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Land Use and Planning in Tennessee

Part II: Land Use and Transportation Planning

Tennessee Advisory Commission
on Intergovernmental Relations

Staff Report
February 2011

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The Tennessee Advisory Commission on Intergovernmental Relations

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Land Use and Planning in Tennessee

A TACIR Staff Report

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Cover photos courtesy of Gary Layda, Metropolitan Government of Nashville; Bill Terry, TACIR; and Tennessee Photo Services.

Purpose

This is a staff-generated TACIR report exploring the relationship between land use and planning in Tennessee. It is part of a four part series on transportation. This series is included under the broader category of growth policy and infrastructure, which is part of the fiscal year 2010 work program. The work program was approved by the TACIR Commission in June, 2009.

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Executive Summary

Land use planning is vital to the economic, social, and environmental health of Tennessee, its regions and local jurisdictions. Land use decisions drive development patterns and impact government revenues, service delivery and costs, community transportation options, and environmental integrity. Additionally, the effects of land use decisions are enduring; they will affect state and local governments and citizens for many years.

This brief emphasizes the importance of land use planning by highlighting problematic land use trends and issues such as sprawl, land fragmentation, loss of farmland, location of industrial mega sites, and local land use conflicts. This brief also provides readers with a comprehensive summary of state, local, and regional planning activities in Tennessee. One significant issue is that comprehensive planning is optional for local governments in Tennessee, which can result in haphazard land use decisions that do not effectively guide growth and development. Another issue is that there is no entity that conducts comprehensive, long-range statewide planning. Comprehensive planning at the state level could bring cohesion to local land use plans and work towards a shared vision for the state. Tennessee's population is growing; the statewide population has increased 30% since 1990. As the population continues to grow, land use planning will become even more imperative to the viability of our state. Land use decisions have the potential to harness future growth for prosperity, but likewise these decisions can result in unfettered expansion that results in the inefficient use of land and increased costs for governments and citizens.

Findings

Land Use Trends and Issues

Statewide land use data shows a slow but steady increase in developed land. In 1982, 6.6% of Tennessee's land was developed. By 2007, the percentage of developed land had grown to 12.4%. This represents an 85% increase in developed acres. This change coincides with a decrease in cropland. From 1982 to 2007, 25% of cropland acres in Tennessee were converted to other uses.

The percent of developed land varies widely among Tennessee counties. The Local Planning Assistance office generated data for nine counties for TACIR. Percentages of developed land range from 4.4% in Hardeman County to 36.1% in Blount County. Note that other counties not included in the nine county sample may have higher percentages of developed land.

Tennessee's counties, cities, and regions face a variety of land use issues, including sprawl, conflicts about zoning, disjointed regional cooperation, land fragmentation, and farmland loss.

Sprawl is a prominent suburban land use pattern in Tennessee and the United States. For purposes of this paper, sprawl is defined as low-density decentralized development at the fringes of a central city. It is characterized by a spreading out of development over a wide area with little or no connectivity to the contiguously developed area.

Though there are differing opinions about sprawl's net effect, much research concludes that sprawling development imposes costs on communities. Costs for services like roads, water, and sewer are more affected by sprawl than costs for other services like solid waste collection, fire and police protection, and schools. There are also environmental costs to consider—sprawl affects land, water, air, ecosystems, and wildlife. If Tennessee continues to adhere to sprawling development patterns, nearly 800,000 additional acres of open land will be developed by 2025.

There is no consensus about whether sprawl is good or bad. Many researchers cite both positive and negative effects of sprawl, though researchers are divided about whether the positives outweigh the negatives.

There are several strategies available to help communities guide growth and reduce sprawl. Smart growth, new urbanism, and transit-oriented development are some of the more well known models.

Many communities have experienced conflicts regarding land use decisions. Zoning ordinance change requests can garner considerable opposition, particularly for large projects.

Land fragmentation is a problematic issue in some areas of the state, often in those that do not have local planning programs or land use controls. Land fragmentation is unplanned and unregulated and can result in issues such as a lack of basic water supply, unmet demand for police, fire, and emergency services, unplanned and inadequate roads, inadequate sewage disposal, and destruction of wildlife habitat.

Tennessee is losing farmland at a high rate relative to other states. Tennessee ranked 8th nationwide for loss of prime farmland from 1992 to 1997, the latest time period for which data is available. The good news is that there are tools available for farmland preservation.

Planning Practices and Issues

There is no formal state land use planning body that conducts comprehensive, long-range statewide planning. A statewide entity could study the overall effects of growth, development, and conservation across the state and bring cohesion to local land use development patterns.

There is no overall coordinated land use plan for the many and varied state departments and functions. Different state departments participate in planning activities but lack of coordination among the plans may cause individual departments to work at cross-purposes. More collaboration could integrate housing, transportation, land use, and infrastructure planning and provide continuity in these areas.

The preparation and adoption of a comprehensive land use plan is optional for local governments in Tennessee. There is no state mandate requiring local governments to plan for future development, which can result in haphazard land use decisions that do not effectively guide growth and development.

Most of the local governments in Tennessee have some measure of a planning program, but it is unclear how many engage in long-term planning and actually base decisions on the adopted plan. Counties and municipalities are permitted to adopt subdivision regulations and zoning ordinances absent a comprehensive plan.

Public Chapter 1101 (PC 1101) does not specify precisely what constitutes a growth plan, and the language of the Act makes simply agreeing on a map of boundaries permissible. The Act does not require the growth plan to include issues such as land use, transportation, public infrastructure, housing, and economic development.

Regions are becoming more important in Tennessee and regional planning strategies could enhance communities, regions, and the state.

Staff Suggestions

- **The state may wish to appoint a "land policy study committee" to address the state's interests in land use issues.** Ideally, this committee would be comprised of representatives of relevant state agencies, the General Assembly, representatives from local governments, the business community, and non-government organizations. Tennessee's participation in the NGA Policy Academy could be a first step toward the creation of this committee.
- **The state may wish to develop a statewide planning vision to coordinate plans among departments and government jurisdictions, ensure that they are not working at cross-purposes, and ensure that they respect local autonomy.** The planning office could be either a new organization, or could be created within the structure of an existing organization.
- **State leaders and planners may wish to engage communities in determining state and local land use goals.** These goals will depend on how the community wants to measure success.
- **The General Assembly may wish to review the growth plan requirements of Public Chapter 1101 in the near future for possible improvements.**
- **The state may wish to consider providing financial incentives in the form of state grants and loans to those cities and counties who prepare, adopt, and enforce a**

comprehensive plan that meets content standards of generally accepted planning practices.

- **Tennessee may wish to explore the possibility of developing a regional vision toward land use planning for the state.** This exploration process should consider the potential benefits from increased land use planning at a regional level, potential approaches to such planning, and the role of the state in increasing collaboration among local governments. The process should also identify potential impediments to enhanced regional collaboration found in state law, administrative arrangements, and tax and revenue practices. It should be tailored to respect Tennessee's mix of urban and rural communities, the state's small government heritage, and the autonomy of local governments.

Introduction

Land use planning is essential for the economic, social, and environmental success of our state, its local jurisdictions, and regions. Land use decisions drive development patterns and impact government revenues, service delivery and costs, community transportation options, and environmental integrity. The effects of land use decisions are enduring; they will affect state and local governments and citizens for many years. In fact, once a new building is constructed or a vacant tract of land is developed, the result will likely endure for one hundred years or more.

Tennessee boasts a variety of communities including 38 counties that are part of 10 metropolitan statistical areas and 24 counties that are part of 20 micropolitan statistical areas.[1] The remaining 33 counties are rural but vary widely in size. Just as the types of locations vary, so do the issues they face. Some counties are facing population and economic growth, others losses. Some counties remain agricultural in nature; others are becoming more urban or suburban.

This brief emphasizes the importance of land use planning by highlighting problematic land use trends and issues such as sprawl, land fragmentation, loss of farmland, location of industrial mega sites, and local land use conflicts. Additionally, this brief provides readers with a comprehensive summary of state, local, and regional planning activities in Tennessee. One significant issue is that the preparation and adoption of a comprehensive local plan is optional for local governments in Tennessee. The state planning statute merely notes that a planning commission "may" prepare and adopt a plan. Another issue is that if the local planning commission prepares and adopts a plan, it must be adopted by the county legislative body to be considered a legal document. This means that a plan adopted by the county planning commission, but not by the county legislative body, is advisory only and can be overridden

[1] A metropolitan statistical area (MSA) is a statistical area with at least one urban area with a population of at least 50,000. The MSA comprises the central county or counties containing the core and adjacent outlying counties that have a high degree of social and economic integration with the central community as measured through commuting. Each micropolitan statistical area must have at least one urban cluster of at least 10,000 but less than 50,000 population. U.S. Office of Management and Budget.

or disregarded. This can result in haphazard land use decisions that do not effectively guide growth and development. Another land use and planning issue is that there is no entity that performs comprehensive, long-range statewide planning. One entity studying the overall effects of growth, development, and conservation across the state could bring cohesion to locally decided land use development patterns. Additionally, long-term state planning could help prioritize state infrastructure investments to support the goals of the state.[2]

Tennessee is growing; the state's population has increased 30% since 1990.[3] Population projections forecast that Tennessee's population will grow another 16.6% from 2010-2030.[4] As the population continues to increase, land use planning will become even more imperative to the viability of our state. Land use decisions have the potential to harness future growth for prosperity, but likewise these decisions can result in unfettered expansion that results in the inefficient use of land and increased costs for governments and citizens.

As Tennessee's population continues to grow, land use planning will become even more imperative to the vitality of our state.

This research brief is one in a series of TACIR's land use and transportation projects. A subsequent paper will focus on the link between land use and transportation planning.

Land Use: What Is It?

"Land use" is a general term that refers to both the physical attributes and the functional uses of land. Land use categories include farms, forests, various forms of urban development, and even land covered by water. Within urban areas, land use may be further broken down among different categories including residential, commercial, industrial, and public/semi-public. Individual land uses can be grouped among those categories. For example, commercial land uses include a wide array of individual uses such as grocery stores, hardware stores, clothing stores, banks, professional offices, and many more.

[2] Governor's Institute on Community Design (2009).
[3] U.S. Census Bureau.
[4] Center for Business and Economic Research, University of Tennessee (2010).

Each individual land use has different characteristics and impacts other uses and entire communities. Planning can help communities mitigate impacts between competing uses and interests. Planning as a discipline and a process is discussed at length later in this report.

A Brief History of Urbanization

The United States began as a rural nation and agriculture had to be successful in order to produce a food surplus and allow cities to develop. Even in the early days of U.S. settlement, population tended to cluster in developed communities for security, services, and economic development. The first cities were compact and were connected to rural areas by roadways travelable by horse and wagon. As the population grew, the cities consumed greater quantities of land, but the spread of development was limited by modes of transportation.

The invention of the streetcar and the extension of streetcar lines, along with commuter trains and improvements in road surfaces, enabled development in new areas farther from the heart of cities. This coincided with population flight from cities, initially spawned by the desire to escape polluting factories and teeming tenements. This was urban sprawl in its early form; however, even then, the development that occurred along the streetcar lines and development in new suburban areas was compact and dense. At this time, people still lived within a reasonable and walkable distance of mass transit lines.

The automobile changed everything and former geographic constraints fell by the wayside. Though people had begun to abandon increasingly crowded and industrialized large cities in the early 20th century, large-scale change in land use development patterns did not occur until after World War II. At that time, several factors combined to influence the pattern of development and its design:

- The GI Bill enabled returning GIs to purchase homes.
- The Federal Housing Administration (FHA) and the Veterans Administration (VA) introduced loan programs that provided

low interest mortgage loans for suburban single-family homes.

- The Federal Housing Administration (FHA) also published "neighborhood design standards" that guided developers to develop in such a way that the mortgages could be easily approved.

The first edition of *The Community Builders Handbook*, published by the Urban Land Institute, contained development standards that were based on the FHA design ideas. Additionally, many of the zoning ordinances and subdivision regulations that are still used today are based on standards from the *Handbook*. The interstate highway system provided high-speed limited access pathways from the cities to the suburbs, and this was accompanied by the neglect of mass transit systems. Traditional ideas of building cities were abandoned, and a new model was created. This new model, characterized by low densities, dependence upon the automobile, separation of uses, strip commercial development, curvilinear streets and cul-de-sacs, is what is now commonly referred to as sprawl.

In the past, most commuting consisted of suburban dwellers traveling to central cities for work. Suburb to suburb commuting is a relatively new development and emerged when employers began locating in suburbs.

Table 1 highlights significant events that have affected land use planning, land development patterns, and subdivision designs.

The chain of events listed in the table, as well as others, had a definitive impact on the urban fabric of the country and Tennessee. In the early part of the 20th century, four Tennessee counties housed large cities. The other 91 counties had small county seat towns surrounded by rural areas. As population and employment grew from the 1950s to the 1970s, growth spilled from the four large counties into the surrounding counties, generating the low-density suburban pattern that exists today.

One aspect of suburban development that has recently emerged is the location of jobs in those areas. Formerly, most jobs were located in a central city while new home construction and residential developments occurred in suburban locations. Commuting patterns were typified by people commuting from suburbs to cities for work, resulting in high amounts of vehicle miles traveled (VMT). With more jobs locating in suburban areas, commuting to central cities decreased, only to be replaced by suburb-to-suburb commuting. This

Table 1. Significant Events in Urbanization	
1869	Riverside located outside Chicago platted by Olmstead and Vaux established an ideal model of a picturesque curvilinear subdivision.
1898	Ebenezer Howard designed the Garden City diagram published in Tomorrow (later republished as Garden Cities of Tomorrow in 1902, it started the garden city movement.)
1909	Los Angeles adopted the first zoning ordinance creating separate zones for residential land uses.
1916	New York City adopted a zoning ordinance that regulated bulk of buildings and density.
1924	The Standard State Zoning Enabling Act was published by Secretary of Commerce Herbert Hoover's Advisory Committee on Zoning.
1926	The U. S. Supreme Court upheld the constitutionality of zoning (Village of Euclid, Ohio v. Ambler Realty Company) in which exclusively residential development was supported.
1928	Standard City Planning Enabling Act was published by the U. S. Department of Commerce.
1928	Radburn, New Jersey, designed as the "Town for the Motor Age" by planners Clarence Stein and Henry Wright.
1932	Model Subdivision Regulations was published by the U. S. Department of Commerce.
1935	Architect Frank Lloyd Wright published his book Broadacre City that envisioned the creation of new type developments on not less than one acre lots.*
1936	The Federal Housing Administration published Planning Neighborhoods for Small Houses, the first standards for the design of neighborhoods encouraging patterns of cul-de-sacs, curvilinear streets, and neighborhood character.
1939	Early large scale FHA-approved neighborhoods of single-family dwellings began to be developed.
1946 *and* 1947	William Levitt began development of Levittown on Long Island, the first truly mass-produced planned suburb largely regarded as the prototype for postwar suburbs throughout the country.
1947	The Urban Land Institute published the first edition of the Community Builders Handbook.
1949	Joseph Eichler developed his first large tract of modern suburban housing at Sunnyvale, California in Santa Clara County in what is now Silicon Valley.
* Item added to original list.	
Source: Information compiled from Ames and McClelland, 2002, *Historic residential suburbs: guidelines for evaluation and documentation for the National Register of Historic Places,* published by the U. S. Department of the Interior.	

new pattern may not reduce VMT, since no commuting is eliminated and the distances between suburbs can still be significant.

