measures include activities such as the restricting open burning or mowing on high ozone days (Ozone Action Days), carpooling, energy conservation, telecommuting and most importantly public education on the matter. Sullivan County has involved representatives serving on the Bristol and Kingsport MPO, the RTPO as well as the

OAPT. Together these agencies strive to improve public awareness on the environmental effects of ozone pollution as well as implementing local controls restricting land uses and public activities known to cause increases in air pollution.

In addition, the Sullivan County Planning & Zoning Department shall continue to study the local, state and federal findings, policies and regulations affecting land use and transportation development patterns. Two recent publications specifically address how land use activities impact air quality: 1) EPA Guidance, Improving Air Quality Through Land Use Activities (January 2001); and 2) American Planning Association's Policy Guide on Planning & Climate Change (draft approved by the National Delegate Assembly on April 27, 2008). Both documents accentuate policies and suggested goals crucial to improving the overall air quality with the implementation of improved land use and transportation regulations that govern future development patterns.

A few policies and strategies from the EPA's Guide are as follows:

- Concentrated Activity Centers: Encourage pedestrian and transit travel by creating "nodes" of high density mixed-use development, that can be more easily linked by a transit network;
- Strong Downtowns: Encourage pedestrian and transit travel by making the central business district a special kind of concentrated activity center, that can be the focal point for a regional transit system;
- Mixed-Use Development: Encourage pedestrian and transit travel by locating a variety of compatible land uses within walking distance of each other;
- Infill and Densification: Encourage pedestrian and transit travel by located new development in already developed areas, so that activities are closer together;
- Increased Density Near Transit Stations: Encourage transit travel by increasing development density within walking distance of high capacity transit stations, and incorporate direct pedestrian access;
- Increased Density Near Transit Corridors: Encourage transit travel by increasing development density within walking distance of a high capacity transit corridor;
- Pedestrian and Bicycle Facilities: Encourage pedestrian and bicycle travel by increasing sidewalks, paths, crosswalks, protection from fast vehicular travel lanes, pedestrian-activated traffic signals, and shading.

The APA Policy Guide on Planning and Climate Change addresses general but key changes on land use and transportation regulations that impact the overall climate – from air quality, water and energy resource conservation, to renewable energy and green infrastructure building. While this publication is still in draft form (as of May 2008) the county planner should consult periodic updates when developing new or revised regulations regarding development.

Interestingly enough, the above suggested policies and strategies would also improve the health of the community at large, through increase physical activity, beautification of the built environment assuming such infrastructure development would have a people-oriented design scheme, restore or even improve the deterioration of established neighborhood property values with the promotion of infill development within vacant, and often times abandoned lots; and possibly even control the rapid spending on the development of sprawling streets and utility lines. Therefore these policies promoting air quality compliance may have a multiply effect on the overall health of the natural and built environments. While Sullivan County currently enjoys relatively low-density living with many wide-open natural vistas, the suggested land use policies and suggestions offered by the EPA should become underlying goals when the county considers changes in all of their regulations and resolutions governing development.

ILLUSTRATION 6-14 - BRISTOL MPO STUDY BOUNDARY

ILLUSTRATION 6-15 - JOHNSON CITY MPO STUDY BOUNDARY

ILLUSTRATION 6-16 - KINGSPORT MPO STUDY BOUNDARY

TRAFFIC CIRCULATION PATTERNS

The traffic circulation pattern in Sullivan County is good, relying heavily on Interstate 26 to move up to thirty-seven thousand vehicles a day. Most of this traffic is commuter traffic linking Kingsport's largest employer, Eastman Chemical Company, with the rest of the Tri-Cities. Interstate 81 is a major commercial route averaging thirty thousand vehicles per day with the majority being commercial trucks. State Route 11E is a major thoroughfare averaging 24 thousand vehicles per day linking Carter County and Washington County with Bristol Tennessee/Virginia. (Source: Tennessee Department of Transportation)

ROADWAY CAPACITIES

Roadway capacities vary with the design including the cross-section and access control; design speed; and the terrain. Capacity will vary with the road design, which is typically associated with the function of the street or the street classification. Collector streets with a primary function to provide access will have lower design criteria, therefore a lower capacity. As access function decreases and design criteria increases, capacity will increase. Arterials should, therefore, have increased capacity with higher design criteria employed.

Level of service (LOS), the measurement of roadway capacity, varies from A to F with LOS-A representing the greatest reserve capacity and LOS-F representing capacity exceeded. A LOS-E represents the capacity of the roadway. As roadways enter urban areas, traffic control devices will lower the capacity of a roadway. Delays become the criteria for LOS and are estimated for signals and stop control intersections. In urban conditions, delays are increased and the minimum accepted LOS is typically D (Signalized LOS). For rural conditions, the more accepted LOS is C. These levels of service should typically govern design and desired operating levels. Lower levels of service will affect driver behavior and reduce traffic safety. (Source: Tennessee Department of Transportation)

IMPEDIMENTS TO TRAFFIC

Numerous roadways have projected traffic that exceeds the more desired LOS-C threshold. Roads where the traffic projections are expected to exceed the maximum capacity, include the collector streets between U.S. 11E/S.R. 34 and S.R 75; U.S. 11E/S.R. 34, between Johnson City and Bristol; U.S. 19 (from U.S. 11E/S.R. 34 to the Carter County line); and Mount View Road. Roadways that may exceed the LOS-C capacity in the future are S.R. 36 from Washington County, Tennessee, 75 from S.R. 36 to S.R. 126, and 126 from I-81 to Bristol, through Blountville.

The Tennessee Department of Transportation currently plans improvements for S.R. 36 and 75, from S.R. 36 to the Tri-Cities Airport. The southern portion extension of S.R. 357, currently under design-review, should address deficiencies of County collector streets between U.S. 11E/S.R. 34 and S.R. 75. This map is depicted in the next chapter. TDOT has hired an engineering consultant firm to



further study the interchange improvements at Hwy 11E and Hwy.19E in Bluff City area. A joint committee comprising of officials from TDOT, Sullivan County, Bristol MPO, and staff are reviewing alternative solutions to the safety and efficiency improvements scheduled for this interchange as part of the overall SR 357 South extension planning.

(photo by T. Earles)

Deficiencies will require further evaluation by Sullivan County and the respective Metropolitan Planning Organizations (MPO's) for Kingsport and Bristol because the traffic projections are based on historical trends. Transportation Demand Models, used by the MPO's, may further refine the traffic projections and transportation needs for these facilities. (Source: Tennessee Department of Transportation)

TRAFFIC GENERATORS

Traffic generators are focal points of activity, which are origin and destination of numerous automobile trips during certain times of the day. Having an awareness of the location of these generators is necessary in planning the traffic circulation system, and in preparing plans for improvements.

The Tennessee Department of Transportation has recorded the average daily traffic counts (ADTs) for Sullivan County with the MPOs also collecting counts on an annual basis or as needed. These records over the past ten years reflect an increase in most areas. Interstate 26 from the intersection of Interstate 81 south to Washington County, Tennessee had an average traffic count of 25,920 in 1993. In 2003 the traffic count was 42,170 for this same area, an increase of 16,250. Traffic will increase significantly in the near future due to the completion of the interstate widening in North Carolina and future widening in Tennessee, creating a direct route from South Carolina to New York.

Interstate 81 increased traffic flow southward to Washington County by 12,090. This interstate system is heavily populated with large truck traffic. Interstate 26 from the intersection of Interstate 81 north to Highway 93 had an increase of 13,900 from 14,010 in 1993 to 37,910 in 2003, while that same corridor still called I-181 from Scott County, Virginia south to US 11W showed an increase of 3,120 from 5,150 in 1993 to 8,270 in 2003. These increases can be contributed to commuter traffic to four of Kingsport's largest employers as well as a direct route to the central business district. US 11W had an increase in traffic at mid point between Interstate 181 and Highway 37 of 650, from 15,220 in 1993 to 15,870 in 2003. This is a result of the residential developments in this area. US 11E traffic count of 31,920 in 1993 to 29,400 in 2003 reflected a decrease of 2,520 leading into and out of Bristol. This decrease is associated with the growing number of plant closings in this area as well as the opening up of SR 394. State Route 394 has redirected heavy truck traffic away from the more urbanized and traffic controlled US 11-E and diverted such heavy trucking towards I-81. This has greatly relieved the use of the Volunteer Parkway/US 11-E within Bristol metro area from heavy trucks but has also increased such volume through the heart of the historic district in Blountville. State Route 394 has also spawned new interest in the development of the Tri-County Industrial Park as well as some new light manufacturing in and around Bristol. The remaining portion of US 11E outside the cities has shown an increase of 5,730, from 19,640 in 1993 to 25,370 in 2003. This increase is contributed to the Tri-County Industrial Park and the growing retail sales in this area. A combination of truck and commuter traffic will increase significantly with the opening of the Home Shopping Network (HSN) distribution center, the largest employer in this park.

