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I am submitting herewith a thesis written by Richmond Corley Davis II entitled "An Assessment of the Tennessee 'Agricultural, Forest, and Open Space Land Act' in Knox County." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Geography.



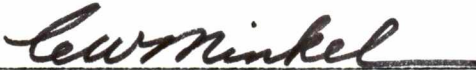
Charles S. Aiken, Major Professor

We have read this thesis
and recommend its acceptance:





Accepted for the Council:



Vice Provost
and Dean of The Graduate School

AN ASSESSMENT OF THE TENNESSEE
AGRICULTURAL, FOREST, AND OPEN SPACE LAND ACT
IN KNOX COUNTY

A Thesis
Presented for the
Master of Science
Degree
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Richmond Corley Davis II

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ABSTRACT

The loss of open space and agricultural land due to urban encroachment is of increasing regional and national concern. In 1976, Tennessee passed a use-value taxation measure to help preserve open space. The Agricultural, Forest, and Open Space Land Act was designed to prevent premature development of open space by having land assessed at its value for agriculture rather than at market value. This study assesses whether the goals of the law are being met in Knox County, a county where open space and farmland are being threatened by urban encroachment.

Four sample areas were selected in Knox County from which to gather data on property parcel enrollment, land use of parcels, and tax savings to property owners. Only 45 percent of the eligible parcels were enrolled as of March, 1984. However, 56 percent of the eligible acreage was enrolled and almost 73 percent of the enrolled parcels was in agricultural uses. Although the program is attracting agricultural parcels, nowhere near the maximum number are enrolled because of lack of knowledge about the law.

The Agricultural, Forest, and Open Space Land Act is only partially fulfilling its goals. Although much of the land enrolled is agricultural, there is no guarantee that

property parcels will remain under the law for any extended period of time. Some changes must be made in the law if the objectives are to be realized.

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CHAPTER I

INTRODUCTION

A. BACKGROUND

Of increasing national concern is the encroachment of cities upon rural areas and the effects of urban sprawl on land use changes. Among the perceived problems associated with urban encroachment are 1) the loss of farmland, 2) the destruction of open space, and 3) the economic impact of uncontrolled urban sprawl on municipal services.

The loss of agricultural land and open space due to urban encroachment is a problem that has been studied by geographers, planners, and agricultural economists. Hart notes that the urbanized area of the United States is increasing at a rate of more than one million acres a year. However, he does not believe that urban encroachment will remove significant acreages of land from agricultural production within the foreseeable future. Most of the urban sprawl is not in the traditional agricultural regions of the United States, but near major metropolitan areas.¹ Vining, Plaut, and Bieri argue, however, that prime farmland is concentrated around the large population

¹John Fraser Hart, "Urban Encroachment on Rural Areas," The Geographical Review 66 (January, 1976), 15.

centers in the Northeast and Pacific coast regions.² Metropolitan counties and counties adjacent to metropolitan areas contain approximately 43 percent of the land area of the United States but have almost 52 percent of the land in Capability Classes I and II. Land Capability Classes I and II are level, well-drained, naturally fertile, and rain-fed or irrigated soils that are ideally suitable for agriculture and human settlement.

Zeimetz found that land use inventories for urbanized counties did not change dramatically from 1950 to 1970 and that more new cropland was developed than was lost to urban development.³ Likewise, Platt has recently discovered that at the national level "no appreciable loss of cropland or prime farmland apparently occurred between 1977-1982."⁴ However, Platt's data base, the 1982 National Resources Inventory, masks regional variations. Conversion of cropland to nonagricultural uses in certain

²Daniel R. Vining, Jr., Thomas Plaut, and Kenneth Bieri, "Urban Encroachment on Prime Agricultural Land in the United States," International Regional Science Review 2 (Winter, 1977), 148.

³U. S., Department of Agriculture, Economic Research Service, Dynamics of Land Use in Fast Growth Areas, by Kathryn A. Zeimet, Elizabeth Dillon, Ernest E. Hardy, and Robert C. Otte, Agricultural Economic Report No. 325 (Washington, D.C.: Government Printing Office, 1976), 24.