County-to-county commuting data provides information about the percent of residents who travel beyond their home county to work. One should keep in mind, however, that this data provides only a partial view of commuting patterns in relation to suburban job concentration, because some suburbs may be in the same county as the central city. Table 2 shows the percent of people living and working in the same county (internal commuters) for the ten most populous Tennessee counties. The data shows, in some counties, a fairly high percentage of residents who travel outside of the county to work. TACIR has mapped this data for 66 counties thus far and has plans to map the data for all 95 counties.[5]

Table 2. County-to-County Commuting in the Ten Most Populous Tennessee Counties

County	**Internal Commuters** *(percent of residents who work in their home county)*
Davidson	87%
Hamilton	91%
Knox	86%
Madison	89%
Montgomery	62%
Rutherford	63%
Shelby	95%
Sullivan	72%
Washington	74%
Williamson	51%

Source: U.S. Census Bureau, 2000 Census.

[5] See TACIR website: http://state.tn.us/tacir/county_profiles.html.

Land Use Trends in Tennessee

Statewide land use data shows a slow but steady increase in developed land. In 1982, 6.6% of Tennessee's land was developed. By 2007, the percentage of developed land had grown to 12.4%. This represents an 85% increase in developed acres. This change coincides with a decrease in cropland. From 1982 to 2007, 25% of cropland acres in Tennessee were converted to other uses. If this trend continues, the amount of developed land in Tennessee could be substantially greater in future years.

The percent of developed land varies widely among Tennessee counties. The figures in Table 3 show aggregate land use trends; the totals reflected in the tables include all counties, from the very rural to the urban. County level data on land uses and changes in uses is difficult to obtain; historically, no state agency has been responsible for collecting and maintaining this data. In recent years, the Local Planning Office (LPO) in the Tennessee Department of Economic and Community Development has developed a system for measuring land use trends. Data is based on property tax data from the Computer Assisted Appraisal System (CAAS) maintained by the Division of Property Assessments in the Tennessee Office of the Comptroller of the Treasury. To

Table 3. Percent of Land by Category, Tennessee (Non-Federal Land)

Land Use	1982		1987		1992	
	Acres (in thousands)	Percent of Land	Acres (in thousands)	Percent of Land	Acres (in thousands)	Percent of Land
Cropland	5,525	22.1%	5,297	21.2%	4,766	19.1%
Conservation Reserve Program Land	n/a	n/a	174	0.7%	441	1.8%
Pastureland	5,290	21.2%	5,077	20.3%	5,100	20.4%
Rangeland	0	0.0%	0	0.0%	0	0.0%
Forestland	12,061	48.2%	12,093	48.4%	12,062	48.3%
Other Rural Land	487	1.9%	464	1.9%	446	1.8%
Developed Land	1,640	6.6%	1,875	7.5%	2,158	8.6%
Total	**25,002**	**100%**	**24,979**	**100%**	**24,972**	**100%**
Land Use	**1997**		**2002**		**2007**	
	Acres (in thousands)	Percent of Land	Acres (in thousands)	Percent of Land	Acres (in thousands)	Percent of Land
Cropland	4,574	18.3%	4,505	18.1%	4,142	16.6%
Conservation Reserve Program Land	374	1.5%	241	1.0%	255	1.0%
Pastureland	4,912	19.7%	4,837	19.4%	4,978	20.0%
Rangeland	0	0.0%	0	0.0%	0	0.0%
Forestland	11,978	48.0%	11,939	48.0%	11,835	47.6%
Other Rural Land	523	2.1%	553	2.2%	632	2.5%
Developed Land	2,606	10.4%	2,812	11.3%	3,083	12.4%
Total	**24,968**	**100%**	**24,887**	**100%**	**24,925**	**100%**

Source: Natural Resource Conservation Service (NRCS), National Resource Inventory. Percentages calculated by TACIR.

Note: NRCS presents margins of error for all estimates. For more information please see http://www.nrcs.usda.gov/technical/NRI/2007/2007_NRI_Summary.pdf

illustrate land use trends across the state, TACIR evaluated data for nine counties. The data was generated by the Local Planning Assistance Office in the Department of Economic and Community Development. Table 4 shows percentages of developed land for three high growth counties, three moderate growth counties, and three slow or no growth counties from each part of the state: east, middle, and west. Growth is measured by change in population from 1990 to 2007.

All three of the high growth counties are located in the three largest MSAs in the state (Blount County in Knoxville MSA, Sumner County in Nashville-Davidson-Murfreesboro-Franklin MSA, and Tipton County in Memphis MSA). Trends across the state in recent years show that the concentration of growth and development is generally higher in metropolitan areas. The trend is evident based on the data in Table 4 and is further illustrated by analyzing data for the 10 counties in the Cumberland Region Tomorrow (CRT) region, nine of which are part of the Nashville MSA.[6] Within the 10-county CRT region, an estimated 110,000 acres of open space was converted to developed land between 1992 and 1997. This translates to an average of 22,000 acres per year or 60 acres each day. In contrast, between 1982 and 1992, 135,000 acres were converted to developed land, which is an average of 13,500 acres per year. These figures indicate that total acres converted and the rate of conversion increased substantially between 1982 and 1997.[7]

Table 4. Acres of Development by Decade

		Cumulative Development		Acres Developed Per Decade (Residential, Industrial, Commercial)			
County	Total Acres	Total Developed Acres*	Percent of Total	2000s**	1990s	1980s	1950s, 60s, and 70s
High Growth							
Blount	362,660	130,924	36.10%	13,183	17,551	15,056	40,284
Sumner	347,932	74,863	22.00%	12,379	13,396	11,244	21,141
Tipton	299,379	31,398	5.70%	6,210	8,219	4,428	7,436
Moderate Growth							
Giles	390,897	31,398	5.70%	2,337	3,726	2,392	5,403
Greene	399,399	50,742	12.70%	7,535	8,581	4,834	12,447
Hardeman	428,502	16,055	4.40%	2,198	3,673	2,450	5,659
Slow or No Growth							
Grundy	230,512	15,655	6.80%	2,644	1,861	1,218	4,159
Obion	355,972	16,055	4.50%	1,576	3,028	1,831	6,537
Unicoi	119,493	8,910	7.50%	769	1,356	1,156	2,804

* 1900-2008
** 2000-2008

Source: Data compiled for TACIR by the Tennessee Department of Economic and Community Development, Local Planning Assistance Office. Data is a combination of the Base Mapping Program dataset and the Computer Aided Assessment System database and reflects the 2008 database.

[6] Cumberland Region Tomorrow is a private, non-profit, citizen-based organization working in the public and private sectors dedicated to planning for the future livability and economic viability of the region.

[7] Pollard and Appleyard (2001).

All counties in Table 4 had a surge of development in the 1990s, some developing 50% more acres than in the 1980s. The high growth counties developed greater percentages than the other counties, developing 3 to 5 percent of total county acres, while the moderate and slow or no growth counties developed between 1 and 2 percent of total county acres. In each growth category, development slowed in the 2000s, though by varying degrees. Furthermore, the high growth counties continued to develop higher percentages of land, 2 to 4 percent of total county acres, compared to 1 to 2 percent in the other counties.

Land Use Issues in Tennessee

Tennessee's counties, cities, and regions face a variety of land use issues. Sprawl, conflicts over how land is used, developments that impact multiple counties, land fragmentation and farmland loss are all relevant land use issues. These issues are discussed throughout following sections, and case study information is provided to illustrate specific cases and situations. Note that this paper takes a neutral stance toward growth and development and should not be construed to be anti- or pro-development. While many new developments are positive and strengthen communities, others can be detrimental. This report attempts to describe all considerations that may affect land development decisions.

> Every place becomes more like every other place, all adding up to Noplace.
>
> Jane Jacobs, The Death and Life of Great American Cities.

Sprawl

Sprawl is the predominant land use pattern in Tennessee and the United States. There is no single definition of sprawl, but many experts have generated identifying factors and characteristics. The following 10 "traits" associated with sprawl were noted by Downs (1998):

1. Unlimited outward extension
2. Low-density residential and commercial settlements
3. Leapfrog development
4. Fragmentation of powers over land use among many small localities

5. Dominance of transportation by private automotive vehicles
6. No centralized planning or control of land uses
7. Widespread strip commercial development
8. Great fiscal disparities among localities
9. Segregation of types of land uses in different zones
10. Reliance mainly on the trickle-down or filtering process to provide housing to low-income households

Kunstler (1994) describes sprawl as "a degenerative urban form that is too congested to be efficient, too chaotic to be beautiful, and too dispersed to possess the diversity and vitality of a great American city." Barnes, Morgan, and Roberge (2001, 3.) summarize the following types of sprawl:

- Low-density continuous sprawl—"highly consumptive use of land for urban purposes along the margins of metropolitan areas," supported by "piecemeal extensions of basic urban infrastructures such as water, sewer, power, and roads."
- Ribbon sprawl—"development that follows major transportation arteries out from urban cores. Lands adjacent to corridors are developed, but those without direct access remain in rural or other open type uses/covers."
- Leapfrog development sprawl—"a discontinuous pattern of urbanization, with patches of developed lands that are widely separated from each other and from the boundaries."

For purposes of this paper, sprawl is defined as low-density, decentralized development at the fringes of a central city. It is typified by a spreading out of community growth over a wide area with little or no connectivity with the contiguously developed area.

Where does sprawl develop?

Burchell et al. (2002) created a sprawl measurement methodology and found that nationwide, sprawl is occurring at a four to one ratio in rural and undeveloped counties. In the Burchell et al. work, sprawl is defined as low-density development at the outer

reaches of metropolitan areas. According to the study, regionally, sprawl is most prevalent in the southern U.S., with 95% of southern Economic Areas (EAs) having sprawling development patterns. EAs are defined by the U.S. Bureau of Economic Analysis and represent a commuting region with urban, suburban, and rural counties.[8] Burchell et al.'s study notes that, in most cases, sprawl is positively correlated with growth; the most sprawling locations are those experiencing the highest amounts of growth. To take this connection into consideration, Burchell et al. developed sprawl indices that compare an area's percentage of overall household growth designated as sprawl to the area's overall household growth.[9] Using this methodology, Tennessee's sprawl index ranks 15th nationwide. The study points out that for a state to be high on the list, it must experience significant household growth destined for relatively undeveloped counties. The study also calculated indices for EAs and counties. The Nashville EA ranks 12th nationally.

Researchers have suggested many different causes of sprawl, including growth in population, rising incomes, falling commuting costs, the increased mobility of households, widespread use of automobiles, and expansion of the nation's highway and road systems.

What causes sprawl?

There are different schools of thought as to the causes of sprawl, and most researchers acknowledge that many forces work together to result in sprawling development patterns. Brueckner (2000), working from an economic perspective, lists three forces leading to urban spatial expansion:

- Growth of the U.S. population
- Rising income
- Falling commuting costs due to improvements in transportation infrastructure

[8] Economic Areas are determined by the U.S. Bureau of Economic Analysis. They consist of one or more economic nodes—metropolitan or micropolitan statistical areas that serve as regional centers of economic activity—and the surrounding counties that are economically related to the nodes.

[9] To be defined as having significant sprawl, a county must meet either the first three of the following criteria, or the fourth criteria: 1) a county growth rate in the top quarter of the EA's county annual household and employment growth rates, 2) a county growth rate that exceeds the average annual national county growth rate, 3) an absolute level of county growth that exceeds 40% of the average annual absolute county growth, 4) an absolute county level of growth that exceeds 160% of the average annual absolute county growth regardless of growth rate.

Brueckner also contends that three "market failures" may be exaggerating these forces and causing excessive growth. "Market failure" here indicates a situation in which resources are not properly allocated and therefore do not maximize aggregate economic well-being. Brueckner identified the following market failures:

- Failure to account for the benefits of open space
- Failure to account for the social costs of traffic congestion
- Failure to make new development pay for the infrastructure costs it generates

Nechyba and Walsh (2004, 178.) write that local public finance literature points to "the desire of mobile households to segregate based on preferences for local taxes and amenities….." as a contributor to sprawl. Others, such as Pietro (1999), emphasize that many government policies, past and present, such as the disproportionate amount of government spending on roads relative to other transportation infrastructures, and mortgage guarantees by the Federal Housing Administration and Veterans Administration encourage sprawl. Barnes et al. (2001) claim that one cannot discount the influence of the automobile and the expansions of the nation's highway and road system, stating that the highway system and increasing automobile use allowed workers to live in the suburbs farther from their places of employment in core cities.

TACIR staff identified the following factors that have contributed to sprawl in Tennessee:

- The generally accepted assumption across a spectrum of public and private entities that all growth is good and in fact essential. This leads to a growth or land use policy of accommodating growth wherever the market or private sector developers want it to occur.
- The adoption by local governments of plans, policies, and regulations that encourage new growth in most locations and employing the type regulations described above that came of the events of the 1940s and 1950s.
- A desire on the part of many families to get out of the city and obtain cheaper housing and more land in suburban locations.

- The limited taxing authority of local governments in Tennessee; local option sales and property taxes constitute the majority of their tax revenues. While alternative growth management strategies would encourage concentrating new growth in central cities or within other existing developed areas, the need for new sources of revenue in each governmental jurisdiction results in aggressive recruitment of new growth in each location. There are also a large number of local governments in Tennessee, and their boundary-driven local tax bases lead to competition for development with each local government courting any business or industry that might generate more revenue.[10] This does not facilitate collaborative land use planning and the end result is a dispersed pattern of development rather that a concentrated one.

Costs of Sprawl

Though there are differing opinions about sprawl's net effect, much research concludes that sprawling development imposes costs on communities. Some of these costs are related to the provision of services, others to the impact sprawl has on the environment.

The Real Estate Research Corporation (1974) completed the first analysis on the costs of sprawl by comparing costs in six hypothetical communities of 10,000 dwelling units, each with different development patterns. The study evaluated four factors: energy costs, environmental costs, capital costs, and operating costs and found that high density development costs less than low density development. While the study has been criticized, it remains the first study that provided a basis for a cost differential of different types of development.