AIR/RAIL/PORT

Air: There is one airport facility located in Sullivan County, Tri-Cities Regional Airport, serving the entire area. The facility is jointly owned by the cities of Johnson City, Kingsport, Bristol Tennessee/Virginia, and Sullivan and Washington Counties with the percentage of ownership determined by their investment. The airport is centrally located to accommodate the Tri-Cities.

American Airlines pioneered commercial airline service in 1937 and expanded serviced in the early 1940's, with two daily flights to Los Angeles and another two to New York. About 30,000 passengers used Tri-Cities Regional Airport in 1948. This more than doubled to about 66,000 in 1952 and just over 446,000 in 1999. It decreased to just over 391,000 in 2003 primarily due to the downsizing of flight schedules as well as increased security post September 11, 2001 terrorists' attacks in the USA. The airport has recently expanded to better serve the Tri-Cities with passenger, charters, and air cargo activity. It has an asphalt surface primary runway to the length of 8,000 feet and a secondary runway to 4,447 feet. Airlines servicing the Tri-Cities area: American Connection, Delta Connection,

Northwest Airlink and US Airways Express. Tri-Cities airport has approximately 28 flights per day that depart and approximately 31 arrivals.

(photo by T. Earles)



Air cargo volumes have been on a roller coaster ride over the years, going from less than 200,000 pounds in 1948 to a high of about 10.3 million pounds in 1987, another low of roughly 3 million pounds in 1990, and back up to just over 5.5 million pounds in 1999 to just below 4 million pounds in 2003. Changes in the scheduled air freight business, including reliance on cheaper ground

transportation, using more reliable trucks on expanded interstate highways to consolidation airports have provided traditional air cargo carriers with ever-increasing alternatives to the use of aircraft for smaller communities. This trend had been somewhat offset by manufacturing companies use of “just-in-time” (JIT) deliveries of parts and components for the auto industries and others. The reduction in size of airline aircraft over the past 20 years and the decrease in “belly” cargo capacities have significantly shifted the emphasis towards scheduled and nonscheduled air cargo carriers. The combination of smaller airline aircraft and faster/cheaper truck transportation has also contributed to a downward trend in airmail processed through the Airport over the last two decades. A number of air cargo carriers, expeditors, freight forwarders and contract carriers have used the Airport over the years. Familiar names such as Burlington Northern, DHL, Emery Worldwide, Federal Express and UPS are only a few of the companies that have operated on a scheduled basis. All of these variables in the airlines and air-cargo industry have created a volatile environment for the growth and development around the airport. This is evident in the rapid speculative rezoning requests of agricultural districts to manufacturing districts during the 1990s to that of “down-zoning” back to agricultural, residential or arterial business on such farms.

Rail: There are very few rail freight, and rail related projects in the MPO's Transportation Improvement Plans at this time. This may be a consequence of the relatively limited amount of freight planning activity currently underway at the MPO level.

Kingsport's MPO identifies an area along Lincoln Street as the only inter-modal facility in the county. They have proposed examining the potential to enhance the role of this facility now that it largely serves Eastman Chemical and is operated by CSX.

Bristol's MPO has a lesser detailed long-range rail plan, but does support the Virginia Department of Transportation in the proposed passenger rail system from Richmond to Bristol, Virginia.

Johnson City's MPO has no current rail plan. There have been discussions in the past (conceptual) of light rail connectivity between the Tri-Cities, particularly Kingsport and Johnson City.

Port: Since 1994, the Tri-Cities Regional Airport has served as the U.S. Customs Port 2082, which is federally staffed and functions as a full service U.S. Customs Port-of-Entry. These officers monitor an average of 208 shipments per month through the port. This equates to a substantial savings for businesses.

CHAPTER SUMMARY FINDINGS

Land Use:

Topography and other natural factors, particularly soils, affect development in Sullivan County. These limitations can be overcome with good infrastructure design.

- ◆ An estimated 75 percent of the 80,639 persons living in the unincorporated portions of Sullivan County reside in moderate to high-density residential developments on about 8 percent of the total land area according to the initial land use analysis in 1999.
- ◆ Some mobile home parks and multi-family attached dwellings are concentrated in higher densities at specific locations; their overall density is greater than two acres per unit. The majority of the multi-family units appear to be on two parcels, one located in the Blountville area and the other located to the northeast of I-81 at interchange 63.
- ◆ Traditional single-family subdivisions are located throughout the county; however, most are located in close proximity of Blountville, Bluff City, Bristol and Kingsport, with a recent surge of developments in Piney Flats.

- ◆ Sullivan County has approximately 128,697 acres of land used for agricultural, forest, recreational or open space activities, according to the updated land use data. Recreational lands were included in this category when in 1999 they were included in public lands. This explains the large disparity between the summary of findings between the 1999 data and the 2006 data. All in all, undeveloped land accounts for the largest land use by total acreage in the county.

- ◆ Concentrated commercial developments are located near highways 11E, 11W, 421, 19E and 36 with the greatest near future potential for commercial development along 11E. The Tri-County Industrial Park is central to Johnson City, Kingsport, Bristol and Elizabethton. The Park has a total of 650 acres developed and another 100 for future development.

- ◆ Sullivan County has a large number of public, cultural and recreational facilities precisely placed throughout the county. Schools and churches are located within residential communities. Libraries and government facilities are located throughout the county for easy access to the public. Major governmental buildings are centralized in Blountville with ancillary offices in the downtowns of Bristol and Kingsport. Many recreational sites in the county are natural areas such as South Holston Lake, Holston River, Boone Lake and Patrick Henry Lake. These sites welcome activities as picnicking, boating, fishing, camping and swimming. Boone Dam Recreational Area, Warrior's Path State Park, Observation Knob Park, Steele Creek Park, Bays Mountain Park and Cherokee National Forest offer amenities for the natural enthusiasts such as hiking and biking trails, camping, picnicking, wildlife and mountain wilderness.

- ◆ Sullivan County is one of the largest counties in the Upper East Tennessee Region with a large portion being designated agricultural, forest and open space. Most of the undeveloped or under developed land has severe limitations for development due to poorly drained soils and steep topography.

Transportation:

A community's growth hinges on the movement of its people and goods. A good transportation network can spur commercial growth, assist the average employee and employer in achieving employment goals, provide the residents a more convenient means of getting to and from home, facilitate the movement of goods, and generally provide all travelers with a safe and convenient means of getting from one location to another.

- ◆ The traffic circulation pattern in Sullivan County is good relying heavily on Interstate 26 and Interstate 181. Most of this traffic is commuter traffic with Interstate 81 being a major commercial trucking route. State Route 11E is a major thoroughfare linking Carter and Washington County's with Bristol Tennessee/Virginia.

- ◆ The Tri-Cities Regional Airport is jointly owned by Johnson City, Kingsport, Bristol Tennessee/Virginia, Sullivan and Washington County's and is centrally located to accommodate the Tri-Cities. Volumes of shipments have been volatile. Changes in the scheduled airfreight business, including reliance on cheaper ground transportation and reliable trucks on expanded interstates are alternatives to using aircraft for smaller communities. A number of air cargo carriers, expeditors, freight forwarders and contract carriers have used the Airport over the years.

- ◆ There is very little rail freight and rail related projects slated for the future. Norfolk Southern serves the Industrial Park in Piney Flats, Bluff City and Bristol Areas. Kingsport has proposed enhancing the role of the CSX inter-modal facility off of Lincoln Street that largely serves Eastman Chemical. Bristol has a long-range rail plan that proposes a passenger rail system from Richmond to Bristol, Virginia.