⁴Rutherford H. Platt, "The Farmland Conversion Debate: NALS and Beyond," Professional Geographer 37, 4 (November, 1985), 440.

regions is offset by the creation of new cropland by clearing forests, draining wetlands and bringing land under irrigation. Despite the seemingly equal conversion rates, the average quality of agricultural land is decreasing, and various levels of government are justified in establishing programs to protect farmland from urban takeover.

Urban encroachment affects rural land in ways other than by direct removal. Indirectly, urban sprawl causes the idling of farmland. Also, urbanization and population decentralization bring a non-farm population to rural areas and generate new problems with which the farmer must contend. In the rural-urban fringe, farmers must change agricultural activities to suit the demands of urban neighbors. Use of fertilizers, pesticides, and herbicides are regulated and the hours that tractors and other machinery can be operated are restricted. Increasing densities of nonfarm population also bring problems such as air and water pollution, harassment of farm animals, and mischievous destruction of farm equipment and crops.⁵

The major problem associated with the rural-urban fringe is property taxes that are disproportionately high

⁵Paul F. Griffin and Ronald L. Chatham, "Urban Impact of Agriculture in Santa Clara County, California," Annals of the Association of American Geographers, 48, 3 (September, 1958), 205-206.

for the services farmers receive.⁶ Based on the opportunity for speculative profits from appreciation in land values, farm property sold for conversion to urban uses often provides the basis for assessment increases on neighboring farmland. Rural land values and tax rates rise as urbanization moves out because a city often annexes land on the rural-urban fringe and because new urban residents demand schools, water and sewer systems, fire and police protection, and other services. These "costs of sprawl" are initiated when even relatively small amounts of rural land are converted to urban uses.⁷

While federal and local governments possess much authority to regulate land use, state governments have been the most active in instituting legislation to preserve open space and agricultural land. The most popular land preservation methods by the states have been various types of use-value tax assessments that are designed for areas under urban pressure. Under use-value taxation, eligible parcels are assessed and taxed at their value for agricultural purposes rather than at the

⁶John C. Keene, et al., Untaxing Open Space (Philadelphia: Regional Science Research Institute, 1976), 4.

⁷David Berry and Thomas Plaut, "Retaining Agricultural Activities Under Urban Pressures: A Review of Land Use Conflicts and Policies," Policy Sciences 9 (1978), 160.

fair-market value. Lower property taxes are expected to encourage farmers to keep their land in agricultural uses. However, numerous studies have shown that use-value taxation alone has not been very effective in preserving agricultural land on the urban fringe.⁸ Opportunities to sell land for development usually overshadow any tax reduction or savings attained by the landowner.

Tennessee passed a use-value taxation measure in 1976 to help preserve open space and agricultural land in areas threatened by urban encroachment. The "Agricultural, Forest, and Open Space Land Act of 1976," commonly called the "Green Belt Law," allows owners of eligible land to have property assessed at current agricultural-use value.⁹ This law, like others throughout the United States, was designed to offer property tax relief as an incentive for property owners to maintain current land uses.

⁸Berry and Plaut, "Retaining Agricultural Activities Under Urban Pressures." Mark B. Lapping, Robert J. Bevens, and Paul V. Herbers, "Differential Assessments and Other Techniques to Preserve Missouri's Farmland," The Missouri Law Review 42 (Fall, 1977). Owen J. Furuseth and J. T. Pierce, "A Comparative Analysis of Farmland Preservation Programmes In North America," The Canadian Geographer 26, 3 (Fall, 1982). Keene, Untaxing Open Space.

⁹Tennessee Public Chapter 782, Sections 67-650 - 67-659 (1976).

B. STUDY OBJECTIVES

Use-value taxation for the purpose of agricultural land preservation has received much attention for the past thirty years. Unfortunately, most of the studies of use-value taxation are macro rather than micro in scale and are basically assessments or overviews of state, regional, or national legislation.¹⁰ Much of the literature is concerned with defining the various types of land use legislation and their applicability without actually studying the impact or effectiveness at the local or county level.