Smythe (1986) completed an analysis for the American Farmland Trust to compare the costs of low density development with those of high density development. The analysis, a case study of Loudon County, Virginia, analyzed costs and tax revenues to determine the net fiscal impacts of different development densities. The cost factors included school operations and construction, school

[10] Chervin (2007).

transportation, water and sewer services, and road construction and maintenance. Smythe found that net public costs were three times more per unit for the lowest density developments, compared to the highest density developments. Smythe concluded that the revenue generated by residential developments located outside the urban fringe was not sufficient to offset the additional costs of the infrastructure and services.

Frank (1989) completed a literature review on the costs of land and development from the 1950s to the 1970s and adjusted all cost figures to 1987 dollars to more accurately compare different studies' findings. Variables studied included development density, lot size, contiguity of development, improvement standards, and distance to central facilities. Frank concluded that alternative development patterns change development costs. Focusing on capital costs of streets, water, sewer, drainage facilities, and schools, he found that the total cost of low-density sprawl located 10 miles from a sewage treatment plant was over $48,000 per dwelling unit, not counting housing and land costs. Costs of infrastructure were reduced with increases in density, housing mix, and proximity to facilities to a low of $18,000 per dwelling unit. Frank also acknowledged that there were gaps in knowledge such as the amount of existing capacity available in a system for infill development before new capital costs had to be incurred.

Spatial patterns of development impact costs for certain services more than others. Solid waste collection, fire and police protection, and schools tend to be less affected, while roads, water, and sewers are more affected.

Specific Infrastructure and Service Costs

A publication by Speir and Stephenson (2002) highlights research showing that spatial patterns of development impact costs for certain services more than others. Solid waste collection, fire and police protection, and schools tend to be less affected, while roads, water, and sewers are more affected. This publication also points out that water and sewer service costs are often of more interest to local governments, since these jurisdictions are responsible for most of these costs. The study by Burchell et al. (2002), discussed earlier, compared costs for specific services under both controlled and uncontrolled growth scenarios. Burchell et al. found that by implementing controlled growth, Tennessee could save $123 million in water infrastructure costs and $209 million in sewer infrastructure costs, for a total savings of $332 million by 2025. In terms of EAs with projected water and sewer costs of $2.7 billion, the Nashville EA ranks 24th in an uncontrolled growth scenario. The

Nashville EA could save $234 million by implementing controlled growth.

Burchell et al's study projected future lane miles and the costs of new roads that would be required if uncontrolled growth continued until 2025. Under an uncontrolled growth scenario, the study estimated that Tennessee will spend $22.75 billion on lane miles by 2025. By implementing controlled growth, the state could spend only $20.15 billion, a savings of $2.6 billion. The Nashville EA will spend $13.84 billion, compared to $12.28 billion with controlled growth, a potential savings of $1.56 billion.

Environmental Impacts

There is considerable concern about the negative environmental impacts of sprawl. Studies have explored the effects of sprawl on land, water, air, ecosystems, and wildlife. Land conversion, loss of farmland, and land fragmentation are some of the problematic land issues discussed in other sections of this paper. Sprawl affects water systems by virtue of the increased amounts of paved, impervious surfaces that commonly accompany development. Impervious, man-made surfaces like roadways, parking lots, and sidewalks are often covered in pollutants.[11] When water from rain and snow runs over these surfaces, it picks up pollutants and carries them to waterways and soil. The Natural Resources Defense Council labels this problem "urban storm water pollution." Increased amounts of impervious surfaces may also contribute to water shortages because paved surfaces do not allow rain water to seep into the ground to replenish aquifers, and precipitation runs off impervious surfaces with greater speed and volume than natural surfaces. A joint report by American Rivers, the Natural Resources Defense Council and Smart Growth America argues that reduced water absorption has contributed to increased drought across the country.[12]

Air quality is adversely affected largely due to the increased amounts of driving associated with sprawling development. Many sources claim that dispersed development patterns lead

[11] Richardson and Tripp (2006).

[12] Otto et al. (2002).

to increased vehicle miles traveled (VMT).[13] Though there is not agreement on this causal connection, data from the Bureau of Transportation Statistics indicates that urban VMT increased 133% from 1980 to 2007. Rural VMT for this period increased by 54%.[14] Increased driving is problematic due to the pollutants, like carbon monoxide, nitrogen oxides, hydrocarbons, ozone, and particulate matter associated with automobile use.[15] The Environmental Protection Agency (EPA) reports that nationwide, three-quarters of carbon monoxide emissions come from on-road motor vehicles (cars and trucks) and non-road engines (like boats and construction equipment).[16] Tennessee is not excluded from this trend. In Tennessee, 72% of carbon monoxide emissions and 46% of nitrogen oxide emissions come from on-road motor vehicles. The EPA notes that nationwide, control measures have reduced pollutant emissions per vehicle over the past 20 years, but the number of vehicles on the road and the miles they drive have doubled in the last 20 years.[17] Additionally, the EPA warns that if this trend continues, vehicle travel may eventually offset progress in vehicle emissions control technology. Ewing et al. (2008) concurs, explaining that vehicle fuel economy and fuel technology improvements have a role in reducing emissions, but this must be accompanied by a decrease in VMT.

The negative effects of sprawl have been well documented, but some suggest that it may also have some positive side effects.

Sprawl can also negatively impact ecosystems and wildlife populations. Ecosystems are disturbed because development can lead to the inadvertent introduction of invasive plant species. Invasive species invade natural ecosystems, competing with native plants for food, water, energy, and growing space. A report by Terris (1999) explains that when the land is shaped to fit human life, rather than animal life, certain species cannot adapt. These species will be reduced or eradicated while "generalist" species like pigeons, squirrels, and raccoons proliferate. Another issue is sprawl-induced habitat fragmentation. Habitat fragmentation occurs when large ecosystems are separated into smaller pieces, separating groups

[13] For example see Ewing et al. (2008), Winkelman et al. (2005), and Ewing et al., (2002).

[14] Bureau of Transportation Statistics. Research and Innovative Technology Assistance. http://www.bts.gov/publications/national_transportation_statistics/html/table_01_33.html

[15] Winkelman et al. 2005 and Frumkin (2002).

[16] Environmental Protection Agency (2009).

[17] Environmental Protection Agency (2010).

of species, which impacts breeding patterns. Terris notes that this may also result in a lack of genetic variety among a species leading to degenerative inbreeding.

Future Effects of Uncontrolled Growth

To determine the future effects of sprawl, some studies compare current, uncontrolled development patterns with alternative patterns. Cumberland Region Tomorrow (CRT) completed a regional visioning project that used scenario modeling to establish a base case scenario and an alternative case scenario of land development for the Cumberland region. Essentially, the base case scenario projected the 20-year trend data into the future with no changes in land use policy while the alternative case incorporated guiding tenants, established by citizens of the region. The tenants included many smart growth principles such as the preservation of open land, regional cooperation, farmland preservation, and retaining unique characteristics of existing neighborhoods and communities. The results of the comparison are shown in the table below. The two cases, seen in Table 5, demonstrate that land consumption and costs can be directly affected by the type of growth policies in place.

Table 5. Growth Scenario Choices

Indicator	Base Case Scenario	Alternative Case Scenario
Land Consumed	365,000 acres	91,000 acres
Infrastructure Costs	$6,957,085,995	$3,406,798,045
New Road Miles	4,544 miles	2,225 miles
Acres of New Impervious Surfaces	62,444 acres	35,033 acres
Density Patterns-Region wide	1.13 person per acre	5.8 persons per acre

Source: Cumberland Region Tomorrow, *Quality Growth Toolbox,* p. 3.

Burchell et al's 2002 study also used growth projections to compare uncontrolled, (sprawl) growth patterns with an alternative (compact development or smart growth) controlled growth pattern. The controlled growth scenario would limit a significant share of development to already developed counties or areas as close to developed land as possible. Sprawl, on the other hand, was characterized by "*significant* residential and nonresidential

development in rural and undeveloped counties."[18] The analysis included growth projections from 2000 to 2025 in 3,100 counties nationwide and produced results for states, regions, and EAs.

Based on the Burchell et al. study, if Tennessee continues an uncontrolled growth model into the future, by 2025, Tennessee will rank 6th in the nation for land converted from other uses to development uses. Without actions to better direct growth, Tennessee will convert 788,848 acres of land by 2025; implementing controlled development would allow Tennessee to save 161,831 acres. This includes 71,260 acres in agricultural land, 55,944 acres in environmentally fragile land, and 34,630 acres in other land. The Nashville and Knoxville EAs both rank in the top 30 for land conversion in the country. Under an uncontrolled growth scenario, for every 595,314 units developed (residential and non-residential), the Nashville EA will convert 459,878 acres of land. This is a conversion rate of .77 acres per unit. In a controlled growth scenario, this could be lowered to .59 acres per unit. The Knoxville EA's figures show a conversion rate of .68 acres per unit in an uncontrolled growth scenario and a conversion rate of .56 acres per unit with controlled growth.

The amount of land that would be converted by 2025 is larger than the state of Rhode Island.

When looking at county level data, three Tennessee counties rank in the top 50 for land conversions from 2000 to 2025. The study projects that Rutherford county, ranked 11th nationwide for conversions, will convert land at a rate of 1.07 acres per unit, and Williamson County, ranked 30th nationwide, will convert land at a rate of .89 acres per unit. The third Tennessee county in the top 50, Sevier, is ranked 34th nationwide and will convert land at a rate of 1.08 acres per unit. Another notable point is that in an uncontrolled growth scenario, Rutherford and Williamson counties will convert mostly agricultural land (83,774 acres and 46,126 acres respectively), while Sevier county will convert environmentally fragile land (49,509 acres).

Is sprawl inherently bad?

There is no consensus about whether sprawl is good or bad. There are some who are not supporters of sprawl but who acknowledge that sprawl does have some benefits in addition

[18] Burchell et al. (2002), 1.

to its negative consequences. Consider the following quote about sprawl from Burchell, et al…. "It provides congestion management, in automobile dominated metropolitan areas by creating the suburban-to-suburban trip, and by better equalizing the percentages of the commuting population involved in reverse and forward commutes."[19] Neychba and Walsh (2004, 178.) note that sprawl has "created opportunities for significantly higher levels of housing and land consumption for most households." There are some who tend to be more supportive of sprawl, who acknowledge that sprawl does result in some negative outcomes but feel that these have been overstated, and the societal benefits gained by sprawl outweigh the drawbacks. In answer to criticisms that sprawl consumes land and harms the environment, Glaeser and Kahn (2003) assert that though sprawl increases the amount of developed land nationwide, only a small percentage of the country is actually developed. Additionally, Glaeser and Kahn claim that though sprawl has led to increased driving, fuel consumption, and greenhouse gas production, vehicle pollution regulations have been successful in curbing emissions.

Table 6 shows both the arguments in favor of sprawl and the arguments against it. There are varying opinions about the qualitative costs and benefits of sprawl, but quantitative studies suggest that sprawl is more costly than higher density, mixed-use development. The cities and counties of Tennessee should be aware of this when determining land use policies to apply to future development and in the adoption of land use regulations.

Alternatives to Sprawl

There are several strategies available to help communities guide growth and reduce sprawl. Moe and Wilkie (1997) note that "there are two primary alternatives to sprawl as we know it: better planning of how we use our land; and using—or reusing—the capacity of older neighborhoods, towns and downtowns to a greater extent than they are used now. Both alternatives are essential if we are to successfully manage growth (not stop it, but manage it) and thus contain sprawl before it bankrupts us socially as well as financially."[20] There are a variety of strategies and tools

[19] Burchell et al. (2002), preface.

[20] Moe and Wilkie (1997), X.

Table 6. Prevailing Arguments in Defense of Sprawl and the Counterarguments	
Arguments in Defense of Sprawl	**Counterarguments**
Development is cheaper in suburban and rural areas.	While development may be cheaper, real costs are not measured. Local governments often subsidize the more extensive and less efficient infrastructure needed for sprawl development.
The additional cost of sprawl is privately provided indicating people's willingness to pay more for sprawl and their desire for sprawl.	Again, real costs are not reflected in the price of sprawl development since local governments often subsidize the infrastructure needed for sprawl.
People prefer low density development over high density development.	Survey results showing more people preferring low-density development can be misleading due to varying perceptions of "high density." Surveys that use visual examples are more useful and show that people are willing to sacrifice low density and more square footage for better designed homes with a range of nearby amenities.
Residential development in rural areas produces public revenues in excess of public costs.	Working land, such as agricultural production, provides revenues in excess of public costs. (Cows don't need schools.)
Commutes are shorter in suburbs.	Due to growing suburb-to-suburb commuting, travel to work may be shorter for many workers, but more trips are necessary because of separated uses. Trips are longer, and there are few alternatives for those who don't drive.
Cars are the most versatile form of transportation and as cars get more fuel efficient and less polluting, environmental impacts will no longer be a concern.	Cars are still a long way from being environmentally friendly, but even if they were totally clean, it does not solve the problem of loss of wildlife habitat, loss of farmland, resource consumption, traffic congestion or traffic fatalities resulting from sprawl type road infrastructure and lack of sidewalks or bike lanes. Auto dependent development also prevents non-drivers from having choices in how to get around. Thirty-two percent of the U. S. population cannot drive.
We are able to grow more crops with less land and labor, so losing prime farmland and development is not as important a consideration as it once was.	The problem is where and what land is being lost. Productive farmland close to urban centers is being lost. New land could be brought into agricultural production but often at high economic and environmental cost. The farther farmlands must move from urban centers—where the consumers are—the more inefficient it is to bring products to market, especially for smaller farms selling their produce in local markets.

Source: Adapted with permission from *Vision 2020 + 20 Update, Information Paper on Cost of Sprawl,* Puget Sound Regional Council, 2005.

available to guide growth, including smart growth, quality growth, sustainable development, compact development, 20-minute communities, neo-traditional development, new urbanism, and transit-oriented development. Some strategies are more formalized than others, but all seek to curb sprawling development, reduce land consumption, and promote livable communities.

Smart Growth

Many alternatives may be grouped under a general heading of smart growth. Smart growth is defined as development that has the following 10 principles:

1. Mixes land uses
2. Takes advantage of compact building design
3. Creates a range of housing opportunities and choices
4. Creates walkable neighborhoods
5. Fosters distinctive, attractive communities with a strong sense of place
6. Preserves open space, farmland, natural beauty, and critical environmental areas
7. Strengthens and directs development towards existing communities
8. Provides a variety of transportation choices
9. Makes development decisions predictable, fair, and cost effective
10. Encourages community and stakeholder collaboration in development decisions[21]

More than 30 national and regional organizations have endorsed smart growth, including the American Planning Association, the Association of Metropolitan Planning Organizations, and the U.S. Environmental Protection Agency. Additionally, more than 100 national, regional, state, and local groups are members of the Smart Growth America coalition.[22] The four project areas pursued by the coalition are coalition building, communications, policy development, and research.