CHAPTER 7

THE DEVELOPMENT PLAN

COUNTY WIDE GROWTH PLAN AND PROPOSED LAND USE PLAN: CORRESPONDING DEVELOPMENT GOALS AND OBJECTIVES

INTRODUCTION

A primary concern for most progressive communities is whether they will be able to guide and provide for their future growth and development. The Sullivan County Regional Plan, through the Development Plan element presented in this Chapter, establishes how the county can best accommodate spatial growth during the twenty-year planning period. The Development Plan should serve as a general guide for Sullivan County. It is derived from an analysis of past events affecting development, governmental structure, natural factors, socio-economic factors, existing land use and the existing transportation system. It is also based on several major assumptions, factors, issues and trends developed through past policies and actions of the Planning Commission.

The Development Plan requires the establishment of development goals reflective of the level of the growth desired. Objectives based on the development goals, and policies to achieve these objectives, are presented in this Chapter. These goals, objectives and policies represent detailed guidelines for future development decisions. These goals, objectives and policies are further reflected in the Major Thoroughfare and Development Plans which are intended as a general guide for physical development decisions.

PUBLIC CHAPTER 1101 OF 1998 - A 20-YEAR COUNTY WIDE GROWTH PLAN POLICY

A recent addition to the fabric of planning legislation in Tennessee is the Growth Boundary Law enacted as Public Chapter 1101. The passage of PC 1101 on May 29, 1998 created the need for cities and counties to evaluate their potential growth over the next 20 years, defining their responsibility to manage growth, ensuring efficient use of land, and providing appropriate public service standards. The law required that Sullivan County, along with the incorporated cities and towns, prepare a growth plan that places perimeters on growth within the county, identified as municipal urban growth boundaries, county planned growth areas, and remaining rural areas. The county established a coordinating committee in 1999, made up of each mayor/county executive, representatives from each local government, school board, utility district, soil conservation district, chambers of commerce, and other members. The result of this effort produced a twenty (20) year growth plan, which was independently adopted by each local government in August of 2000. In

January of 2001 the plan became effective upon approval and ratification from Tennessee's Local Government and Planning Advisory Commission.

The law mandated the growth plan on a basis of a twenty (20) year population projection developed by the University of Tennessee to utilize identified vacant space within the municipalities and determine space outside those municipalities to allow land area to maintain current densities. Upon adoption of the plan the State also approved the planning regions of both Bristol and Kingsport to be one in the same as their urban growth boundaries in Sullivan County. The growth plan is based on a twenty (20) year projection of growth and land uses, which divides the county into three (3) types of areas:

Urban Growth Boundary (UGB) - the municipality and contiguous territory where high-density residential, commercial, and industrial growth is expected, or where the municipality is better able than other municipalities to provide urban services.

Planned Growth Areas (PGA) - territory outside municipalities where high or moderate density of residential, commercial, and industrial growth are projected.

Rural Areas (RA) - territory not in a UGB or PGA and that which is to be preserved as agricultural lands, forests, recreational uses, wildlife management areas or for uses other than high density commercial, industrial or residential development.

The Sullivan County Regional Planning Commission focused their attention on the planned growth areas of Sullivan County rather than the urban growth boundaries, assuming that the cities' current comprehensive plans address congruent goals and objectives in those areas. While the Sullivan County Regional Planning Commission is charged with developing and implementing a countywide development plan, such plan shall not supercede those current and effective planning efforts of their neighboring cities. Therefore, the next series of maps will focus along the planned growth areas.

PLANNED GROWTH AREAS

The Sullivan County Planned Growth Areas offer districts or corridors where the zoning and policies for development should encourage general commercial, higher density residential, and mixed-use land patterns. These are areas along the major corridors and highways in the county that cannot be annexed by the municipalities, except by referendum. These corridors are generally contiguous with the Urban Growth Boundaries on one end and the Rural Areas on the other or surrounding areas. While the Rural Areas should be left as agricultural, low-density residential with possibly some neighborhood business developments, the PGAs should be focused on substantially improving the

economic base for the county. The following maps illustrate possible future land uses for each PGA taking into consideration the recent trends for development and rezoning decisions. There are five Planned Growth Areas designated in the county: The Tri-County Industrial Park in Piney Flats, The Bloomingdale area near Kingsport north of Stone Drive; the Sullivan Gardens Parkway south of the Kingsport city limits; Fort Henry Drive within Colonial Heights near the city limits of Kingsport to the end of the county line; and most notably, the Hwy 75 and Hwy 126 corridors near the Tri-Cities Regional Airport on up to the urbanized areas of Blountville. The PGAs hold a broadband of land uses ranging from low to high density residential neighborhoods, neighborhood-type business to general commercial and some light to moderate industrial land uses. Each PGA has a unique mix of land uses primarily established long before zoning and the recent Growth Plan. The proposed land use plan proposes the highest and best choices for development based upon the known availability of public services, the recent trends for rezoning requests as approved, as well as, protection of property values within the established residential neighborhoods. While such proposals are not an exact science, such plan should be used to steer and encourage growth towards these major thoroughfares within the PGAs pursuant to the policies set forth in the Public Chapter 1101 State law.

ILLUSTRATION 7-1 - COUNTY WIDE GROWTH PLAN (PC 1101)

ILLUSTRATION 7-2 - PROPOSED LAND USE – CONCEPTUAL COUNTYWIDE MAP

ILLUSTRATION 7-3 HIGHWAY 93 /SULLIVAN GARDENS PARKWAY

ILLUSTRATION 7-4 - PROPOSED LAND USE HIGHWAY 11-E

ILLUSTRATION 7-5 - PROPOSED LAND USE HIGHWAY 11-W

ILLUSTRATION 7-6 - PROPOSED LAND USE HIGHWAY 75

ILLUSTRATION 7-7 - PROPOSED LAND USE COLONIAL HEIGHTS

ILLUSTRATION 7-8 - PROPOSED LAND USE BLOUNTVILLE

Illustration 7-9

MAJOR ASSUMPTIONS/FACTORS/ISSUES AND TRENDS

The major assumptions, findings, and trends identified in the preparation of this plan, are presented below. These assumptions represent the findings of the previous chapters, and are the forces, which frame the goals, objectives, and policies of this plan. The major assumptions, factors, issues and trends identified in this plan, which will directly affect the future land use and transportation of Sullivan County, are as follows:

- ◆ The county government will continue to support economic and community development through their continued strong planning programs in the cities and county.
- ◆ Regional planning authority provides the county the opportunity to strongly influence development in its defined growth areas.
- ◆ Natural factors, primarily topography, poor soils and flood plain, will limit areas for medium to higher density developments in most cases without public utilities.
- ◆ Modest, but steady, population growth is projected for the county during the planning period, with an increase from 153,048 in 2000, to approximately 161,263 in 2025.
- ◆ The elderly sector of the County's population is expected to increase in percentage in comparison to the total population. The U.S. Census of Population indicates that the percentage of persons 65 years or older in Sullivan County has steadily increased, from 14.3 percent of the total population in 1990 to 15.9 percent in 2000. This compares to a 2000 figure of 12.4 percent for this age group for Tennessee as a whole. In addition, the number of annual deaths continues to exceed the number of live births in Sullivan County (Source: PEFA study of 2008 and US Census Bureau).
- ◆ A significant percentage of the population is expected to continue to have moderate and low incomes. In 2000, 12.9 percent of Sullivan County's population had incomes at the census poverty level as compared to Tennessee as a whole with 13.5 percent.
- ◆ Manufacturing, retail, and public and private services are projected to be the primary sources of employment for the county during the planning period. Like Tennessee as a whole, agricultural employment continues to decline.

- ◆ The county has a sufficient amount of adequate housing, however there are scattered spots of housing needing redevelopment in the county. There is a growing need for more affordable single-family dwellings to may offer alternatives to manufactured housing and planned residential communities catering to the retired and elderly, such as patio/villas.
- ◆ The county has minimal vacant industrial parcels or floor space, which indicates the need for additional industrial properties.
- ◆ The county's downtown business district located on State Route 126, the Great Stage Road in Blountville, has become an active location for private and public service enterprises as the result of recent historic preservation activities.
- ◆ The municipalities are projected to be a primary provider of locations for large scale and heavy industrial developments due to the availability of infrastructure.
- ◆ The water treatment capacities are adequate to meet the projected demands for future development. Sewer service will continue to be made available where feasible.
- ◆ Working in conjunction with the municipalities in the county, water and sewer lines will continue to be upgraded or expanded pursuant to development trends and available funding.
- ◆ It may be necessary for the county to continue working closely with Bristol, Kingsport, Bluff City and Johnson City in regards to their urban growth plans and possible annexation when considering growth and the provision of necessary municipal services.