Few assessments of the Tennessee Agricultural, Forest, and Open Space Land Act have been published. The Tennessee Environmental Council conducted an assessment of

¹⁰Examples of land-use legislation reviews include Owen J. Furuseth, "Influences on County Farmland Protection Efforts in California: A Discriminant Analysis," The Professional Geographer (November, 1985), 443-451. Mark B. Lapping, "Agricultural Land Retention: Responses, American and Foreign," in The Farm and the City: Rivals or Allies?, American Assembly (corporate author), (Englewood Cliffs, N.J.: Prentice Hall, 1980), pp. 144-178. R. C. Collins, "Agricultural Land Preservation in a Land Use Planning Perspective," Journal of Soil and Water Conservation 31 (September - October, 1976), 182-189. David Berry and Thomas Plaut, "Retaining Agricultural Activities Under Urban Pressures." Owen J. Furuseth and J. T. Pierce, "A Comparative Analysis of Farmland Preservation Programmes in North America."

the law in 1979, which concluded that it had not "stemmed the tide of land conversion into irreversible uses."¹¹ According to the study, the law was not fulfilling its stated goals and that land in all classes as defined by the law continued to disappear at a rapid rate. A regional level study was undertaken in 1978 by Klindt and Graham who studied the enrollment of parcels under the law.¹² They found that the lack of up-to-date county appraisals contributed to a small number of parcels being placed under the law. The one county which had a recent appraisal had a high percentage of parcels enrolled. Klindt and Graham concluded that as reappraisals are made in other counties, economic incentives to enroll more land would be created. Neither the Klindt and Graham study nor the Tennessee Environmental Council study adequately evaluates the county-level goals and objectives of the law or the reasons for the law's success or failure in meeting the goals.

The lack of micro, or county-level, studies evaluating use-value legislation is disturbing because

¹¹Tennessee Environmental Council, "Tennessee's Agricultural, Forest, and Open Space Land Act of 1976: Second Year Assessment" (June, 1976), 2.

¹²Thomas H. Klindt and Gerald F. Graham, Jr., "Utilization of the Agricultural, Forest, and Open Space Land Act of 1976 in Selected Counties of East Tennessee," Tennessee Farm and Home Science (April, May, June, 1979), 28.

many of the effects are felt at this level. Some of the effects are the loss of county property tax revenues, the redistribution of property tax burdens, the removal of land on the urban fringe for development, and the addition of another local-government service that has to be administered. The principal question is this: Do the perceived benefits of land use legislation at the local level outweigh the disadvantages? The answer to this question lies in the review and assessment of the stated objectives of the law.

The goal of the Tennessee Agricultural, Forest, and Open Space Land Act is to preserve open space and agricultural land. The law states that

the preservation of open space is a public purpose necessary for sound, healthful, and well planned urban development, [and] that the economic development of urban and suburban areas can be enhanced by the preservation of such open space.¹³

Although the law is designed primarily for urban areas, it is applicable to all counties in Tennessee.¹⁴

The purposes of this thesis are to determine rate of parcel enrollment under the law, location of the parcels, land use on the parcels, tax-savings to owners, and

¹³Tennessee, Public Chapter 782, Section 67-652, p. 86.

¹⁴K. C. Dodson, former Director of Research and Legislation, Tennessee Farm Bureau Federation, Interview in Columbia, Tennessee, February 7, 1984.

owners' knowledge of the law. The data are analyzed to determine whether the law's objectives are fulfilled. The findings are relative to the qualitative goals of the law and also to the maximum achievable quantitative enrollment. One county, Knox County, is the study area.

The following procedures are employed:

1. A discussion of agricultural land preservation legislation in the United States is given along with a detailed evaluation of differential assessment and the Tennessee Agricultural, Forest, and Open Space Land Act.
2. Parcel enrollment, land use, and relative urban encroachment are measured and assessed in four sample areas in Knox County.
3. The findings are compared with the stated objectives of the Agricultural, Forest, and Open Space Land Act.
4. Conclusions are drawn, and recommendations are made.