[21] Smart Growth Network. Smartgrowth.org.

[22] Smart Growth America. http://www.smartgrowthamerica.org/members.html

Another smart growth organization is the Smart Growth Network (SGN), formed in 1996 through a partnership between the U.S. Environmental Protection Agency and several non-profit and government organizations.

Communities may establish policies and practices to achieve one or more smart growth objectives. SGN notes that there is no "one-size-fits all" smart growth solution, but that all smart growth initiatives recognize the connection between development and quality of life and that they attempt to leverage new development to improve the community. Though communities may prioritize their goals and work towards one or more smart growth objectives, the American Planning Association (2002, 5.) emphasizes that comprehensive planning is essential to smart growth implementation. The APA points out that without comprehensive planning, smart growth measures may be limited to "short-term, geographically isolated, and disconnected decisions."

A recent study evaluated smart growth programs in four states. The study found that no state excelled in all smart growth performance measures, but states were able to excel in one or more policy areas.

A recent publication by Ingram et al. (2009) systematically evaluated the impact of smart growth programs in four states. This study compared outcome measures in these states with outcome measures in four other states that employ other land management techniques. Researchers analyzed five sets of measures:

- Size and growth (geographic area, and levels, densities, and growth rates of population and employment)
- Land use (distributions of and changes in land use by acre and in relation to population growth)
- Concentration (spatial distribution of employment and population within states and metropolitan areas)
- Urbanization (population growth in urban, new urban, and rural regions of states and metropolitan areas)
- Centralization (densities of people and jobs within concentric rings around the central business districts of major metropolitan areas)

The study found that no state excelled in all smart growth principles or performance measures, though individual states did succeed in one or more priority policy areas. The researchers concluded that there is not a one size fits all approach appropriate for all states,

but rather that employing a variety of regulatory controls, market incentives, and institutional policies is the most effective method for land management.

Traditional Neighborhood Development/New Urbanism/Neo-Traditional Development

Traditional neighborhood development, new urbanism, and neo-traditional development are closely related and the terms are commonly used interchangeably. This section will use the term new urbanism to collectively represent these concepts. New urbanism advocates for developing neighborhoods much like those characteristic of early 20th century America, compact, pedestrian-oriented, land with mixed-use development, a variety of housing types and shared public spaces. New urbanism promotes a "sense of place" and claims that open space and boundaries contribute to this as much as do city centers.[23] New urbanism may be the framework for building new towns but increasingly is being used for infill development; new urbanism also promotes retrofitting town centers into existing suburbs. The Congress for New Urbanism states that new urbanists are active in "emerging growth areas and brownfields, suburbs and small towns where New Urbanism can either reinforce the character of existing walkable areas or help to 'retrofit' automobile-oriented malls and office parks to become walkable communities."[24]

Transit-Oriented Development

Transit-oriented development (TOD) is an approach to developing the built environment which shares many principles with smart growth, including mixed-use development and emphasis on compact design, but TODs also emphasize the role of transit. TODs encourage high density development within walking distance of transit stations. The following are goals of TODs, outlined by the Center for Transit-Oriented Development:

- Increase "location efficiency" so people can walk and bike and take transit
- Boost transit ridership and minimize traffic

[23] Congress for the New Urbanism website. www.cnu.org.

[24] Ibid.

- Provide a rich mix of housing, shopping and transportation choices
- Generate revenue for the public and private sectors and provide value for both new and existing residents
- Create a sense of place[25]

Supporters of TOD maintain that TOD may provide more affordable housing choices, less traffic congestion, lower transportation expenditures, and lower oil and gas consumption.[26]

Conservation Subdivisions

Conservation subdivisions are one alternative to sprawling developments. Conservation subdivisions cluster building lots on one area of land, preserving the rest of the land as open space.

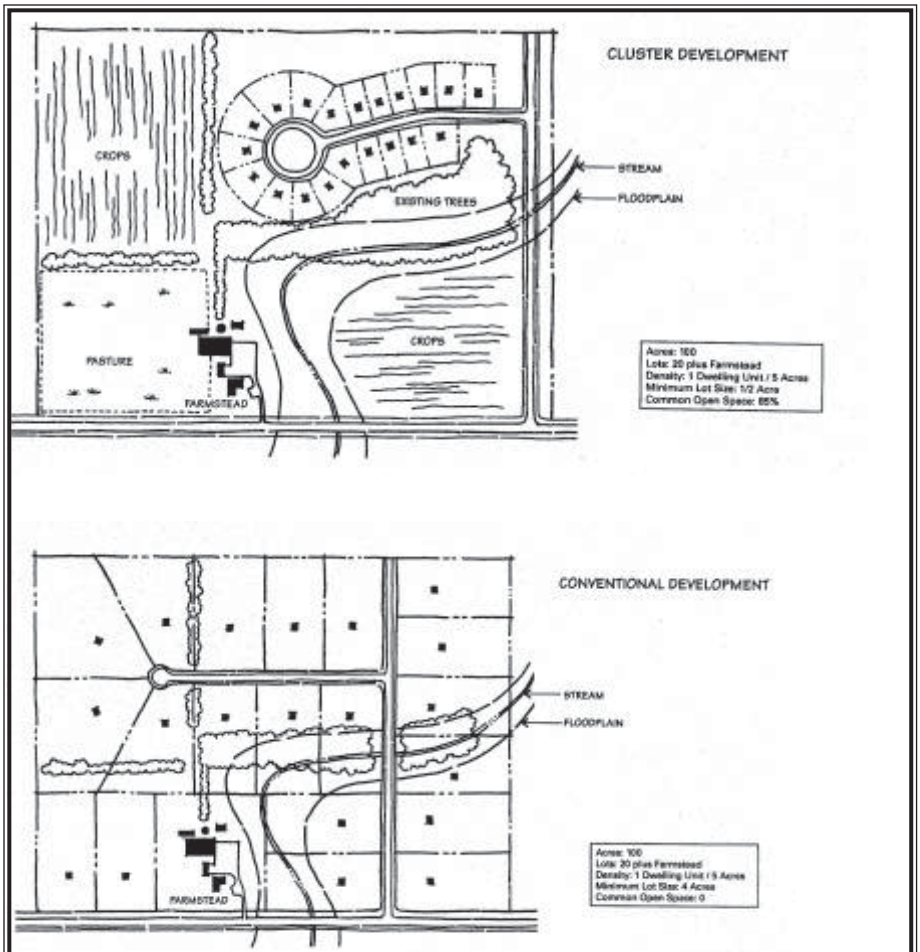
Conservation subdivision design is a development strategy that represents a way to allow development to occur while protecting open space, farmland, and natural resources. A typical subdivision utilizes all of the land within the boundaries of a subdivision either in lots or streets, but a conservation subdivision "clusters" the building lots as compact lots on one area of the tract of land, preserving the remainder as permanent open space.

Conservation subdivisions can protect up to 40 to 50% of a developed tract and still allow the same number of dwellings. Development and maintenance costs are also reduced since fewer feet of streets, water, and sewer lines must be constructed. The illustrations on the next page show the design difference in a typical subdivision versus a conservation subdivision.

Conservation subdivisions do not address all aspects of land preservation but can be used in conjunction with other practices. Haines (2002) notes that communities need to be mindful that conservative subdivisions must be connected to developed areas and services, or else they can result in poor land use practices and a disjointed landscape. Another potential limitation is that conservative subdivisions may be available only to high end consumers, as housing in a conservative subdivision tends to be expensive. If a community seeks to increase the stock of affordable housing, this will need to be considered in the planning stage of a conservative subdivision. Finally, conservative subdivisions do not

[25] Center for Transit-Oriented Development. http://www.reconnectingamerica.org/public/tod

[26] Reconnecting America. 2007. http://www.reconnectingamerica.org/public/reports/115



Source: Haines. 2002. An innovative tool for managing rural residential development: a look at conservation subdivisions

make strides in reducing dependence on automobiles, which is a common goal of alternative land development strategies.

Land Use Conflicts

Many communities have experienced conflicts regarding land use decisions. Across the nation and in Tennessee, communities that have adopted and enforced a zoning ordinance regularly encounter requests for changes in zoning districts that affect specific properties. Many times such changes are needed, completely justified, and are made without controversy. Increasingly, however, a change generates considerable opposition

from citizens, neighborhood associations, and other landowners. Sometimes zoning changes are based upon an adopted long-range plan, but often they are not. Frequently, zoning changes that are made without regard to the adopted plan are perceived to be more politically charged and motivated than other changes. Even when a zoning change is consistent with a plan, opposition to change can still be strong. Large proposed projects tend to elicit more vigorous opposition; some examples are discussed below.

Bible Park – Rutherford County

Just outside of Murfreesboro in Rutherford County, a proposal was submitted to the county in 2007 to develop a 280 acre tract of land for a "Bible Park" theme park. It was billed as a non-denominational Bible-based themed attraction that would depict various Bible stories as well as an authentic representation of "life in ancient times."[27] The developers also asked the county for approval of tax increment financing to help defray the costs of the park, but claimed that the county would reap numerous benefits from the park. These included a construction investment of $175 million, 250 full-time jobs and 1,200 seasonal jobs, wages of $24 million annually and others.[28]

The county had no county-wide land use plan in place when the development was proposed. The City of Murfreesboro had developed and adopted a plan that covered an area called the "Blackman Community" that included the site proposed for the Bible Park, which was also adopted by the county planning commission. The plan did not provide for the development of the area proposed for the park as any kind of intense non-residential development.

The Bible Park project was supported by many government officials and economic development groups. A major focus of the support for the development was directly related to the provision of jobs in the region. Supporters included the county mayor, a majority of the county commission, the Chamber of Commerce and the Chamber's economic development arm, and many business leaders in the community. Despite this list of supporters, a large and organized opposition arose to fight the park. Arguments against

[27] Bible Park USA (web site link no longer viable).
[28] Ibid.

the park included adverse traffic and land use impacts on the local community, too much noise, light pollution, and questions about financing and projected revenues.

The county planning commission, in a split vote, did not recommend the rezoning. After much debate, the county commission voted on the rezoning request, and it failed when the vote did not result in a two-thirds majority. An interesting quirk in the county's zoning ordinance required a two-thirds majority vote on a zoning amendment if a petition against the rezoning was signed by at least 20% of the neighboring property owners and submitted to the county commission.

A lawsuit requesting $11 million in damages was subsequently filed in Rutherford County Chancery Court by landowners who were seeking to sell their land to the park developers.[29] The Chancellor ruled in favor of the landowners and ordered the county commission to reconsider how it handled petitions. The county appealed. The Tennessee Court of Appeals ruled in October 2009 that the county had no authority to require a two-thirds majority since Tennessee law only requires a simple majority. The Court ordered the county commission to declare the zoning amendment granted since a majority had approved it. Before the Court's decision was reached, the developers abandoned their plans to locate the park in Rutherford County and unsuccessfully tried to build the project in Wilson County. The landowners also filed suit in federal court for damages though the court did not award them any compensation.

May Town Center/Bells Bend – Davidson County

In 2008, a very large development known as May Town Center was proposed in the Bells Bend area of Davidson County. The Metro Planning Commission has a sophisticated and extensive planning process for the entire county, which is divided into subareas for neighborhood and design planning purposes. The plans are regularly updated, adopted, and implemented through land use policy and regulatory decisions. As a part of the regular plan update process, the Scottsboro/Bells Bend Detailed Design Plan was adopted in August 2008. The May Town Center was proposed as an amendment to that plan.

[29] Willard (April 6, 2009).

Bells Bend is located in the western portion of Davidson County, in a large bend of the Cumberland River. There is no bridge access to the West Nashville area; the only access to Bells Bend is a rural road that runs off State Highway 12 or Ashland City Highway. It is an area of rugged topography, limited road access, few urban services, and limited development. As Nashville has grown, this area has managed to maintain a rural landscape that is largely unchanged from its initial settlement. It has been stated that with its working farms, rolling pastures, and forested hills, Bells Bend is "probably the best preserved historic agricultural landscape remaining in the county."[30]

In order to protect that environment, the Scottsboro/Bells Bend community members came together along with the Land Trust of Tennessee and others to develop the Scottsboro/Bells Bend Detailed Design Plan. The plan, also known as the "Third Vision" provided a detailed analysis of all of the natural, scientific, and historic features of the area and a conservation plan to provide conservation strategies to preserve the natural and cultural beauty of the area for the future.[31] This was intended to be a proactive approach to planning for all aspects of the bend.

May Town Center was then proposed as an alternative development scheme that would provide for commercial and high density residential development while preserving a large amount of open space in Bells Bend. It was billed as a master-planned, mixed-use development incorporating the goals of a sustainable and livable approach to growth to be implemented by utilizing planning principles that include preservation of open space, responsible utilization of green space, compact development, mixed-use transportation alternatives, and green urban design techniques.[32]

The project as originally envisioned would encompass about 1,500 acres with about 550 acres being planned for the development and with the remaining land area set aside for permanent open space and a demonstration farm. One goal was to provide for a concentration of corporate campuses to attract corporate headquarters and to blend professional offices and commercial activities with high-

[30] Price and Coco (undated).
[31] Ibid.
[32] Fox et al. (2009).

density residential units and retail spaces. At full development of the completed project, the May Town Center would encompass approximately 8,000 residential units, 8 million square feet of office space, 600,000 square feet of retail space, and a 600 room hotel. The total cost of the development would have been over $4 billion as proposed with total property value being something over $6.5 billion by 2031.[33]

An alternative economic analysis based upon the local plan and the Third Vision presented a different view of the value of Bells Bend. This approach focused on the potential of the area for agriculture, tourism, and recreation. The alternative report noted that projected "over a fifteen-year time horizon, alternative uses of the Corridor that focus on tourism, recreational, and agricultural activity could yield between $191.6 million and $348.8 million in monetary value and employment in the range of 2185.5 and 3810.0 jobs."[34] It has also been noted in hearing testimony that costs to Metro for municipal services would be far less by following the Third Vision.

Hearings and public meetings on the project took place during 2008 and 2009. After a long and arduous hearing process with testimony both for and against the project, the concept was not approved by the Metropolitan (Metro) Planning Commission, and the request for rezoning was withdrawn by the developers. Metro Councilman Lonnell Matthews filed a bill before the Metro Council in February 2010 to bring the rezoning request up for a public hearing and a vote. At the scheduled meeting with both sides prepared to testify, the bill was withdrawn.