DEVELOPMENT GOALS

To adequately plan and allocate for its future land use, it is necessary that the county establish general developmental goals. In the context of a future land use plan, a goal is a general statement reflecting the objectives in the areas of land development, transportation, and service delivery Sullivan County wants to achieve. The overall goal of this land use plan for Sullivan County is to provide a quality living and working environment for the residents of the county while also encouraging the maintenance and development of recreational and commercial centers that can be enjoyed by not only the residents of the county but a draw to the region.

The following goals are general statements that the Sullivan County Regional Planning Commission believes to be the desires of the citizens regarding the future development of the county.

- ◆ To preserve, protect and enhance the quality of life in Sullivan County while encouraging a more harmonious and higher standard of development.
- ◆ To provide for adequate housing to meet the needs of all residents while ensuring that all residential developments provide pleasant and harmonious living environments, are served by adequate vehicular and pedestrian circulation systems, are served by adequate infrastructure, and are properly related to other needed land uses.
- ◆ To provide for an adequate supply of commercial services with varied sites suitable for a variety of outlets in close proximity with residential areas.
- ◆ To maintain a strong open space and residential base while providing adequate space for industrial and commercial development.
- ◆ To provide adequate and efficient public facilities and services, and to provide a diversity of cultural and recreational opportunities.
- ◆ To provide utility services that effectively and efficiently meet and anticipate the future needs of the county.
- ◆ To provide an efficient and effective transportation system with appropriate linkages and route capacities.
- ◆ To encourage the development of vacant lands which have less natural restrictions and which have the necessary infrastructure, while preserving the less desirable areas as open space.

OBJECTIVES AND DEVELOPMENT POLICIES

Both objectives and policies are utilized to achieve the goals established in this plan. Objectives are more specific, measurable statements of the desired goals. Policies represent rules or courses of action that indicate how the goals and objectives of this plan will be realized.

The objectives and policies contained in this document represent the official public policy guidelines concerning land use and transportation matters for decision-making by Sullivan County. The policies are presented as guidelines to be followed by developers, builders, neighborhood groups, civic organizations, and other private and public interests engaged in and concerned about growth and development in Sullivan County. The policies are also presented so that interested individuals and groups can better anticipate the county decisions on future matters.

In the following section, general growth management objectives and policies are presented. Objectives and policies follow this section for each of the specific land use categories.

GENERAL DEVELOPMENT AND GROWTH MANAGEMENT

Growth has always been viewed as an inherent component of urban development. Most counties understand that growth is necessary for long-term viability and sustainability. However, in more and more counties, the costs and benefits of continued growth have emerged as public issues. There is often hesitation over accommodating further development with its consequences of greater numbers of residents and higher densities, economic expansion, rapid consumption of land, and alteration of the natural environment.

Sullivan County anticipates and welcomes growth and understands its importance as a part of those forces that beneficially affect the County's quality of life. At the other end of the spectrum, the policy of growth at any cost has long-term detrimental impacts and is not supported by the county. The approach taken by Sullivan County will be that of managed growth. To guide general growth and development the following objectives and policies are adopted.

- A. Objective - *Assure the protection and integrity of the natural environment by implementing measures to minimize the adverse impacts of development to soils, slopes, vegetation, wetlands, flood plain and other natural features.***

Policies:

1. Ensure that areas less suitable for development, due to natural factors, are developed only when appropriate remedial measures are taken.
2. Decisions on development proposals will be based on an analysis of soils, slope, depth to bedrock, and location relative to flood prone areas.
3. Where the condition of the land is in doubt, and it appears that an unsuitable condition might exist, the potential developer will have the responsibility for undertaking the necessary studies to prove the feasibility of the land to support the proposed development.
4. All development proposals will be assessed for the appropriateness of engineering design and the installation of all-necessary drainage facilities and compliance with Phase II regulations of the Clean Water Act.
5. The Planning Commission will ensure that the pre-development run-off discharge rate of any site is not increased as a result of development. Proposed future developments should not increase flooding potential, substantially alter drainage patterns, or degrade natural water quality.
6. Areas located in a designated floodplain will be developed only in conformance with National Flood Insurance Program guidelines and the County's flood plain management regulations.
7. Major natural drainage ways, which are a part of the natural system of dispersing normal flood run-off in any drainage basin, will be protected from encroachment.
8. High-density residential developments shall be required to be served by public utilities, such as water and sewer, in order to protect the ground water per stricter state regulations.
9. Development proposals involving soil disturbance will be in conformance with appropriate sediment and erosion control measures and the County's storm water regulations pursuant to Tennessee Department of Environment and Conversation's and environmental and soil conservation standards.

10. Areas of excessive slope will be conserved as open space if development would cause soil and/or water degradation, or where the terrain possesses special scenic or recreational value through enforcement of Open Space Residential Development (OSRD) developments as outlined in Zoning.
11. Land subject to major flooding and land deemed to be topographically unsuitable will not be platted for residential occupancy, or for such other uses as may increase danger to health, life or property or aggravate erosion for a flooding hazard.
12. Mature vegetation, particularly trees, will be protected and replantings should be required, where feasible, when existing vegetation is removed or substantially disturbed during construction.
13. Existing natural vegetation will be used as an alternative to man-made devices for buffering, screening, insulation, erosion control and water quality protection, whenever practical.
14. The county will develop appropriate criteria or measures to ensure the protection of environmentally sensitive and other valuable areas.

B. Objective - *Coordination with Kingsport, Bristol, Bluff City and Johnson City for the provision of public services within the County.*

Policies:

1. All new development, whether public or private, shall have appropriate infrastructure that shall be properly installed at the expense of the developer. Cost sharing of strategic utilities to specific areas will be considered when directed to serve growth areas identified in the land use plan and provide mutual benefit to the developer and the citizens of Sullivan County.
2. All future expansions or extensions of the services, facilities, or utilities will be in conformance with a plan which phases the improvements in segments suitable to the county's ability to pay.

3. Services and utilities provided by the county will be used as a tool to direct or discourage development in specific directions as defined by the PC1101 Growth Plan.
4. Availability and capacities of existing services and utilities will be used as criteria in determining the location of higher intensity uses in the county and in decisions concerning annexation.
5. To aid developers in determining those areas most conducive to development, database maps of the infrastructure system will be routinely updated.
6. Developments with requirements beyond existing levels of police and fire protection, parks and recreation, and utilities will only be allowed to develop when such services can be adequately provided and maintained.
6. Appropriate infill development is a priority and will be encouraged to enhance existing development and to make more efficient use of existing services and utilities.

C. Objective - *Preservation of the county's fiscal stability.*

Policies:

1. Fiscal decisions concerning major capital improvements and expenditures will be based on a Community Facilities Plan and a multi-year Budgeting Program.
2. The county should be prepared to work with the municipalities to make possible changes for future annexation based upon the PC1101 Growth Plan.
3. The county will continue to participate in the establishment of a permanent source of funds to provide financing for economic development.
4. The county will encourage the preservation of its tax base through the practice of sound land use decisions.

D. Objective - Protection and enhancement of present and future livability.

Policies:

1. The county will establish livability standards or criteria for assessing the impacts of development projects on the continued livability of Sullivan County. For growth management these standards or criteria will assess:
 - a. Environmental impacts such as water quality degradation, destruction of wetlands, etc.
 - b. Social impacts such as public safety, availability of community services, etc.
 - c. Economical and fiscal impacts such as budget constraints, job creation or loss, etc.
 - d. Impacts to public services and facilities, and transportation, such as water supply and treatment capacity, sewer treatment capacity, Average Daily Traffic (ADT) counts on major roads, etc.
2. Land use, site planning, and urban design criteria will be utilized to promote pleasant, functional and understandable relationships between land uses.
3. Planning for community facilities and services will be based on the principal of maintaining or increasing the current levels of service provision.
4. Community development efforts will concentrate on ways to encourage young people to remain in Sullivan County to live and work.