C. KNOX COUNTY, TENNESSEE

Knox County is located in east-central Tennessee in the Ridge and Valley Physiographic Province (Figure 1.1). This region is characterized by alternating ridges and valleys that run northeast to southwest. The land

KNOX COUNTY TENNESSEE

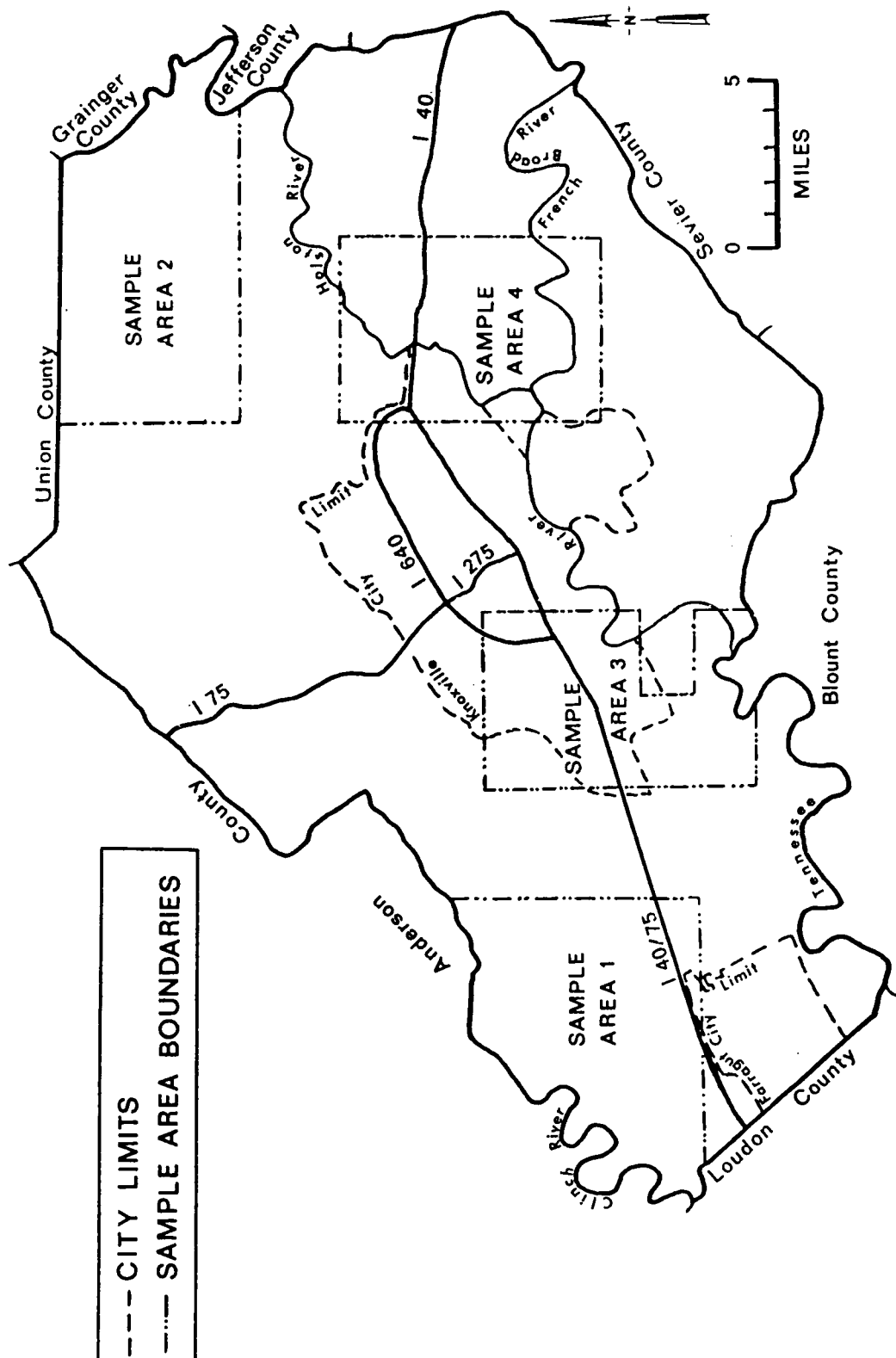


Figure 1.1. Knox County, Tennessee.

generally is rolling to hilly, but some areas are steep and rugged. Four rivers flow through the area. The Tennessee River forms at the confluence of the Holston and French Broad Rivers in the eastern part of Knox County. In the northwest, the Clinch River comprises part of the boundary with Anderson County.