The arguments for and against the project are many. This is perhaps a classic case of a group of concerned citizens fighting to preserve their community's character. The battle is likely to continue.

NIMBYs

"NIMBY" is an acronym that stands for "not in my back yard." It is a term applied pejoratively to many land uses that are actually needed by society but which have significant impacts, both on

[33] Ibid.

[34] Tharp and Quillen (2009), 3.

and off-site and are, therefore, undesirable in many locations. Individuals and neighborhood associations often oppose land uses that might be located in close proximity to their home or neighborhood. Uses that fall into this category may include rock quarries, landfills, cell phone towers, power lines, water and sewer treatment plants, apartments, group housing arrangements for disabled persons, recovering drug addicts or prison parolees, and many others as well. Proposals for these types of uses almost always generate a public outcry and land use conflict. These conflicts occur in every governmental jurisdiction, and many result in lawsuits by either party challenging whatever the results may be at considerable costs to landowners, developers, citizens, and governments.

There is often community opposition to projects that are needed by society but that have significant negative impacts. Communities often want these improvements but "not in my backyard."

Rock quarries, for example, always generate much controversy. The impact of a rock quarry is considerable and includes

- Blasting
- Ground vibration
- Noise
- Heavy truck traffic
- Dust
- Adverse effects on water quality (both surface and ground)
- Reclamation of the affected site

An example of a NIMBY lawsuit is one that arose from a rezoning application for a rock quarry in a part of Lincoln County outside of the City of Fayetteville. The application was submitted to the Lincoln County Planning Commission in 2004 under the requirements in the county zoning resolution for rezoning of a specific piece of property to the Special Impact District. This type district governed various types of uses with potential adverse off-site impacts and provided conditions for their development. The zoning resolution contained specific criteria that had to be met before such a request could be granted.

During the review process, the county planning commission approved the request for rezoning. The county commission, however, has the final authority on matters of zoning and rejected the request.

The rejection was based on the failure of the proposed location to meet the site location criteria as specified in the resolution. A lawsuit was subsequently filed by the applicant alleging, among other issues, a regulatory taking of property. At trial, the Lincoln County Chancery Court found in favor of the county on all issues.[35] The entire process lasted three years and was an expensive process for all parties.

Rutherford County has also been in court over rock quarry issues. Dating back to a quarry established in 1984, the permit for which was approved by court order, lawsuits relating to operations at the same quarry are continuing. In 2009, the Rogers Group, current owners of the quarry, filed for rezoning to expand the site. As a result of disagreement over the terms of the zoning ordinance, the county has asked for a declaratory judgment from Chancery Court to decide if certain aspects of the ordinance apply.[36] Additionally, surrounding landowners have also filed suit against the company and the county attempting to halt operations at the quarry.[37]

Rock quarries are one type of land use that often provoke community opposition. Both Lincoln and Rutherford counties have seen lawsuits regarding rock quarries.

These type land uses have very real consequences, yet they must be managed through local land use controls. Courts have ruled that all jurisdictions that enforce a zoning ordinance must address all possible land uses in their regulations.[38] The conclusion reached here is that cities and counties should design the zoning ordinances with specific requirements and performance standards and have a standard of review that includes public notices and comment. While an open fact-based procedure may not prevent all conflicts, it will allow all parties to have a place at the table of the land use decision-making process.

An important body in local decision-making is the planning commission. Most of these types of controversies start at the level of the local planning commission, and many times they are settled at that point in the process. The planning commission's role is vital in arriving at an informed and rational decision. In addition to hearing requests for major land use changes and in making recommendations for zoning amendments, the planning

[35] HMA, Inc. v. Lincoln County Planning Commission, Lincoln County Chancery Court, No. 00012044, 2005.
[36] Willard (December 10, 2009).
[37] Broden (2010).
[38] Robertson County, Tennessee v. Browning Ferris, 799 S. W. 2d, 662.

commission is also responsible for developing and adopting a long-range plan and recommending the zoning ordinance to the legislative body. The conflict generated by many of these controversies can be tempered somewhat by a planning commission that follows the planning process and bases zoning decisions on the plan and process.

Developments of Regional Impact

In many land use controversies, the impact of a proposed development crosses jurisdictional boundaries and has regional implications. The development might be a major shopping center, a large residential subdivision, some public utility improvements, or major industry. The impact may be positive, such as providing widespread employment opportunities or negative if new growth is introduced to an area that is unprepared for it.

In 2004, the Tennessee Valley Authority (TVA) introduced a new concept in economic development in Tennessee known as the "megasite." A megasite is an area suitable for large-scale manufacturing and certified for development. The megastites were originally designed to attract automobile manufacturers. TVA quickly discovered that the criteria applicable to automotive assembly plants were also attractive to other types of industries.

A certified megasite is a tract of land that meets certain criteria:

- A site size of 1,000 acres or more
- Proximity to interstate highways, rail lines and suppliers
- A plentiful labor supply
- An acceptable infrastructure development plan[39]

Any development of this magnitude would have an enormous impact on a wide area. Depending upon the nature of land use in the area and whether the site is located in a rural or an urban area, the development of one or more major industries on a megasite can change the character of the area forever.

[39] Clapp (2007).

In recognition of the importance of megasites in the state's economic development activities, in 2007 the General Assembly enacted TCA § 64-6-101 *et seq*., known as the Tennessee Regional Megasite Authority Act. This Act allows the creation of a regional authority to access state programs administered by the Department of Economic and Community Development designed to help fund the required new infrastructure to serve a megasite such as roads and utilities. These programs may include the Community Development Block Grant Program, the Tennessee Jobs Skills Program, as well as road construction programs administered by the Department of Transportation. It also authorizes the authority to issue bonds, enter into payment-in-lieu-of-tax agreements, and receive grants and loans.

There are three certified megasites in Tennessee, two of which are currently being developed by new major industries. The locations are in Hamilton County, Montgomery County, and Haywood County. The Haywood County site is currently still undeveloped.

Enterprise South Industrial Park – Hamilton County

In July 2008, Volkswagen Group of America, Inc. announced that it would build an automotive production plant on 1,350 acres in the Enterprise South Industrial Park, an investment exceeding $1 billion in the local Chattanooga/Hamilton County economy. The plant will create approximately 2,000 jobs and will have an initial capacity of 150,000 vehicles with production set to begin in 2011.[40] The location of suppliers in the region could create another 9,500 jobs.[41]

The industrial park also includes a 2,800 acre buffer to the east and a 128 acre buffer to the west. When complete, it will consist of 3,000 developable acres while retaining both buffers.[42]

Work on the industrial park actually began in 2003, and an interchange on I-75 was completed in 2004. The land area was a part of the Volunteer Army Ammunition Plant built in the early

[40] Chattanooga Area Chamber of Commerce website. http://www.chattanoogachamber.com/VolkswagenTeam.asp.(2010).

[41] Ibid.

[42] Enterprise South Industrial Park website (2010). http://www.chattanoogachamber.com/enterprisesouthsite/

There are three certified megasites in Tennesse. Megasites in Hamilton and Montgomery Counties are currently being developed, and a megasite in Haywood County is for sale.

1940s to manufacture explosives for World War II until that plant closed in the late 1970s. The land and buildings were converted to civilian use during the 1990s, while the Federal government cleaned up hazardous portions of the area.

Due to the imminent regional impacts of the auto plant and plant suppliers, Chattanooga, Hamilton County, and the Chamber of Commerce began a regional initiative to address the impacts in 2009. The Chamber of Commerce organized a trip to Greenville, South Carolina, to glean best practices since a BMW automotive plant was established there in 1992. The process produced a report that represents the findings derived from the trip to Greenville.[43] Some of the recommendations in the report that relate to regional cooperation and planning are

- Develop a comprehensive regional development plan
- Move the community from organic growth toward planned and sustained growth
- Transcend issues of territory and egocentric behavior and move toward establishing a regional identity
- As a precursor to development of a regional plan, conduct a community impact study
- Establish a comprehensive regional infrastructure planning group

Additionally, group work sessions produced the following recommendations

- Develop a regional growth plan focused on land use and transportation
- Create a regional visioning process that builds on the challenge and opportunity of VW

The implementation of these recommendations is in an early stage at this time. There have been meetings between planners in the region, and a grant application has been filed with the EPA for funding assistance. Accompanying the grant application was a letter of support from Chattanooga Mayor Ron Littlefield and a

[43] Kennedy et al. (2008).

resolution supporting regional planning signed by city and county mayors in the region. The grant was not awarded, so the efforts for a regional development plan are pending while other funding sources are sought. A visioning process has also been explored.[44] The identification of the impact region is now being pursued.

Regional cooperation on this level is always controversial. Historically in Tennessee, planning across jurisdictional boundaries has been sporadic. The efforts described here that are being encouraged by the Chattanooga/Hamilton County leadership represent an important first step that can lead to an effective regional framework.

Commerce Park – Clarksville-Montgomery County, Tennessee

Preparing megasites for occupancy and gaining certification are multi-year processes requiring state and local due diligence and cooperation.

In 2006, Commerce Park in Clarksville-Montgomery County became the third certified megasite in Tennessee. Commerce Park is a 1,215 acre site located approximately 1.5 miles from Interstate 24. The land was formerly a family farm; it was sold to the Montgomery County Industrial Development Board in 2003. In December 2008, former Governor Phil Bredesen and former Economic and Community Development Commissioner Matt Kisber announced that Hemlock Semiconductor would locate a $1.2 to $1.5 billion polycrystalline silicon manufacturing operation at the Commerce Park megasite. The facility is expected to create 500 jobs with the potential of employing up to 900 people within five to seven years.[45] The new plant will occupy the entire megasite, and the company intends to acquire an additional 947 adjacent acres in the future. Construction began in 2009 and is scheduled to be completed in 2012.

Preparing the site for occupancy and getting it certified as a megasite took considerable effort from both Clarksville-Montgomery County and the state. In addition to a time consuming due diligence process, the megasite cost $28 million to develop, according to James Chavez, president and CEO of the Clarksville-

[44] Information supplied by the Chattanooga/Hamilton County Planning Department. February, 2010.

[45] TN.Gov webpage (2008). http://news.tennesseeanytime.org/node/749

Montgomery County Economic Development Council.[46] TVA senior vice president of Economic Development, John Bradley, stated that state and community leaders worked towards the day of sale for two and a half years. A suitable site is only one component in courting and attracting an industry to a megasite. This is expressed through a statement by Hemlock Semiconductor's president and CEO that "Tennessee's business climate coupled with a superb site in Clarksville, a strong, productive workforce, and an excellent location in proximity to our supply chain and customers made this the right decision."[47] This was echoed by the chairman, president, and CEO of Hemlock parent company Dow Corning, who said that the state of Tennessee and the Clarksville-Montgomery County community "showed true partnership" in bringing the project to fruition.[48]

Local leadership in securing the megasite designation was provided by the Economic Development Council. The Council is established as a not-for-profit corporation under state law and partners with three other entities in Montgomery County—the Chamber of Commerce, the Industrial Development Board and the Convention and Visitors Bureau to promote the county. There is also a working relationship between state, city, and county governments. The county issued $20 million in bonds for the purchase of the land. The city provided the matching funds for state infrastructure development that was required, and the state provided funding under state programs to attract industry. The development of the site included roadway improvements, a rail spur, and water and sewer infrastructure.

The area is governed by land use regulations of the Clarksville/Montgomery County Regional Planning Commission. The development as a megasite is in compliance with the locally adopted plan, the zoning ordinance, and the growth plan.[49]

Haywood County Site

In 2004, economic development officials from TVA engaged local government officials from Haywood County in discussions that led to the establishment of a large industrial park near I-40 in the

[46] Moonshower (2007).
[47] TN.Gov webpage (2008). http://news.tennesseeanytime.org/node/749
[48] Ibid.
[49] Clarksville/Montgomery County Planning Commission staff.

county. A five-year effort to achieve megasite certification was started and has been successful in getting the site established. The process involved county, state, and TVA officials as well as local economic development supporters and the property owners.

The site has the potential to attract a large industrial or business prospect bringing jobs to the economically struggling region. Like many regional projects though, there is not unanimous support for the project. Some opposition arose from Fayette County, which borders Haywood County. Fayette County passed a resolution asking that state funding be delayed until the county's questions were answered. The county was concerned about the financial effect of the megasite, the sovereignty of the Fayette County's growth plan, and zoning in relation to that of the state and Haywood County, tax abatements, and infrastructure.[50]

Haywood County's mayor, Franklin Smith, addressed some of these concerns saying that the county conducted two Phase 1 environmental studies of the site. Additionally, Mayor Smith said that the Tennessee Department of Environment and Conservation examined the site and said that the site can be developed while mitigating soil erosion and degradation of streams and wetlands. He also pledged that the project would not affect the Hatchie River National Wildlife Refuge.[51]

There was also opposition from a small, historic African-American community, called Fredonia, which is situated on the Haywood-Fayette county line. Several residents of Fredonia attended the State Building Commission meeting and told the Commission that they were concerned about the impact of the megasite. They also expressed frustration about being left out of the process. The leader of the Fredonia opposition alleged discrimination based on little minority participation in the decision-making process and a lack of offers on minority owned land. Haywood County Mayor Franklin Smith held a public meeting at the outset of the project and pledged that the community would not be exploited.[52] Additionally, former Tennessee Department of Economic and Community Development Commissioner Matt Kisber

[50] Fayette County Commission (2009).
[51] Smith (2009).
[52] Locker (2009).

and Haywood County Mayor Smith stated that all federal and state environmental and anti-discrimination laws were followed. The objections from this area were responsible for the Fayette County resolution questioning the project; however, Fayette County Mayor Rhea Taylor has noted that he thinks there are many people in the county who support the megasite development.[53]

The local leader of the opposition, Gary Bullwinkel of Fayette County, has voiced many reasons why the area should not be developed. He argues that it is another example of urban sprawl that will consume land now devoted to agriculture, land that has high quality soil. He notes that an existing 500 acre industrial park in Brownsville and abandoned brownfield industrial sites in Shelby County could be used to generate jobs for the area. He says the site also sits on the Memphis Sands Aquifier recharge area, which is the source of drinking water for Memphis and most of West Tennessee.[54]

Costs to state and local government are also involved in developing the site. While interstate access is very near, many improvements to the transportation infrastructure will be required. These include a new I-40 interchange and accompanying roadway improvements and a new rail spur. Other infrastructure needs include electrical service, water and sewer lines, and capacity for the new demands.