RESIDENTIAL

A large portion of the developed land in Sullivan County is devoted to residential uses, consisting of single-family dwellings, multi-family dwellings and mobile homes. Only twenty nine (29) percent of the land in Sullivan County is considered to be vacant. Assuming that the community will experience minimum population growth and that the average household size will remain at 2.42 persons, approximately 3,423 new housing units will be needed by the year 2026. Suitable land for this growth is available within the county.

To ensure the most appropriate development of existing and future residential areas in Sullivan County, the following developmental objectives and policies are adopted:

A. Objective - Provide for a variety of housing types and densities for a wide range of family incomes, sizes and life-styles.

Policies:

1. The county will promote new residential developments in environmentally safe and pleasing areas.
2. The county will allow housing types ranging from single-family structures to multi-family developments, including mobile homes located in the proper zones. Older, substandard and dilapidated mobile homes will be discouraged.
3. Infill development will be encouraged but only in locations, which are comparable with surrounding residential densities.
4. Land use controls, such as zoning and subdivision regulations, will be used to foster a variety of housing types compatible with the natural landscape.
5. The county should encourage and concentrate high density housing development along major traffic corridors where water and sewer lines are available and with easy access to retail business, pedestrian amenities, cultural activities, schools and parks.



6. The county will encourage low-density housing along local streets within proximity to service centers, which are buffered, from excessive noise, traffic, and conflicting development.
7. Higher density residential uses will locate in areas of planned growth or urban growth zones, or in proximity to existing higher density developments along areas served by public sewer and along collector streets.
8. The county will ensure that the existing housing stock continues to be maintained and that new residential construction is developed to appropriate standards and guidelines.
9. The county will encourage the rehabilitation of existing residences, which can be purchased by low and moderate-income residents.
10. The county will encourage the preservation and revitalization of older neighborhoods.
11. The county will encourage sound development in suitable areas by maintaining and improving transportation facilities.
12. New residential development will not be allowed in those areas where infrastructure is unavailable or inadequate to support such development.
13. New residential development will be designed to encourage the neighborhood concept and be situated to be easily accessible to collector or arterial status streets.
14. Transitional land uses or areas (linear greenbelts), or other design elements will be provided between residential neighborhoods and commercial areas in order to enhance the compatibility of land uses.



COMMERCIAL

The Central Business District (CBD), or downtown, located on State Route 126 in Blountville has been the focal point for commerce and private services in Sullivan County since the early years of the county. Like many older CBD's, this area has experienced some structural deterioration, however; the Sullivan County CBD has very little vacant floor space. In recent years there have been efforts to restore some of the historical buildings in this area. The remodeling of existing buildings and infilling of vacant spaces will be encouraged. The historic character of the area will be highly emphasized through the stewardship of the Sullivan County Historic Preservation Association.

The cemeteries and numerous churches in the county contribute additional acreage to this land use category. The cemeteries are spacious, well maintained, and provide a pleasant feeling of open space in Sullivan County. The church properties are attractively configured and maintained and add significantly to the character of the area. New uses of this type will also enhance the community's appearance, while at the same time, creating the least possible conflict with adjacent land uses.

The vital commercial and service areas of the county will be protected and enhanced to help ensure their continued development in a planned environment which will strengthen the economy of the entire county. To guide the continuation and expansion of these essential commercial activities, the following objectives and policies are adopted:

A. Objective - *Take appropriate measures to ensure that Sullivan County remains a viable center for commercial services to its citizens.*

Policies:

1. Future commercial developments and redevelopment will be in compliance with a comprehensive plan for all-commercial growth and development.
2. In conjunction with the Economic Community Development Board, the county will recruit and retain business and service outlets that fulfill local market demands and needs.
3. The county will encourage and support the expansion of commercial areas that will result in the consolidation of commercial activities at central locations.
4. The county will encourage the adaptive reuse of all existing structures.
5. The county will expand and/or improve off street parking within the commercial areas.

B. Objective - Ensure that all-new commercial development meets appropriate standards and guidelines.

Policies:

1. All commercial developments will be designed in compliance with appropriate site development standards.
2. Commercial development will be approved in only those areas where infrastructure is available and adequate to support such development.
3. Commercial development will be designed so as to minimize negative impacts to the existing transportation system.
4. Strip commercial developments will be discouraged in favor of cluster developments with limited entrance and exit points.
5. Commercial uses that are high intensity traffic generators will be on major collector or arterial status roads.
6. All new large-scale commercial developments will be located on frontage or access roads with controlled ingress and egress points, when feasible.
7. All commercial and private service developments will be provided with an adequate number of off-street parking spaces.
8. Commercial developments will be designed so as to minimize negative impacts to residential developments and to enhance the aesthetics of such developments.
9. To the extent feasible, landscaping or other screening will be provided between commercial and residential land uses.

INDUSTRIAL

Sullivan County has one industrial park at the present time not located within a municipality. The Tri-County Industrial Park is located off Highway 11E in Piney Flats. There are few vacant tracts in the industrial park that could accommodate industry. The industrial park should be the primary location for new industries coming into Sullivan County. As other industrial opportunities present themselves, the community will consider the development of a new industrial park.

A. Objective - *Retain the existing industrial base, provide areas for some industrial development in the industrial park or at suitable sites elsewhere.*

Policies:

1. The County Commission will support improvements in the local economy by maintaining industrial site locations and improving existing industrial site locations.
2. The existing industrial park has little room for expansion. Sites for new industrial parks will be planned and developed on an as needed basis.
3. To provide for additional industrial land, needed services and employment, the county will work in the scope of the PC1101 Urban Growth Plan.
4. The County Road Department and the Planning Commission will support appropriate road and traffic improvements at existing industrial locations and at other areas suitable for the expansion or location of industry.
5. Public officials will cooperate with, and actively support, the joint Economic and Community Development Board in its efforts to attract industrial prospects and to retain and promote the expansion of existing industries.
6. Based on locally developed criteria, industrial land uses known or suspected of having harmful impacts on the health, safety, and welfare of people, and those activities and uses which would degrade, retard, or otherwise harm the natural environment, or the economic potential of the community, will be discouraged from locating in the county.

B. Objective - Provide appropriate standards and guidelines for new industrial development and for expansion of existing industrial uses.

Policies:

1. All industrial developments will be designed in compliance with appropriate site development standards.
2. Industrial uses will locate near transportation facilities that offer the access required by the industry. Such uses will not be allowed to create demands that exceed the existing and future transportation network, nor traverse through established residential zones.
3. Industrial development will locate within the county consistent with the phasing plan for infrastructure, where the proper sizing of facilities such as water, sewer and transportation has occurred or is planned.
4. To the extent feasible, landscaping or other screening will be provided to reduce the conflict and soften the impact between industrial uses and other land uses.

PUBLIC SERVICES/CULTURAL AND RECREATIONAL

Public services, cultural and recreation areas in Sullivan County consume a considerably larger percentage of land than in some other counties. The schools, parks and lakes in Sullivan County take



(photo by Tourism Dept.)

up a large amount of land. The school grounds are spacious, well maintained and provide a pleasant feeling of open space in Sullivan County. New uses of this type should also enhance the community's appearance, while at the same time creating the least possible conflict with adjacent land uses.

It is important that during the site design process for public, recreational, and cultural facilities, particular attention will be paid to the following items: the location of buildings in relation to parking and service areas; the relationship of buildings to existing and proposed streets; adjoining land uses; and the natural beauty of the surrounding areas. The objectives and policies to be used as guidelines for public and semi-public uses are as follows:

A. Objective - Provide adequate and efficient public services and facilities which meet appropriate standards and guidelines.

Policies:

1. Public facilities and services will be improved and expanded in accordance with fund appropriations.
2. Public improvements will be budgeted in a manner as to minimize the need for future tax increases.

B. Objective - Provide a diversity of quality cultural and recreational opportunities.

Policies:

1. Decisions concerning the provision of recreation facilities will be guided by the *Community Facilities Plan* for such facilities, and will be consistent with a Capital Budget. A special recreation plan may help direct detailed attention of both recreational facilities and programs.
2. The county will promote the joint use of parks and other public facilities, especially schools.
3. The county will enhance the opportunities for passive recreation through the creation of a greenbelt/green-way system that includes walking and bike trails and continue to work with the Southern Appalachian Greenways Association (SAGA).
4. Community and neighborhood parks will be developed and appropriately located within the county for use by the majority of its residents.