Knox County, with a 1984 population of 323,600, has the largest population in the Knoxville Metropolitan Statistical Area (MSA).¹⁵ Knoxville in 1984 had a population of 174,000, making it the third largest city in Tennessee. Knox County has a total land area of 506 square miles, 77 square miles of which is occupied by the city of Knoxville. Knox County's population is 76.8 percent urban.¹⁶

Knox County and eastern Tennessee have been characterized historically by general farming but have been declining agriculturally for many years. As Knox County's population grew from 223,007 in 1950 to 323,600 in 1983, the number of farms and the land area in farms

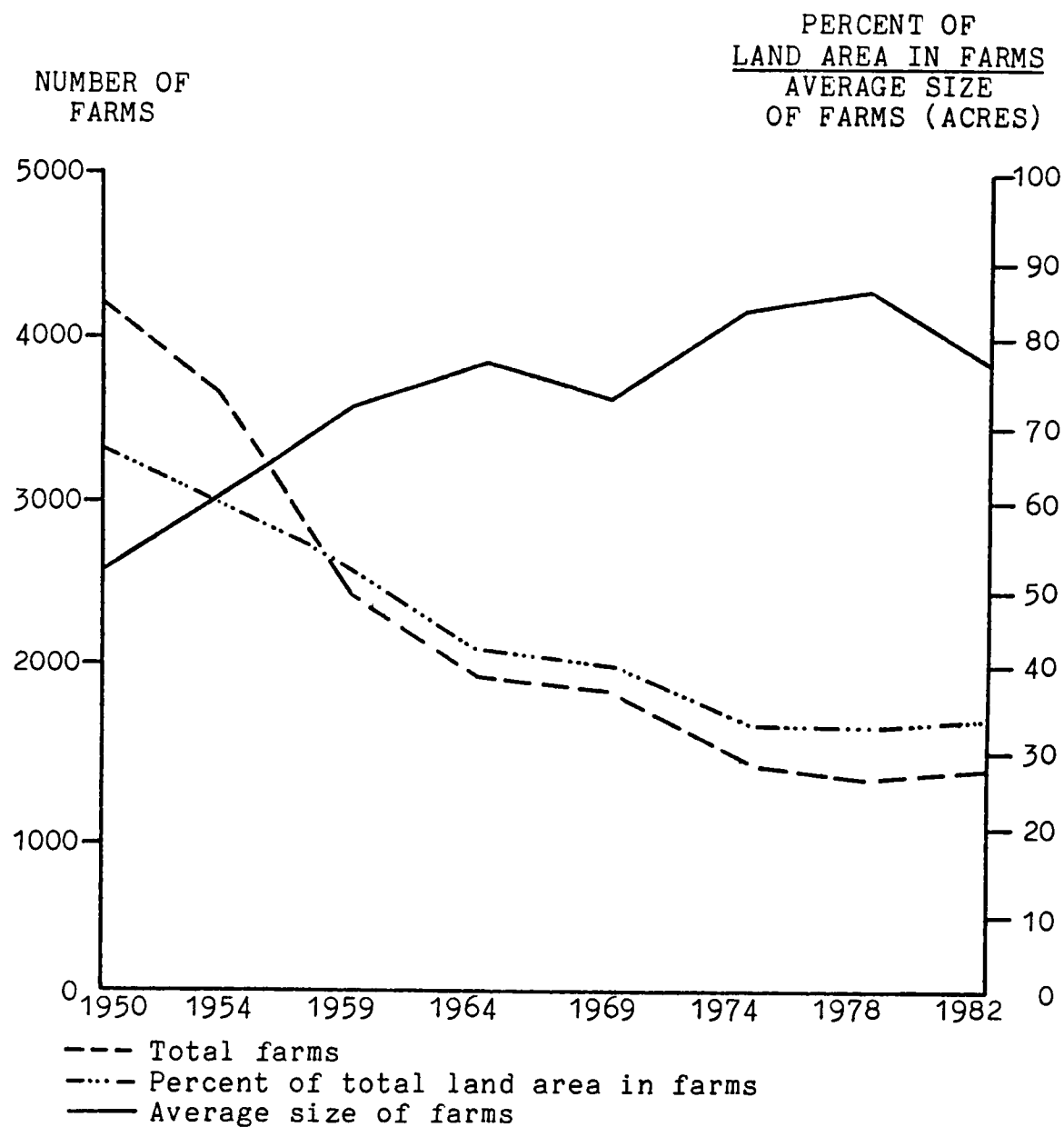
¹⁵U. S. Department of Commerce, Bureau of the Census, Patterns of Metropolitan Area and County Population Growth: 1980-1984; The Knoxville MSA includes Anderson, Blount, Grainger, Jefferson, Knox, Sevier, and Union counties.