Land use planning in Haywood County is beginning to be addressed. There are no long-range, land-use plans in effect that cover the megasite area or the whole county, but initiatives are underway to develop such plans. Both the Town of Stanton and Haywood County have planning commissions. Work has been started on the plans according to the state Office of Local Planning Assistance. The county has adopted, and enforces, subdivision regulations and a zoning ordinance while Stanton has subdivision regulations but not zoning.[55] The county growth plan, as adopted in April 2000, does not address the megasite issue and shows the area in question to be a "rural area" under the requirements of Public Chapter 1101, the Tennessee act that requires countywide growth plans. The

[53] Ibid.
[54] Bullwinkel (2009).
[55] Tennessee Department of Economic and Community Development (2010).

county growth plan must be amended to reflect changes in land use policy in the megasite area.

In September 2009, the State Building Commission authorized $40 million for the acquisition of 3,836 acres in Haywood County for the West Tennessee megasite. The purchase of this I-40 adjacent land was the result of five years of work by state and local officials and represents the first time state funds have been used for megasite land acquisition. According to TVA, the certified megasite is 1,720 acres, with 3,000 additional acres under option.[56]

Forty million dollars in state funds were spent on land for a Haywood County megasite. This was the first time state funds were used for megasite land acquisition.

The designation has also resulted in the creation of a megasite authority that will oversee development of the site. The membership of the authority is comprised of the Haywood County mayor, the City of Brownsville mayor, the commissioners of the Departments of Economic and Community Development and Department of Transportation, the Lieutenant Governor, the Speaker of the House, and other appointees selected by the Board of Regents.[57]

The Haywood County megasite may be particularly attractive to certain industries, with the development of a 20-acre solar farm and educational center, which is planned for south of the site. The Solar Farm, funded with $30 million in federal funds, will be an educational and demonstration center and will showcase Tennessee-made solar products and components. Former Governor Bredesen stated that "Long-term, it strengthens Tennessee's reputation as a national clean-energy hub and emerging force in the U.S. solar industry."[58]

Land Fragmentation

Land fragmentation is a problematic issue in some areas of the state, often in areas that do not have local planning programs or land use controls in place. Land fragmentation refers to the practice of dividing contiguous spans of land into smaller pieces and, frequently, the land is used for different purposes. According

[56] Tennessee Valley Authority Economic Development website. http://www.tvaed.com/megasites.htm

[57] Smith (2009).

[58] TN.gov website (2008). http://news.tennesseeanytime.org/node/729

to the Southern Group of State Foresters, there are two terms involved in this concept with different meanings, parcelization and fragmentation.

Parcelization in the context of forestry generally refers to the division of ownerships that result in smaller holdings of the land which, in turn, results in constrained management options and adverse effects on forest health and wildlife habitat.[59] Parcelization is caused by subdividing large tracts into smaller forest tracts, ranchettes for residential use, and sale of large tracts to multiple buyers or a single buyer who further subdivides the land. Fragmentation is the isolation of forest tracts from one another. It is another result of parcelization but is also caused by road and utility construction through forested areas and also by management practices that have the same effect.[60]

Forest parcelization is the division of ownerships, resulting in smaller land holdings. Fragmentation is the isolation of forest tracks from one another.

The effects of fragmentation and parcelization have been documented. The trend indicates that forestlands are shrinking, and this trend has an overall negative environmental impact. It may impair the forests' ability to protect water quality and flow, healthy and diverse forest habitats, and to remain a viable economic resource that provides for recreation, timber, and forest products. Wildlife species have been known to experience population loss. The conclusion is that forest fragmentation and parcelization leads to unsustainable development.[61]

Much of the land formerly owned by large timber and paper companies has been sold to a new type of entity known as Timber Investment Management Organizations (TIMOs) that acquire and manage timber lands for large institutional investors. This has changed management from the focus and strategy of the forest industry, which generally held large contiguous tracts managed as woodlands for long periods of time that often extended to fifty or more years. TIMOs, in contrast, hold smaller tracts of land, and their focus is on an investment strategy for profit over a much shorter period of time such as 15 years or less. The long-term impact of this ownership transfer is still the subject of debate.[62]

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[59] Southern Group of State Foresters. 2007.

[60] Ibid.

[61] USDA Cooperative State Research Extension Service and the Natural Resources and Environmental Management Base Program (2002), 6-8.

[62] National Commission on Science for Sustainable Forestry (2005).

On the Cumberland Plateau, land fragmentation brought on by the recent sale of large tracts of industrial timber land has attracted much attention over the last four to five years. For many years, timber and paper companies have owned large, unbroken tracts of land on the Plateau for the purposes of growing and harvesting timber. In addition to the timber product, the land areas provided wildlife habitat, stream protection, outdoor recreation opportunities, and the visual value of uninterrupted open space. Due to changes in the economy and in the industry, companies started selling off the tracts of land on the open market.

According to Dr. Wayne Clatterbuck, professor of forestry, wildlife, and fisheries at the University of Tennessee, the companies started divesting themselves of the land for the following reasons:

- Companies were being double taxed, on their land and on the timber.
- The cost of owning and managing corporate land was higher than purchasing wood from private land.
- The companies needed to raise cash and provide dividends to stockholders in an economic downturn.
- The cost of doing business with land ownership and dealing with different interest groups was not worth it.

In 1999, 1.4 million acres of land was in corporate, wood-using industry ownership. This constituted about 10% of the land in Tennessee. Most of this land was sold over a four-year period.[63]

While the state bought some land areas to add to the state parks, wildlife management areas, and natural areas, most of these land areas were sold privately. The result is that developers and speculators have bought many such tracts and are dividing them into subdivision lots of five acre lots with little, if any, supporting public infrastructure. This type of development has also been called "rural sprawl." This type of land parcelization is unplanned and unregulated and often instigated by private developers and speculators. Problems that can evolve from this type of development include the lack of a basic water supply, unmet demand for police,

[63] Ibid.

fire and emergency services, unplanned and inadequate roads, and inadequate sewage disposal. At some point in time, the counties will have to address these issues.

A related but somewhat different problem exists along the edge of the publicly owned federal lands in the eastern mountains—particularly in Blount and Sevier Counties. Here, second homes and rental cabins are being developed on extremely steep mountainsides and on the tops of ridges and mountains. Problems include the destruction of the view shed of the mountains, removal of tree cover that protects the soils of the steep slopes, and continuing the process of fragmentation of formerly intact large tracts of land.

Farmland Loss

Tennessee is losing farmland at a high rate relative to other states. When development reaches farther and farther out from the core of communities, agricultural land is at risk of being converted to developed land. In Tennessee, the percentage of developed land has been increasing, while the percentage of rural land has been steadily decreasing. According to a report by American Farmland Trust

- Tennessee is losing prime farmland at an alarming rate and is ranked 8th nationwide for the amount of prime farmland lost from 1992 to 1997.
- American Farmland trust reports that over this time period, Tennessee lost 124,000 acres of prime farm land.
- This is a 42% increase in the rate of loss over the previous five years.[64]

Map 1 from American Farmland Trust illustrates the areas in Tennessee where farmland is threatened by development, pointing out areas with both high development and high-quality farmland.

In addition to concern about the loss of productive farmland, agricultural land typically has a positive fiscal impact for communities, which is not true for residential land, according to Cost of Community Services (COCS) studies prepared by American

[64] American Farmland Trust (Undated).

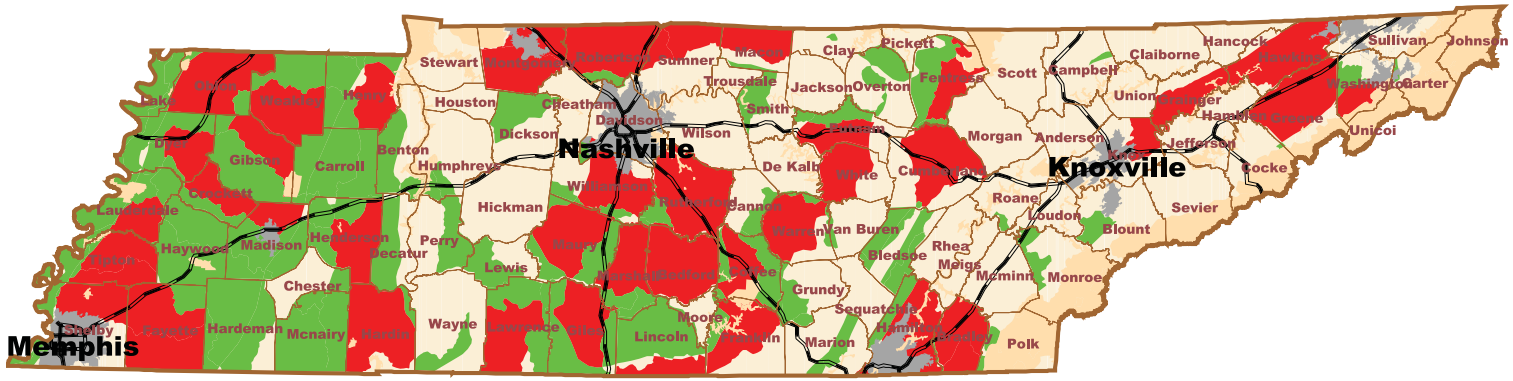
Map 1. Sprawling Development Threatens America's Best Farmland

American Farmland Trust
www.farmland.org

FARMING ON THE EDGE

Sprawling Development Threatens America's Best Farmland

Tennessee



Legend:

- High-Quality Farmland & High Development
- High-Quality Farmland & Low Development
- Federal & Indian Lands
- Urban Areas
- Other Lands

High-quality farmland areas have relatively large amounts of prime or unique farmland. High-development areas have relatively rapid loss of high-quality farmland to development. Other areas do not meet the two threshold tests. The relative measures compare sub-county areas against their respective statewide averages.

0 12 Miles

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Farmland Trust. COCS studies determine revenue collections and service costs for residential land, commercial/industrial land, and working/open land in a community. This information is used to develop ratios that compare $1 of tax revenue to $1 of service costs. If the revenue to expenditures ratio is greater than 1.0, it indicates that for every $1 of tax revenue generated, more than $1 is spent on services.

The results of the studies should not be generalized or used to predict the impact of a single development or to project future costs of services. Additionally, COCS studies do not take into account the effects of densities, locations, and mixes of land uses. That being said, COCS studies are useful tools for comparing the net fiscal impact of different land classifications.[65]

COCS studies nationwide have consistently shown residential land to have revenue-to-expenditure ratios higher than 1:1, meaning that for this land use category, service costs outweigh revenues. American Farmland Trust has documented 128 COCS studies nationwide completed from 1989 to 2007. In all but one of the 128 studies, commercial/industrial and working/open land categories have lower ratios than do residential land categories.[66]

While there are some tools for Tennessee farmland protection, there are no state or local policies that are specifically directed toward the protection of prime farmland.

In 2006, American Farmland Trust completed COCS studies for three counties in Tennessee—Blount, Robertson and Tipton counties (see

Table 7. Cost of Community Service Studies in Three Tennessee Counties Revenue-to-Expenditure Ratios

	Residential, including farm houses	Commercial/ Industrial	Working/Open Land
Blount County	1 : 1.23	1 : 0.25	1 : 0.41
Robertson County	1 : 1.13	1 : 0.22	1 : 0.26
Tipton County	1 : 1.07	1 : 0.32	1 : 0.57

Note: All studies completed by American Farmland Trust in 2006

Source: American Farmland Trust, Fact Sheet: Cost of Community Service Studies. August 2006.

[65] American Farmland Trust (2006).

[66] American Farmland Trust (2007).

Table 7). Each study found that residential development imposed more expenditures on counties than revenues making for a negative fiscal impact. Commercial/Industrial land and Working/Open lands had a positive fiscal impact in terms of expenditures to revenues.

Farmland Protection

The protection of farmland is vital for many reasons, not the least of which is the need to produce food. In addition to this, many people feel there is value in conserving rural lands. A major problem in achieving the protection and preservation of farmland is related to the economics of farming and the value of land. In many cases, most of a farm landowner's wealth is tied up in the land value. When growth pressures encroach upon the farmland, thereby increasing its market value, it is difficult for a farmer to turn down the offer of a large return for the land. Legally, a landowner has a right to sell the land and a developer can develop the land so long as local development regulations are met.

In Tennessee, there are several strategies for farmland preservation.

- **Purchase of the land by an owner who will hold the land in perpetuity**
  The purchase of land for these purposes would mostly likely have to be done by a land-holding entity such as a land trust. This option would be the most expensive.

- **Conservation Easement**
  Any landowner can go through a process of the donation of a conservation easement to a land trust for the purpose of preserving the land under the conditions of the easement. Such a donation gives the landowner a tax write-off for the value of the easement. The easement can also be purchased.

- **Transfer of Development Rights**
  It is a procedure authorized by state law that allows a landowner to "transfer" the right to develop the property to another location that is set up as a receiving site. This requires the cooperation of the local governments to set up sending and receiving areas and to determine the benefits that will accrue to receiving site. The sending site is then

preserved from development, and the landowner receives compensation for the rights.

- **Agricultural Zoning**

  Of these options, agricultural zoning, is the most controversial. In this case the local government (generally a county) establishes a zone or district where only a limited number of uses are allowed and a minimum lot size that prohibits small lot development. A minimum lot size of 10 to 20 acres is generally required to preserve the open land and farmland and reduce the fragmentation of large land holdings.

- **The Agricultural Forest and Open Space Land Act of 1976** Provides for special use valuation for eligible agricultural forests and open properties. This law, commonly know as the Greenbelt Law, provides incentives for owners to maintain large tracts of eligible land.

Though these strategies are available, there are no state or local policies that are specifically directed toward the protection of prime farmland for the future. In almost all cases when either state or local governments are faced with a conversion of land from farmland to developed land, development is the chosen option.

If you don't know where you are going, you may end up somewhere else.

–Casey Stengle

Planning and Land Use

Many of the issues discussed in previous sections can be better managed and negative impacts mitigated with good planning. This section provides a short history of planning in Tennessee and information about current growth plans.

Urban and regional planning as it is known today emerged over a century ago essentially as a response to urban problems that developed in large city environments. It has evolved from that beginning to encompass wide-ranging efforts by cities, counties, and states to develop long-range plans and a process for planning based upon rational analysis and practical judgment. While planning may be thought of as theoretical, formalized, or even political, it can be as simple as answering the following questions:

- Where are we now?
- Where are we going?
- Where do we want to go?
- How are we going to get there?

Planning Goals

Planning goals should be developed with the active participation of the community and should reflect community needs and desires. Over the years, most planning has focused on economic goals, such as creating jobs, but recently, goals have expanded to include other concerns, such as environmental sustainability.

Determining proper planning goals is complicated. Should successful land use be measured by its support of population growth? Business recruitment? Sustainability? These questions depend on the needs and desires of the community. A recent report supported by Regional Technology Strategies acknowledges that most leaders now recognize the interdependence of jobs and the environment. It advocates using a "triple bottom line" focus seeking

- Conventional economic outcomes that increase wealth in the aggregate
- Social cohesion that expands economic opportunity and access to wealth
- Environmental outcomes that produce more sustainable economies and healthier communities

Whatever goals are chosen, they should support improving the quality of life for Tennesseans.