5. The county will maximize the use of public recreational land through close coordination with federal, state, local city and county agencies.
6. The county will promote efforts to document, preserve and protect historic sites and structures in Sullivan County with emphasis in the Blountville area through enforcement of the Historic Zoning Code.

UTILITIES

Land development without the extension of adequate utilities is costly to the general public. In order to achieve proper development and facilitate saving public funds, it is extremely important to coordinate the extension of utilities with the community's development plan. Therefore, the following objectives and policies should be adopted as a guideline for the operation and extension of public utilities:

A. Objective – Provide adequate and efficient public utility facilities.

Policies:

1. All new development, whether public or private, will have adequate utilities that shall be properly installed at the expense of the developer. Where it is to the benefit of the community and economically feasible, the cost sharing of critical utilities in strategic areas will be considered.
2. The county will continue to work with utility systems and municipalities to ensure that the water and sewer systems are adequate to meet current and future needs.
3. The health of residents will be protected through the production of State approved potable water and the safe and efficient collection and treatment of wastewater.
4. Through its budgeting process, the county will continue to plan for any needed county expansions by coordinating with the cities water and sewer treatment facilities to meet future needs and provide for future growth.

B. Objective - Provide appropriate standards and guidelines for utility facility improvements and extensions.

Policies:

1. Adequate utilities will be extended into identified urbanizing areas by working with the municipalities and utility districts.
2. Water and sewer lines of adequate size and location will be required in all new developments and redevelopments.
3. The use of underground electrical utilities will be encouraged wherever feasible.
4. The location of utility structures for storage of equipment, pumps or similar materials will be adequately buffered and landscaped so as not to detract from the surrounding area.
5. The water distribution system will be periodically evaluated to ensure that water lines are of adequate size to provide adequate pressure for fire fighting, and that a suitable number of fire hydrants are present in all developed areas. Present pressure deficiencies will be corrected, as funds are available.

VACANT LAND AND OPEN SPACE

The land use survey indicated that there is 66,610 acres or 29 percent vacant land in Sullivan County. As the community grows, a significant amount of this land will be pressed into urban development. Unfortunately, the largest portion of this land either cannot be developed or would be cost prohibitive to develop due to natural factors. Poor drainage and unsuitable soils are the major limiting factors. Some of this vacant land would continue to be best utilized as farmland open space or recreational. To guide the future development of the vacant lands in Sullivan County the following objectives and policies are adopted:

A. Objective - Ensure that adequate open space is provided in the county to enhance its aesthetic quality.

Policies:

1. Appropriately located public open spaces and general recreational uses will be provided to serve the local residents as well as visitors. These areas will be readily available and designed to serve all age groups.
2. The county will ensure that adequate amounts of open space areas are available for future populations.
3. Places of rare natural beauty and areas of historic interest will be identified, preserved and maintained.
4. All publicly owned land will be examined for its potential open space or recreational use before being sold or disposed of by the county.

B. Objective - Ensure that appropriate standards and guidelines are followed for development of vacant land and for the provision of open space.

Policies:

1. Public support and approval of development proposals that result in the conversion of prime farmlands will be reserved for those developments consistent with this plan and required for urban growth and development.
2. Areas of excessive slope will be conserved as open space, when possible, if such development would cause significant soil and/or water degradation, or where the terrain possesses special scenic or recreational value.
3. Existing natural vegetation will be used as an alternative to man-made devices for buffering, insulation, erosion control and water quality protection.
4. Filling and excavation in floodplains will only be allowed when consistent with the National Flood Insurance Program and local floodplain management regulations and allowed only after careful review of appropriate alternatives.

5. Mature vegetation, especially along stream banks, will be protected from indiscriminate removal in order to enhance the aesthetic value of the landscape as well as to control erosion.
6. The county will develop appropriate criteria and measures to ensure the protection and enhancement of environmentally sensitive and other valuable areas.

TRANSPORTATION

The future transportation system in Sullivan County will be affected by a number of factors. These factors include the existing street pattern, major impediments to traffic, location of major traffic generators, parking needs, growth trends, construction of new thoroughfares, and the location preferences of new development. Although the county cannot control all the factors that will influence its future transportation system, it can provide some direction. The following objectives and policies are presented as a guide to achieving an adequate and efficient future transportation system:

A. Objective - *Provide a transportation system that will adequately meet the future needs for growth and development.*

Policies:

1. All new development, whether public or private, will have an adequate transportation system that shall be properly installed at the expense of the developer.
2. All new major streets will be located in a manner that will minimize disruption to neighborhoods, open space recreational areas, or commercial areas.
3. All segments of the transportation system will be designed and located to meet future, as well as, present demands.
4. Wherever possible, off-street parking will be required for existing land uses. All new land uses, (except for commercial and private service uses in the CBD in Blountville) shall be required to provide off-street parking facilities.
5. On street parking for existing uses will be permitted only where adequate street widths are available and where such parking will not reduce the current level of service of the street.

6. Sidewalks will be extended and improved around schools and in other areas of high pedestrian traffic.
7. Older streets in the county will be widened and upgraded or improved through a street improvement program.

B. Objective - Provide appropriate standards and guidelines for the construction of new street and other transportation facilities.

Policies:

1. Streets will be related to the topography and designed to minimize the points of traffic conflict and turning movements.
2. All new streets and other public ways will be designed to incorporate drainage systems that are adequate in size to handle runoff from anticipated developments.
3. All streets and other public ways will be designed so as to provide the least interference with natural drainage ways.
4. All new streets and other public ways will be designed and located in a manner, which offers the maximum protection from flood and erosion damage.
5. Future roadways will be designed to incorporate appropriate landscaping to heighten the aesthetic and functional appeal both to motorist and surrounding residents.
6. Street signage and other safety features will be required at the time of development.

Summary

The goals, objectives and policies are represented in The Development Plan that follows. It is based on the same factors from which these goals, objectives and policies were derived including natural factors, existing land use patterns, and the existing transportation system. The Development Plan contained within these chapters reflects a decision-making process culminating in a recommended general development pattern for the county. It is to be used to form a framework to guide future land development decisions for the development and implementation of local land use control regulations. The Development Plan is a general guide for future zoning and subdivision decisions as the county

develops. It is intended as a basis for policies of the County and as a guide for property owners and developers in making decisions regarding land use development.

The objectives and policies contained within the chapter are specific to all of the identified land uses in Sullivan County. Therefore, as future development proposals are reviewed the contents of this chapter should be considered to guide the local decision making process.

The Major Thoroughfare Plan

The transportation network in Sullivan County consists of interstates, federally designated routes, state highways, and the local county road system. Collectively, these networks consist of approximately 1,550 miles. Exclusively, the county road system consists of approximately 920 miles.

Conceptual Future Land Use Pattern

The majority of land use in Sullivan County should continue to be single-family residential on individual lots with adequate setbacks to ensure safety, privacy, positive drainage and the open relaxed spacious feeling that the community currently portrays. Land is available for future development throughout the county. Provisions should be made for apartment units, single-family homes and mobile homes on smaller lots where soil is conducive or sewer is available.

CHAPTER 8

PLAN IMPLEMENTATION

INTRODUCTION

In this chapter several methods for implementation of the objectives and policies developed in this plan are reviewed. Many of these methods for implementation are already being utilized in Sullivan County. The Planning Commission and the County Commission may need to examine the effectiveness of current practices or regulations in achieving the stated objectives and policies. Where the identified methods are not currently being used, the county should consider taking the appropriate steps to do so.

Also, in this chapter an implementation schedule is presented. It is intended to provide specific strategies for implementing the objectives and policies recommended in this plan. The implementation schedule proposes individual strategies for each of the specific land use categories, establishes time frames for completion, and identifies those responsible for implementation.

METHODS FOR IMPLEMENTATION

There have been ten methods of plan implementation identified for Sullivan County to utilize in the execution of this plan. Each of these is reviewed within this section.

Planning Commission Project Review

Under Tennessee Code Annotated, Section 13-4-104, after the adoption of a plan, no public improvement project can be authorized or constructed in the county until and unless the location and extent of the project have been submitted to the Planning Commission for its review. This review authority enables the Planning Commission to ensure that all public improvement projects are in compliance with the plan. Therefore, the planning commission should continue to review road projects where road extensions, abandonment, realignments, or new construction is proposed. All other county improvement projects should be reviewed by the subcommittees of the Board of County Commissioners.