¹⁶Tennessee, 60.4% Urban; Davidson county, 98% Urban; Hamilton County, 90% Urban; Shelby County, 96.1% Urban. Center for Business and Economic Research, Tennessee Statistical Abstract 1983/84 (Knoxville: Center for Business and Economic Research, 1983), 19-21.

decreased precipitously (Figure 1.2). The number of farms decreased by 67 percent from 1950 to 1982 and farm acreage declined 50 percent.¹⁷ Thirty-three percent of Knox County's land was in farms in 1982, about half of the percentage in 1950. One of the largest declining farm industries has been dairying. The number of dairy farms dropped from 288 in 1950 to 30 in 1982. Other agricultural products such as sorghum, corn, chickens, hogs and sheep have shown similar declines. Though Knox County is no longer a prime agricultural county, the preservation of remaining farm and forest land is deemed by the Tennessee Agricultural, Forest, and Open Space Land Act to be for the public good.

In 1982, Knox County lost \$143,891 in property taxes which would otherwise have been collected if there had been no Agricultural, Forest, and Open Space Land Act. The tax loss soared after the 1983 reappraisal because enrollment of land increased significantly. In 1983, the county lost \$811,718 and the City of Knoxville lost \$64,683 because of the increase in parcels put under the Green Belt law. Tax losses for 1984 totalled \$1,106,019

¹⁷U. S. Department of the Commerce, Bureau of the Census, Censuses of Agriculture, 1950 - 1982.



Census Farm Definitions

1950-1954: 3 acres or at least \$150 sales

1959-1969: Greater than 10 acres or at least \$50 sales
 less than 10 acres or at least \$250 sales

1974-1982: Minimum \$1000 sales; No acreage requirements

Source: Bureau of the Census, Agricultural Censuses 1950-1982.

Figure 1.2. Knox County Agricultural Trends 1950-1982

with the county losing \$966,995 of the amount.¹⁸ With new parcels being put under the Agricultural, Forest, and Open Space Land Act constantly, Knox County can expect continued losses in revenues derived from property taxation.

Four sample areas in Knox County were chosen in which to gather data (Figure 1.1). Two areas are essentially rural and the other two have visible urban encroachment. Each sample area possesses distinctive characteristics. Sample areas one and two are primarily rural, with area one having urban encroachment on its southern fringes. Areas three and four are much more urbanized although both areas have substantial tracts of rural lands.

D. SOURCES

Information and data for this thesis were derived from a variety of primary and secondary sources. The United States Census of Agriculture and articles on land use legislation and controls helped form a background. Interviews were conducted with state and local officials for background information and relevant insights. The Knox County Property Tax Assessors Office contains the plat maps and tax assessment data which were sampled.

¹⁸Knox County Property Assessor's Office. March 1984.

Telephone interviews were conducted with 184 owners of land parcels. Field surveys provided land use data.

CHAPTER II

AGRICULTURAL LAND PRESERVATION LEGISLATION IN THE UNITED STATES

Concern with the effects of urbanization and population expansion into rural areas has given rise to a variety of land-use controls. Land use controls can be classified as being either direct or indirect.¹ Direct controls attempt to limit the use of land to agriculture, open space, and low-density residential. Some of the major types of direct approaches to retaining agricultural land are exclusive farm-use zoning, public purchase of development rights, fee simple purchase and leaseback, and transfer of farmland development rights. In contrast, indirect controls offer incentives to farmers and other rural landowners to keep their land in agriculture or in open space uses. These incentives are intended to mitigate some of the indirect effects of urbanization, such as increasing property taxes and rising market values. Indirect controls include agricultural districting and differential assessment.