Long-term Impacts and Unintended Consequences

Planning decisions are extremely important in the development of cities and counties. Generally, when a planning commission approves a new development or a project of some kind, it is at least a one hundred year decision. The right decision improves conditions for the future, while the wrong decision can be tragic

and costly. A good example of the long-term effect of a planning decision can be seen in the development and adoption of subdivision and zoning regulations. Fifty years ago, regulations were adopted that promoted and required the patterns of development we now call sprawl. The negative impacts of sprawl were not envisioned at that time.

It is always desirable for a planning commission or legislative body to seek independent analyses before approving a major development.

Another type of decision that planners and planning commissions are called upon to make is the approval of large new developments that have substantial impact upon the community. Many times those decisions are based upon the claims and assumptions of the developer, and many times those assumptions do not work out. It is always desirable for a planning commission or legislative body to seek independent analyses before approving a major development.

The zoning practice of "strip commercial zoning" along all major highways in a city was also once thought to be good for development and for the city. While commercial development did occur in such a fashion, the downside of that type development is well documented. Strip zoning resulted in traffic congestion caused by individual driveways on each lot, major sign clutter, little pedestrian access or movement, poor design and lot layout, and many other impacts. Here again, the development pattern will exist for a very long time. These examples demonstrate the need for planning to remain accountable to the public and retain the flexibility to change in the face of undesired consequences.

State Planning

There is no formal land use planning body that conducts comprehensive, long-range planning for the state. One entity studying the overall effects of growth, development, and conservation across the state could bring cohesion to locally decided land use development patterns. Additionally, long-term state planning could help prioritize state infrastructure investments to support the goals of the state.[67]

The State and Regional Planning Act adopted in 1935 created the Tennessee State Planning Commission, specified its powers, and

[67] Governor's Institute on Community Design (2009).

authorized regional planning. Also passed that year were four other acts that established the structure for local planning in Tennessee: County Zoning Act, Municipal Planning Act, Municipal Subdivision Act, and the Municipal Zoning Act.

The Tennessee State Planning Commission was charged with several responsibilities among which was the creation of a statewide plan. The statute stated "It shall be the function and duty of the Commission to prepare a general state plan for the physical, social and economic development of the state." Although the Commission never created such a plan, the staff of the Commission did address many issues of statewide importance through research reports and publications. The Commission studies addressed various land use issues including forest resources, water resources, parks, and recreation facilities. Interestingly, the study on parks and recreation led to the formation of the Tennessee State Parks System.[68]

In the past, Tennessee had a State Planning Commission and later, a State Planning Office. Legislation passed in 1995 eliminated the State Planning Office.

Over time, a number of governmental reorganizations affected the state planning function. The State Planning Commission was disbanded and became the State Planning Office. This office was moved from department to department until it was eliminated completely in 1995. Further, the legislative authority for state planning was repealed. At that time any effort at formal statewide coordinated planning ceased to exist.

The only surviving entity of the previous organizations is the Tennessee Local Planning Assistance Office, which provides professional advice and technical assistance to local governments across the state through individual planning assistance contracts. The Local Government Planning Advisory Committee (LGPAC) was created to maintain a citizen advisory function. The Local Planning Assistance Office is currently housed in the Department of Economic and Community Development as is the LGPAC.

There is no overall coordinated land use plan for the many and varied state departments and functions. Many Tennessee departments are required to participate in planning, and there is a planning office within the Office of the Governor; however, this office deals primarily with strategic policy planning. Additionally,

[68] Tennessee Department of Economic and Community Development (2003).

Former Governor Bredesen created the Jobs Cabinet in 2003 to encourage the Departments of Agriculture, Education, Labor, Economic Development, and others to work together and improve economic development coordination.

Still, there is no overall coordinated plan for the many and various state departments and functions, and there is no formal coordination to assure that individual departmental plans do not work at cross-purposes. The Comptroller's Office noted the same problem in a report in 1991(15):

> "Most planning at the state level occurs within the various departments. Departmental planning is vital, but there is not enough coordination across departmental lines and with local governments. As a result, state officials may be unaware of impacts that their actions have on other departments and ways that the state's interest could be better served through improved cooperation."

There are many advantages of state level planning including having one entity to study the overall effects of growth, development, and conservation across the state. State level planning can bring cohesion to local land use development plans, and help prioritize infrastructure investments.

The federal government, acknowledging a similar lack of coordination, has recently started to emphasize multi-department planning—forcing departments to think outside of their own "silos"—with a requirement that the Department of Transportation and the Department of Housing and Urban Development collaborate in their planning processes. The Environmental Protection Agency has recently joined this collaborative effort.

The intent of collaboration between these federal agencies is to integrate housing, transportation, water infrastructure, and land use planning and investment in order to help communities create a vision for sustainable growth.[69] Such a shared vision would be beneficial to Tennessee, particularly in this time of limited resources.

As Tennessee's population continues to increase, the need for coordination between land use and transportation planning becomes even more imperative. Concerns about economic viability, traffic congestion, and air pollution represent just a few of the many reasons that Tennessee must work to better coordinate planning

[69] Environmental Protection Agency (2010).

activities. In an effort to find solutions to current challenges and better plan for the future, Tennessee applied for participation in The National Governors Association Center for Best Practices (NGA Center), Shaping a New Approach to Transportation and Land Use Planning Policy Academy. Tennessee was one of five states selected for participation in the Policy Academy.

Over a 10-month period, the NGA Policy Academy will provide technical assistance and guidance to help Tennessee create a Corridor Management Agreement in one of the state's urban areas. This Agreement will serve as a model for subsequent Agreements in other transportation corridors. The ultimate goal of the Policy Academy is to create a system that better interfaces local land use planning with local and state transportation planning. The Policy Academy will also help Tennessee

- Establish new governance models, such as a cabinet-level office or a new regulatory body, that will work to align infrastructure development and state goals
- Create a new planning framework that addresses the state's unique needs and concerns for mobility, accessibility, emissions, financial stability, demographics, climate and topography
- Adapt new funding and financing approaches, that better reflect user costs and benefits, manage demand and help pay for transportation system management and maintenance
- Develop enhanced goals and metrics that best reflect the state's transportation goals[70]

Officials from the Tennessee Departments of Transportation, Environment and Conservation, Economic and Community Development, Agriculture, and Tourist Development, along with other state and local leaders, will comprise Tennessee's Policy Academy team. TACIR will also be a member of the policy team.[71]

Tennessee was recently chosen to work with the National Governors Association on creating a system to better interface local land use planning and state and local transportation planning.

[70] National Governors Association (2010).

[71] Application to the National Governor's Association Policy Academy on Shaping a New Approach to Transportation and Land Use Planning, February 8, 2010.

Suggestions

- **The state should appoint a "land policy study committee" to address the state's interests in land use issues.** Ideally, this committee would be comprised of representatives of relevant state agencies—such as Transportation, Environment and Conservation, and Economic and Community Development—the General Assembly, representatives from local governments, the business community, and non-government organizations. Tennessee's participation in the NGA Policy Academy could be a first step toward the creation of this committee. It is clear that Tennessee faces many land use issues related to sprawl, land fragmentation, and the loss of farmland. It is also clear that much more information is needed on the costs and benefits associated with these issues and various approaches to address them.
- **The state should develop a statewide planning vision to coordinate plans among departments and government jurisdictions, ensure that they are not working at cross-purposes, and ensure that they respect local autonomy.** The planning office could be either a new organization, or could be created within the structure of an existing organization.
- **State leaders and planners should engage communities in determining state and local land use goals. These goals will depend on how the community wants to measure success.**

Local Planning

Local governments in Tennessee have a long history of local planning. Brought about through federal and state programs initiated during the late 1920s and early 1930s, largely in response to the Great Depression, most states adopted local planning legislation in that period. The first planning commissions in the state were created in the 1920s by private act. As noted in the previous section, Tennessee's planning enabling legislation was passed by the General Assembly in 1935 with the influence of the TVA and the former Tennessee Valley Commission. Through a New Deal program, the National Resources Planning Board provided funding for planning functions. This brought about the creation of the Tennessee State

Planning Commission in 1935. The only requirement to obtain the funding was that the state had to adopt enabling legislation.

Local planning in Tennessee expanded into many communities during the 1940s and 1950s, primarily through the efforts of the Tennessee State Planning Commission and TVA. Planning was further spurred on in the 1960s by the federal government through various grant and loan programs that required recipients to meet certain requirements for planning. The Housing Act of 1954, through its landmark Section 701 planning grant program, provided federal money to fund the State Planning Commission and its local planning assistance program to prepare general or comprehensive plans for local governments. These "701" plans introduced many cities and counties to the planning process. While those programs have been reduced significantly or eliminated, the foundation established supports the continuing efforts in planning today. Today many counties and most cities over 1,000 in population, as well as some under that size, have a local planning commission. Most cities with a population of over 10,000 have their own in-house planning staffs. Many high growth counties also have a professional staff in place.

Many counties and most cities over 1,000 in population, as well as some under that size, have a local planning commission. Particularly in the areas of the state where rapid growth has occurred over the last 25 years, most cities with a population of over 10,000 have their own in-house planning staffs.

Status of General Planning Under Title 13, Tennessee Code Annotated

The preparation of a comprehensive land use plan is optional for local governments in Tennessee. Local governments are required only to have a growth plan and a solid waste plan. The state planning statutes are permissive, that is, local governments have the authority to engage in a variety of planning activities. There is no mandate from the state that they are required to have a plan for the future development of the area.

The power to engage in comprehensive planning and to adopt land use controls is authorized by the planning and zoning enabling statutes contained in TCA Title 13. The legislation has not been amended in a significant way since 1935. Municipalities and counties are given the authority to establish planning commissions, prepare and adopt a general plan for future development, and adopt and enforce subdivision regulations and a zoning ordinance.

A general or comprehensive plan is not required for local governments to adopt and enforce subdivision regulations and zoning ordinances. Furthermore, there is no requirement for consistency between the zoning ordinance and a comprehensive plan, if it exists. The legislative body is also not required to adhere to the plan in the consideration of zoning amendments in the original statute. An amendment to Title 13 in 2008 gave local governments the authority for a municipal or county planning commission to recommend the adoption of the plan by the legislative body. If that procedure is followed and the plan is adopted by the legislative body, the plan becomes a legal document of the legislative body, and the law then requires that all land use decisions must be consistent with the adopted plan.

The Tennessee Three-Star Program administered by the Department of Economic and Community Development contains planning elements. This program was established to assist urban and rural areas in accomplishing their development goals and, in so doing, recognizes the relationship between a positive business environment and an effective planning program. It is used as a basis for communities to qualify for grants and loans. As noted by the department

> "A successful community planning program facilitates community growth and ensures that communities become safer, stronger, wealthier and more sustainable. Planning can move forward the community's goals and protect community facilities, existing and planned investments and the natural environment."[72]

The program has three benchmarks that local governments can qualify to achieve with each being a higher rank and with each requiring a more significant and cumulative planning effort.

- Benchmark 1 requires the community to inventory land use and community facilities.
- Benchmark 2 requires the community to go a step further and appoint a planning commission to develop a land use and transportation plan.

[72] Tennessee Department of Economic and Community Development (2010).

- Benchmark 3 is the highest level and requires the community to adopt building codes (cities) and subdivision regulations (cities and counties).[73]

Municipal and County Planning Activities

Most of the local governments in Tennessee have some measure of a planning program, but it is unknown how many engage in long-term planning and how many actually base decisions on the adopted plan. The Local Planning Office of the Department of Economic and Community Development maintains up-to-date records of certain types of planning activities by cities and counties. The types of activities in which the counties and municipalities engage include

- The appointment of a planning commission
- The enforcement of subdivision regulations and zoning ordinances
- The preparation and adoption of a long-range general plan

Tables 8 and 9 show the number of active municipal and county planning commissions. It also shows which have adopted zoning ordinances and/or subdivision regulations.

While the information in the tables indicates that most of the local governments in the state have some measure of a planning program, it does not show how many actually engage in long-term planning and base decision-making on the adopted plan. The number of local government entities that have an adopted plan and keep it

Table 8. County Planning (2010)

Activity	Yes		No	
	Number	Percent	Number	Percent
Planning Commission	77	81.1	18	18.9
Subdivision Regulations	70	73.7	25	26.3
Zoning Ordinance	48	50.5	47	49.5

[73] Ibid.

Table 9. Municipal Planning (2010)				
Activity	Yes		No	
	Number	Percent	Number	Percent
Planning Commission	283	81.6	64	18.4
Subdivision Regulations	268	77.2	79	22.8
Zoning Ordinance	273	78.7	71	20.5

up-to-date is not available at this time. Anecdotal information indicates that a long-term planning process is utilized in the areas of the state that are experiencing the highest rates of growth but not necessarily in areas experiencing slower or no growth.

PC 1101 wrote new rules for the incorporation of new municipalities and for annexation by existing ones, including a tax relief provision for counties that lose revenue-producing properties to annexation. The Act also required all local governments in the state to participate in a process to prepare and adopt a comprehensive growth plan for the county.

Status of Growth Planning Under Public Chapter 1101

In 1998, Public Chapter 1101 (PC 1101) was passed in an effort to have all governments in a county cooperate in a local planning process and to address growth and annexation issues. The law, as passed, addressed annexation, incorporation, and growth management.

PC 1101 wrote new rules for annexation, including a tax relief provision for counties that lose revenue-producing properties to annexation. The Act also required local governments (except for metro counties) in the state to participate in a process to prepare and adopt a comprehensive growth plan for the county.[74]

PC 1101 does not specify precisely what constitutes a growth plan, and the language of the Act makes simply agreeing on a map of boundaries permissible. The Act does not require the growth plan to include issues such as land use, transportation, public infrastructure, housing, and economic development. PC 1101 was an effort to get all local governments in a county to cooperate in a local planning process to address growth and annexation issues, but it was not a mandatory act for requiring a comprehensive plan as envisioned under Title 13. Under the Act, a county coordinating committee was charged with the preparation

[74] Counties with a Metropolitan form of government were exempted, thus the counties of Davidson, Trousdale and Moore are exempt.

of the county growth plans. The law does not specify exactly just what constitutes a growth plan. TCA 6-58-107 states:

> "The growth plan shall include, at a minimum, documents describing and depicting municipal corporate limits, as well as urban growth boundaries, planned growth areas, if any, and rural areas, if any…".