Zoning

Zoning is a legal mechanism that can assist the county in implementing this Regional Plan. Zoning regulations are designed to regulate the type and intensity of land use. It divides the county into specific districts corresponding to the intended use of the land as guided by the policies of the land use plan. For each district, zoning regulates the location, height, bulk, and size of buildings and other

structures, the percentage of the lot that may be occupied, the sizes of yards, courts and other open spaces, and the density of population. Zoning can assure the proper location of residential, commercial, and industrial uses. It can protect street rights-of-way so that future widening is feasible. It can also prevent overcrowding of building lots. In addition, zoning can help stabilize property values and can help prevent the deterioration of neighborhoods. Zoning regulations were first adopted by Sullivan County in 1988 in all civil districts except for the 8th and 20th civil districts, which were later added in 1995. These regulations were comprehensively amended in 2004. Future map amendments should reflect the objectives and policies outlined within this plan.

Conservation Subdivisions – Traditional Neighborhoods – Sustainable Developments

- ◆ How can cities and counties encourage sustainable and integrated communities and still comply with the principals of “Smart Growth” laws, or in the case of Tennessee the Public Chapter 1101 law of mandated Growth Plans?
- ◆ How can cities and counties develop or encourage development that offers places to shop, dine, recreate and work near the home utilizing existing zoning codes that require separation of land uses (Euclidian Zoning)? The answer will take you back to your roots, or maybe your grandparent’s town.

Euclidian or modern zoning principles coincide with the philosophy behind the State of Tennessee’s passage of PC 1101 – Growth Planning. That is, complete separation of land uses to protect property values from one incompatible land use from another. It’s the easy way out for planners – keep rural, rural and urban, urban. However, such policies and codes to enforce those State laws make it difficult to develop the landscape in an ecologically safe and sustainable manner.

There is another way - conservation subdivisions or rather traditional neighborhood developments within master-planned communities. Such development technique may take us back to how historic cities and towns were originally laid out, such as Savannah, Georgia. With the onset of the automobile, our landscape has drastically changed but with an inevitable steep price tag. Conservation subdivisions can offer solutions that can preserve sensitive lands for open space, offer pedestrian-friendly neighborhoods through trails and sidewalks, integrate neighborhoods to each other and create neighborhood-scaled commercial centers and public places. A city or county comprehensive land use plan should encourage such planning, as well as offer incentives to the developers for such. Unfortunately the land use codes, such as zoning and subdivision regulations, typically restrict developments to the contrary. Current land use codes now have to comply with the State-mandated Growth Plans. Such growth plans may have polarized land use objectives to that of

the also State-required comprehensive or general plan. The philosophy behind the growth plan was to control sprawl by encouraging development near urban areas and limiting growth in the rural areas. Three designations were established throughout the counties: urban growth boundaries- those that can be annexed by the municipalities at any time; planned growth areas – those areas that should allow for commercial growth for the county adjacent to urban growth boundaries; and rural areas – those that should remain agricultural and low-density single-family residential. The only problem with this public policy is that our rural landscapes are quickly becoming residential subdivisions, which are miles apart from essential services, work, and public places. Our children are too far away from public schools and parks to walk and therefore time and fuel are spent driving them to and from. Zoning codes have created this situation – a far cry from the forefathers, whom were master planners laying out neighborhoods and townships.

The growth plan encourages counties to develop policies that limit sprawl. This sounds good, but in actuality restricts developers into utilizing every inch of developable space reserved for such, in order for the project to be cost-beneficial. Moreover, cities generally hold the trump card of offering public sewer. Without public sewer, county developments rely upon State approved subsurface sewage disposal systems (septic systems), which ultimately reserve more land that becomes non-buildable through field beds and duplicate reserve areas. Municipalities, through the adoption of growth plans and annexation agreements, have been encouraged not to extend public services outside of these boundaries, in order to curb sprawl. Public sewer, then, would promote higher densities farther away from urban centers, based upon Euclidian zoning codes. County planners seem to be faced with fewer options to offer that creatively utilize the landscape - resulting in fewer incentives for the developers as well. It has become near impossible, with modern zoning codes to offer rural residents the qualities of life afforded to city residents, wherein shopping, schools, and work are near their homes. With the rising fuel costs, pollution, and family time constraints, the combining of trips on the way home from work is near impossible. Moreover, once home, the incentive to go back outside is diminished. Modern zoning seems to perpetuate and escalate this scenario.

A balance approach, one that complies with PC 1101 growth plans and promotes self-sufficient and ecologically safe, sustainable communities, are those that apply land use harmoniously with the landscape, as opposed to fitting the land with the highest and best land use. Planned and sustainable communities offer such solution. It is a reinstitution of an old method to planning. – the sort of town centers, upon which our nation’s larger communities were settled -the places that we now visit and are part of our heritage and historic landmarks. Such traditional neighborhoods were created with sidewalks, park centers, open spaces, walkable schools and public spaces. These neighborhoods were then designed around urban centers, larger public assembly spaces, and public transit. The

Growth Plan or as some refer, “Smart Growth” laws have steered planners and public policy makers away from such traditional planning. Ironically, some of these historic districts and traditional town centers are struggling as new modern developments have shifted residents away from those downtowns. Mixed use is the only method for survival and sustainability.

One type of sustainable design includes the concept of Open Space Residential Development or OSRD. This concept can offer lower costs to the developer, as streets are narrower and shorter, lots are clustered, while drainage, septic, wells, and unsuitable lands are then reserved for common open space, light recreation, trails, or even agricultural land uses. Such plans result in more marketable and valuable lots; less stress upon the public infrastructure in maintenance costs, decreases pollution and encourages healthier and more livable communities. OSRD plans can offer places for residents to congregate, recreate and network resulting in safer neighborhoods. The open spaces can then link to other open spaces via trails, parks and public spaces. OSRD plans should be encouraged by regional and local planners as a means of creating a neighborhood scale of trails, greenways, sidewalks, open spaces, and public spaces that are well planned. Moreover, such a network is paid for by the developer and users as they occur rather than burdening the entire local government through taxation, grants or loans.

More and more communities are getting on board with varying types of conservation planning. While an OSRD plan would comply with the growth management laws to curb the sprawling of public infrastructure, traditional neighborhood developments (TNDs) offer a more comprehensive solution. Open Space Residential Development planning is already established within the existing zoning code; however it has not been well publicized or utilized so far within the unincorporated sections of the county.

Some of the key concepts included in both types of developments are as follows:

OSRD (Conservation Subdivisions)	VERSUS	TNDs – Mixed Use Neighborhoods
Cluster housing – smaller lots		Smaller lots
25% min. open space Unsuitable/sensitive lands reserved in open space		Pocket parks and urban park centers Unsuitable lands reserved as agricultural
Same density as standard or “cookie cutter” subdivisions		Mixed densities
Typically land uses left as low to medium density residential		Mixed land uses from low to high density residential, neighborhood and general commercial centers
Network of sidewalks, trails linked to open space and other neighborhoods		All blocks linked by sidewalks – total walkable neighborhood that also links to other neighborhoods and town centers
Cheaper to construct as shorter length of roads, water lines, etc		Cheaper to maintain as it discourages the sprawling of urban services to rural areas
Can be utilized in any district (Urban growth boundary, planned growth area or rural area		Typically limited to areas served by public sewer (UGBs and PGAs)

Source: Haines and Arendt

For further reading of sustainable approaches to planning, one may search on-line using key words such as “conservation subdivisions” or “smart growth”. The US Center for Disease Control also offers valuable results of public research illustrating how our public health has deteriorated due to consequences of sprawling cities. Background research for this subsection was taken from the following: ACIP, Practicing Planner – “*The New Wave: Technical Assistance for Smart Growth*” by Ilana Preuss; The Land Use Tracker, Volume 2, Issue 1, 2002, “*An Innovative Tool for Managing Rural Residential Development: A Look at Conservation Subdivisions*” by Anna Haines, Ph.D.; and “*Growing Greener: Putting Conservation into Local Plans and Resolutions*” by Randall Arendt.