A map approved by all governmental entities in a county can satisfy these criteria; however, just having a map does not meet the planning requirements specified in TCA § 6-58-106 as discussed below. The section also states

> "A growth plan **may** address land use, transportation, public infrastructure, housing, and economic development." (Emphasis added.)

Those items would normally be incorporated into an area's comprehensive plan, but by using the term "may", those elements are not legally required in the growth plan.

The Planning Mandate of PC 1101

TCA § 6-58-106 establishes certain requirements for urban growth boundaries. There are five criteria:

- Identification of territory reasonably compact but large enough to accommodate anticipated growth for 20 years
- Territory that is contiguous to the existing boundaries
- Territory that is likely to be developed over the next 20 years
- Territory in which the municipality is better able to provide urban services
- Boundaries that can potentially have great impact both within and outside a municipality

The Act states in TCA § 6-58-106(a)(1)(E) that the urban growth boundaries shall:

> Reflect the municipality's duty to facilitate full development of resources within the current boundaries of the municipality and to manage and control urban expansion outside of such current boundaries, taking into account the impact to agricultural lands, forests, recreational areas and wildlife management areas.

This indicates that municipalities should try to develop areas within their municipal limits before guiding development beyond the limits. This could affect the justification for a municipality to annex additional territory if the existing area inside the city is relatively undeveloped. Additionally, the language suggests that a municipality has a duty to manage and control development within the urban growth boundary, the territory that is outside of the corporate boundary. This cannot be accomplished unless the city has a planning region and enforces land use controls in that region.

This section of the Act also contains a number of requirements for reports and studies. These are found in TCA § 6-58-106(a)(2), and they constitute the foundation for planning before an urban growth boundary can be established. The requirements include reports on population growth, costs of providing services, a future land needs analysis and a report on the effects of growth on agricultural and open land.

All of these items are a part of a general or comprehensive plan as authorized in Title 13 and confirm the link between PC 1101 and typical urban planning. In many cases these reports and plans were not done and just a map was approved by the Local Government Planning Advisory Committee (LGPAC) as required if all entities agreed to the map. LGPAC is the entity charged with the responsibility of reviewing and approving growth plans. A logical and rational approach to establishing an urban growth boundary is completely subverted without going through the planning process.

Virtually the same process and studies are required of the counties in the establishment of planned growth areas. The clear intent in the language contained in TCA § 6-58-106(b) is that the counties have a duty to manage natural resources and urban growth and minimize the impact on undeveloped areas. It is also clear that

the establishment of planned growth areas and their size is to be related to the land use needs and the land available for it inside of municipalities and their urban growth boundaries. For example, if all of the future growth expected in a county can be accommodated within the bounds of existing municipalities and their growth boundaries, and there is no rationale for development in other parts of the county, no planned growth area in the county could be justified. In the initial preparation of growth plans there were several counties that placed the entire county outside of municipal areas into a planned growth area. Obviously, they did not go through the required process.

Along with planned growth areas, the counties are also responsible for the identification of rural areas, and again criteria are included in the Act. Basically, a rural area is territory that is to be preserved as agricultural lands, forests, recreational areas, or wildlife management areas or for uses other than high-density commercial, industrial, or residential development.

The conclusion that can be reached is that cities and counties were required to prepare growth plans and to base those plans on information and reports unique to each community. The opportunity was present for all entities to develop a quality plan to guide growth and development into the future. Some counties did and some did not.

The quality and content of county growth plans varies widely across the state.

While PC 1101 does mandate a growth planning process and contains planning requirements to be used as a basis for developing the growth boundaries, it is not well related to the comprehensive planning process and land use controls authorized in Title 13. The Act does have a consistency requirement for land use decisions, meaning that any land use decision involving a zoning amendment or approval of subdivision regulations would have to be consistent with the growth plan. The caveat here is that unless a jurisdiction incorporated a comprehensive or land use plan into its growth plan, the consistency requirement is vague. Cities and counties had the option of preparing a detailed plan, a loosely defined plan or a plan that was just a map. Consequently, the quality and content of the growth plans varies widely across the state.

The failure to connect the growth plan with comprehensive planning was pointed out in 2003 in a report by the Comptroller of

the Treasury on transportation and land use planning. That report noted that PC 1101 requires no comprehensive planning and that municipalities may annex territory outside of their urban growth boundary thereby limiting the law's effectiveness in controlling sprawl.[75]

It has been 12 years since the passage of PC 1101 in 1998, and almost nine years since the July 1, 2001 deadline for local governments to have their growth plans approved. The statute established a general framework within which local governments in each county could work cooperatively in developing 20-year growth plans intended to guide growth and development patterns over that time frame. This initial phase of implementation of the statute can be characterized as highly successful. All counties and the cities therein required to have a growth plan in place have now produced one, and TACIR has documented the stages of implementation on a regular basis in previous reports. The Act specified that a growth plan had to remain in effect for three years before any amendments could be considered. After that date, any growth plan could be amended and, to date, there have been 33 amended growth plans developed and approved by LGPAC.

Suggestions

TACIR staff has two suggestions to encourage more effective implementation of the comprehensive planning intent of Public Chapter 1101:

- **The General Assembly should review the growth plan requirements of Public Chapter 1101 in the near future for possible improvements.**
- **The state should consider providing financial incentives in the form of state grants and loans to those cities and counties who prepare, adopt and enforce a comprehensive plan that meets content standards of generally accepted planning practice.**

[75] Spradley (2003).

Regional Planning

Regions are becoming more important in Tennessee, and regional planning strategies could enhance individual communities and regions. Although there are many examples of regional collaboration and planning in Tennessee in areas such as transportation and economic development, countywide planning efforts have generally served as regional land use planning programs. The statutes authorize any county to appoint a planning commission, and it is organized under the regional planning regulations. Municipalities may request a planning region within their urban growth boundary and regional planning status from the LGPAC. The LGPAC is also charged with the responsibility of reviewing and approving growth plans. If so designated, regional planning regulations apply within the designated planning region although the municipal statutes still apply within the corporate boundary.

No multi-county planning regions currently exist under Title 13 authority, though there are multi-county Metropolitan and Rural Planning Organizations for regional transportation planning and Economic Development Districts for economic coordination.

For many years there were very few county planning commissions in existence, and those that did exist were not interested in other regional issues. Competition with other counties, particularly for economic development, was the rule rather than cooperation and shared interests. Additionally, the members of the planning commission had to be appointed by the Commissioner of the Department of Economic and Community Development. This appointment authority has just been changed by an act of the General Assembly in 2010.

There are now many county planning commissions, but it is still difficult for one county to share planning powers with another county. Counties can more easily cooperate with other counties when there is a particular regional interest to be addressed across county lines. For example, the Metropolitan Planning Organizations (MPOs) and the Four Lakes Regional Industrial Development Authority that involves five counties (Wilson, Sumner, Smith, Trousdale and Macon), cooperate across county lines, but their planning commissions are each still focused on their own counties.

The regional planning statutes also authorize the Department of Economic and Community Development (ECD) to create multi-county planning regions, but none currently exist under Title 13 authority. TCA § 13-3-101(a) says that

> "Any such planning region may, in accordance with boundary definition made by the department, be composed of the territory of a single county or of two (2) or more contiguous whole counties or of a part of a county or of contiguous parts of two (2) or more counties..."

The section also provides for the appointment of planning commission members for these multi-county regions.

While no multi-county planning agencies exist under Title 13 authority, some multi-county planning regions are established as Metropolitan Planning Organizations (MPO). These MPO regions were created by the Federal Highway Administration in the 1960s to perform transportation planning. In Tennessee, MPOs originally covered only the four largest counties. Due to population growth, the MPOs were expanded in the 1980s to include urbanized areas of adjoining counties. As a result of new air quality requirements, some were expanded again in the early 1990s. For example, the Nashville MPO was expanded to include Sumner, Wilson, Rutherford, and Williamson Counties to form a five-county transportation planning region. The Tennessee Department of Transportation (TDOT) recently created Rural Planning Organizations (RPOs), the purpose of which is to involve local officials in rural areas in local and regional multi-modal transportation planning. There are 12 RPOs in Tennessee, each consisting of multiple counties and cities.

Other multi-county regional planning agencies include the nine development districts, the original purpose of which was to coordinate economic development activities. Development districts were established by the Tennessee General Assembly in 1965, codified at TCA Title 13, Chapter 14. They are granted authority to prepare long-range plans for land use and economic development. They have no implementation or enforcement authority. Those powers remain the province of local government.

One of the development districts, the Greater Nashville Regional Council (GNRC), was given some planning authority by legislation in 1988 when it was created from the merger of the Mid-Cumberland Council of Governments and the Mid-Cumberland Development District. It is codified at TCA Title 64, Chapter 7. Under that

section, the GNRC was given authority to review developments of regional impact. Generally, the regional council exercises its planning authority by working with and assisting the local planning agencies located within the region.

There are many other examples of regional approaches and agencies with a regional focus in Tennessee, from simple shared service agreements between local governments for fire, police, and other services to the state's workforce investment areas. TCA § 12-9-104 lays out a framework for interlocal agreements between local governments. Tennessee's three metropolitan governments—Nashville-Davidson County, Lynchburg-Moore County, and Hartsville-Trousdale County—are classic examples of applied regionalism where municipal and county functions are combined in an effort toward more efficient government. Nashville-Davidson County's adoption of metropolitan government in the 1960s is often cited as a reason for the community's subsequent growth and success, allowing it to minimize some of the urban versus suburban conflicts of other large communities.

Effective regional collaboration requires a strong public-private partnership, in addition to partnerships between governments.

It is widely acknowledged that effective regional collaboration requires a strong public-private partnership in addition to partnerships between governments. There are many examples of private and public-private regional efforts in Tennessee, such as the area chambers of commerce located in the state's larger metropolitan areas and several not-for-profit regional initiatives, including Cumberland Region Tomorrow in the Nashville region, and the Coalition for Livable Communities in the Memphis region. The Knoxville region benefited from a five-year collaboration initiative (2000-2005) known as Nine Counties, One Vision.

Regions and regional land use planning is an area requiring much further study—indeed, they are the subjects of a number of ongoing TACIR research projects. Areas of study need to include the potential benefits from increased land use planning at a regional level, potential approaches to such planning, and the role of the state in increasing collaboration among local governments. Barnes and Ledebur (1995) recommended four actions that states could take to better enable regional collaboration among its local governments:

- State legislatures can identify and remove impediments to regional action in state law as well as enact authorization and encouragement for local governments to collaborate in regional governance.
- Governors can identify and remove agency impediments to better collaboration as well as find ways to better encourage collaboration.
- State governments can identify and remove or reduce tax and revenue policies that cause inter-local competition for economic development, and thus inhibit inter-local collaboration.
- States should encourage and enable regional collaboration, not mandate it.[76]

Regional planning does not have to be seen as adding an intrusive new level of government between the state and its local governments.

Local government participation is an important part of each action above. These actions could serve as the basis for a regional land use vision for the state. Such a vision should take into account Tennessee's unique geography, demographics, and history. Particular focus must be given to the rural portions of the state; Tennessee cannot neglect its rural areas, but in this time of restrained resources, must seek the correct balance between return on investment and maintaining a good quality of life. The state should analyze its economic development and land use strategies to determine if there is room for improvement in the current balances. Potential goals may include maintaining a certain quality of life in areas that have seen stagnant or negative growth, conserving natural amenities, and attracting new development. For example, Tennessee for a number of years has had a program to build a four-lane highway from each county seat to an interstate highway to encourage new development in rural areas. Evidence shows that a four-lane highway by itself is not enough to create prosperity in those counties. Prosperous counties are not solely distinguished from other counties by highway access. In the rural areas across the country that are doing better than the country as a whole, certain characteristics are present. These include: a more educated population, more diverse economies, lower school drop-out rates and more equal income distribution.[77] The conclusion is

[76] Barnes and Ledebur (1995).
[77] Isserman et al. (2009).

that other factors must also be present in order to generate new economic activities. A regional vision for Tennessee would likely have to reflect the state's small government heritage. Regional planning does not have to be seen as adding an intrusive new level of government between the state and its local governments, but rather as a way to increase local autonomy and flexibility; it can remove the burden of one-size fits all approaches to education, job growth, public safety, etc.

Suggestions

TACIR staff suggests that Tennessee may wish to explore the possibility of developing a regional vision toward land use planning for the state. This exploration process should

- Consider the potential benefits from increased land use planning at a regional level, potential approaches to such planning, and the role of the state in increasing collaboration among local governments
- Identify potential impediments to enhanced regional collaboration found in state law, administrative arrangements, and tax and revenue practices
- Be tailored to respect Tennessee's mix of urban and rural communities, the state's small government heritage, and the autonomy of local governments

Conclusion

This report has outlined current land use and planning practices, traced the history of these practices, and discussed the resulting land use patterns. It is evident from legislative actions, as well as the number of local governments engaging in different aspects of planning, that Tennessee values land use planning. At issue, though, is that not all counties and cities have a planning program. Many local governments have adopted land use controls but do not have an adopted plan. And there is an inadequate focus on regional planning in Tennessee.

Central themes embodied in this report include the notion that long-range planning at all levels of government is a positive action, that entities should engage in such planning, and that good results can be achieved from comprehensive, collaborative planning; however, planning must remain accountable to the public and must retain flexibility in the face of shifting socio-economic conditions. Listed below are recommendations intended to strengthen and encourage planning initiatives.

Suggestions

- **The state may wish to appoint a "land policy study committee" to address the state's interests in land use issues.** Ideally, this committee would be comprised of representatives of relevant state agencies, the General Assembly, representatives from local governments, the business community, and non-government organizations. Tennessee's participation in the NGA Policy Academy could be a first step toward the creation of this committee.
- **The state may wish to develop a statewide planning vision to coordinate plans among departments and government jurisdictions, ensure that they are not working at cross-purposes, and ensure that they respect local autonomy.** The planning office could be either a new organization, or could be created within the structure of an existing organization.

- **State leaders and planners may wish to engage communities in determining state and local land use goals.** These goals will depend on how the community wants to measure success.
- **The General Assembly may wish to review the growth plan requirements of Public Chapter 1101 in the near future for possible improvements.**
- **The state may wish to consider providing financial incentives in the form of state grants and loans to those cities and counties who prepare, adopt, and enforce a comprehensive plan that meets content standards of generally accepted planning practices.**
- **Tennessee may wish to explore the possibility of developing a regional vision toward land use planning for the state.** This exploration process should consider the potential benefits from increased land use planning at a regional level, potential approaches to such planning, and the role of the state in increasing collaboration among local governments. The process should also identify potential impediments to enhanced regional collaboration found in state law, administrative arrangements, and tax and revenue practices. It should be tailored to respect Tennessee's mix of urban and rural communities, the state's small government heritage, and the autonomy of local governments.

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