Subdivision Regulations

Subdivision Regulations, used in a coordinated manner with zoning, are another legal mechanism to carry out the recommendations of the Regional Plan. Like zoning, these regulations control private development. They serve as guidelines for the conversion of raw land into building sites. Subdivision regulations provide the guide by which a Planning Commission can review all proposed plats for subdivision in an equitable manner. These controls are necessary if sound, economical development is to be achieved. Through enforcement of these regulations, the design and quality of subdivisions will be improved, resulting in better living conditions and greater stability of property values for the individual property owner. Such controls over land subdivision ensure the installation of adequate utilities that may be economically serviced and maintained. These controls are also used to provide a coordinated street system and to ensure sufficient open space for recreation and other public services.

The Sullivan County Planning Commission first adopted subdivision regulations in 1951. These regulations were updated in 1971 with minor amendments, but should be reviewed for consistency with the objectives and policies outlined through this plan. Furthermore, any new changes should be made in coordination with Kingsport and Bristol.

Stormwater Regulations

In December 2000, the U.S. Environmental Protection Agency (EPA) under the Clean Water Act published a rule that requires certain small municipal separate storm sewer systems to participate in the National Pollutant Discharge Elimination System (NPDES) commonly referred to as Phase II. Mandated by the EPA and directed by Tennessee Department of Environment and Conservation, Sullivan County is one of many communities required to comply with the regulations of the Phase II Program to reduce the amount of water pollution entering into the waters of the State. The staff of Sullivan County has prepared regulations in accordance with the Phase II Program. These regulations are included in both the Zoning and Subdivision Regulations.

Codes Enforcement

There are various types of codes that counties can adopt to ensure that construction standards are sufficient to protect the health and safety of occupants. The housing code is designed to ensure that existing dwellings are safe, sanitary, and fit for human habitation. Other codes, such as building, electrical, fire, and plumbing codes, provide minimum standards for the construction of new buildings and facilities, and the alteration of existing structures and facilities. These codes are uniform in character and are applied to the county as a whole.

A system of codes functions only if accompanied by an inspection system. Code enforcement ensures the adequacy of new residential, commercial and industrial structures while also detecting and preventing the deterioration of existing facilities through periodic inspection. By reducing blight, property values become more stable and tax bases protected. Sullivan County currently has certified codes inspections. However, Sullivan County currently has no construction or housing codes in order to fully implement these objectives and policies within this plan. The county should reconsider the adoption of construction codes.

Utility Extension Policies

Another significant tool for effective land use planning is the control over the extension of publicly owned and operated utility services. Utility extension policies can be used for controlling the location and timing of development in a rational, coherent and efficient fashion. Since utility services, such as water and sewer, are so important to any major development, the refusal to extend such services into an area generally assures that only limited development can occur.

Within Sullivan County, the extension of utilities is generally the responsibility of the developer. As land is subdivided it is the responsibility of the developer to pay for utility extensions in his development and to pass the cost on to the lot buyers.

In strategic areas where Sullivan County is seeking growth, the county should continue to cost share utility extension fully to achieve the objections and policies outlined within this plan.

Infill Development

Utilization of existing, developable, vacant land within a county is a much-overlooked mechanism to implement a land use plan. In most cases, these areas tend to be served by existing infrastructure such as streets, water, sewer, electric and gas; thereby eliminating normal costs associated with additional development. An abundance of vacant developable land is a costly luxury to a community. It results in under utilization of infrastructure due to low-density development. Infill development of serviced areas will expand the local tax base while better utilizing the infrastructure system. This was the theory behind PC 1101. It is a goal of this plan that most new development in Sullivan County be in the form of infill development, such as State Route 394, Highway 126, 11-W, 11-E, Fort Henry Drive, etc., to meet the objectives and policies of this plan.

Citizen Participation

Citizen participation is an important factor in determining the success of the Comprehensive Plan. An informed citizenry and development community, that is willing to work to achieve the goals, objectives, and policies set forth in this plan, can be a tremendous asset. Citizens and developers can offer support for programs designed to achieve community goals. Successful citizen participation can be achieved through a public education program designed to inform the community of the various purposes and reasons for the actions of both the Planning Commission and the County Commission. Specific efforts should be taken to obtain input from the general public and developers through organizational public meetings, public hearings, and surveys. News articles should also be utilized to educate the public regarding the objectives and policies detailed within this plan.

Local Leadership

The Sullivan County Regional Planning Commission bears most of the responsibility for implementation of this Regional Plan through its Subdivision Regulations. The County Commission has the responsibility for plan implementation through zoning. As the policy-makers, both entities have the authority to adopt appropriate implementation strategies that will fulfill the goals, objectives and policies developed in this plan. It is important that County Commission, Planning Commission and enforcement staff maintain a close working relationship so that the planning process is properly coordinated to assume the implementation of this objectives and goals within this plan.

IMPLEMENTATION SCHEDULE

The Sullivan County Regional Plan: A Guide for Land Use & Transportation Development is an advisory document intended to serve as a guide for the development of the county over the next twenty years and beyond. Specific strategies for policy implementation are necessary if the goals and objectives of this Plan are to be achieved. The implementation schedule provides an outline of the methods for achieving the goals and objectives and implementing the policies established in the Development Plan. It presents individual strategies for each of the specific land use categories, establishes time frames for completion, and identifies those with primary responsibility for plan implementation.

- ◆ Planning Commission – Review/adopt plan (2008)
 - Highway/road improvement review (on-going)
 - Utility improvements (on-going)
- ◆ Zoning – Map amendments based on plan (on going)
- ◆ Subdivision Regulations – Text review (2008)
- ◆ Storm Water Regulations – Develop (2004/on-going)

- Implement in (2005/on-going)
- ◆ Codes Enforcement – Education (2009)
- ◆ Utility Extension Policies – System review (2009)
- ◆ Infill Development – Through zoning/subdivision regulations (on-going)
- ◆ Citizen Participation – Public meetings (2005 and on-going)
 - Newspaper article on plan (2005, 2006, 2007, 2008)
- ◆ Local Leadership – Education/training (2005/on-going)

SUMMARY OF RECOMMENDATIONS

Based on plan findings and goals of the county, the following summary of plan recommendations is provided to serve as a guide for Sullivan County Leaders and developers in making future decisions regarding land use, transportation and community facilities important to the economic development of Sullivan County.

- ◆ Seek to obtain sewer service to PC 1101 designated “Planned Growth Area”.
- ◆ Encourage new residential, commercial, and industrial growth in Sullivan County.
- ◆ Seek to improve the fire insurance rating for Sullivan County. Work with the Insurance Services Office to determine the fire equipment and hydrant needs required for the improved rating.
- ◆ Designate alternative truck route from the main street, (Great Stage Road), from the intersection of County Hill Road to the intersection of State Route 394 and then from the Snow House to the Blountville By-Pass intersection. This would alleviate heavy truck traffic along the Great Stage Road within the Historic District.
- ◆ Re-direct truck traffic from Main Street in Piney Flats, a residential zone with historical structures to enter the Tri-County Industrial Park from State Route 11E onto Industrial Park Road and from 19E to Mountview Drive.
- ◆ Obtain additional land for expansion of Industrial Park facilities.
- ◆ Maintain, through planning and land use regulations, the spacious open character of Sullivan County as it grows residentially, commercially, and industrially.

- ◆ Maintain an active planning/zoning to consistently advise and enforce Zoning and Subdivision Regulations in a fair and equitable manner.
- ◆ Maintain an active planning commission to make formal land use recommendations to the county commission.
- ◆ Work with land developers and sub-dividers for the construction of marginal access roads in developments.
- ◆ Promote infill development on vacant lands with infrastructure currently in place.
- ◆ The expansion of sewer collection lines.
- ◆ Revisit the adoption of local housing and construction codes.
- ◆ Remain in compliance with new local storm water requirements of Phase II of the Clean Water Act and the county permit requirements.
- ◆ Work with all county departments in the development of a five-year capital budget program.
- ◆ Review all local regulations for compliance with the objectives and policies established within this plan.
- ◆ Consider requiring stub-outs for fire hydrants to be installed by developers.
- ◆ **Schedule periodic plan updates based upon newer published data, such as post 2010 US Census Bureau's summaries of demographic data. The plan updates should be performed every five years to coincide with special censuses and decennial censuses.**