¹Berry and Plaut, "Retaining Agricultural Activities," 165.

A. DIRECT LAND USE CONTROLS

Exclusive Farm Use Zoning

Under exclusive farm-use zoning only farming is allowed in areas zoned for agricultural uses. This type of control is most widely used in California, Oregon, and Hawaii. Hawaii's Land Use Commission has established the boundaries for major types of districts or zones: agricultural, conservation, urban, and rural. Agricultural zones are set up and administered by state governments. Because exclusive farm-use zoning is immediate and coercive in its effects, it is not surprising that it has been adopted by a limited number of states. Hawaii is the only state where exclusive agricultural zoning is effective.²

Public Purchase of Development Rights

Public purchase of development rights allows a farmer to sell his rights to develop his land to the municipality, county, or state. The farmer retains all of his other rights including the right of possession. This type of control is popular in the northeastern United States and has been adopted most extensively in Suffolk

²Mark B. Lapping, "Agricultural Land Retention: Responses, American and Foreign," in The Farm and the City: Rivals or Allies? 153.

County, New York. The Suffolk County program is anticipated to expand to 15,000 acres at a total purchase cost of \$90 million.³ The major problem with buying development rights is the cost, especially near urban areas where conversion pressures are the greatest and market values are high.

Fee Simple Purchase and Leaseback

The fee-simple purchase and leaseback program requires that a government agency acquire a fee to farmland then lease or sell the land to farmers for agricultural purposes. This measure has been used sparingly in the United States, but the province of Saskatchewan, Canada, has about 1,000 square miles under such a program. In Saskatchewan it is a program to help young farmers lacking capital to start their own farms. The farmer, unfortunately, becomes a tenant and is less likely to make substantial investments in land or machinery which are required for viable, long-term agricultural productivity.⁴

Transfer of Farmland Development Rights

Under transfer of farmland development rights, a given area is designated as a preservation district that

³Ibid., p. 157.

⁴Ibid., p. 155.

is to be kept in agriculture and free of any other development. Other lands within development districts might be developed at densities greater than permitted under existing zoning if those development rights are transferred or traded with other land not so zoned. This program has been utilized in Britain for more than 25 years but is limited to historic preservation in the United States. It is a complicated approach, and there are no guarantees for justice or equity under the transfer of development rights program.⁵

B. INDIRECT LAND USE CONTROLS

The most widely implemented indirect land use controls are of agricultural districts and differential assessment.

Agricultural Districts

Agricultural districting permits farmers to voluntarily form a district, control it at a local level, and receive several benefits including property tax relief. Within a district farmers are protected from particular regulations on farming activities; from special assessments for sewer, water, light, and other utility districts; and from the states' exercise of eminent

⁵Ibid., p. 159.

domain. Although aspects of the districting idea can be found in Oregon and Maryland, New York's Agricultural Districting Program is the best example of this multiple incentive approach.

In New York, the program is based on the concept that a critical mass of land is necessary for farming. The minimum area for a district is 500 acres. More than 300 districts have been formed in New York, controlling more than five million acres, well over one-third of New York's farmland.⁶ Districting is most popular in rural areas where potential conversion of farmland to more intensive uses is slight. Few districts are formed within 25 miles of major cities because rural landowners anticipate an imminent conversion of their land to more intensive urban uses.

Differential Assessment

Differential assessment statutes are state measures adopted so that rural land may be assessed on its value for agricultural production rather than on its market value. Differential assessment laws are based on the notion that by reducing property taxes the rate at which farmland is being converted to non-agricultural uses can

⁶Ibid., p. 159.

be significantly decreased.⁷ Statutes have been enacted for the purpose of preserving open space and easing the tax burden of farmers. Differential assessment is attractive to state legislators because the benefits to recipients are clearly recognizable while the political liabilities are negligible. This type of legislation is supported by groups such as the American Farm Bureau Federation, which is opposed to traditional land development regulations, especially those proposed and backed by the federal government.⁸ For these reasons, differential assessment has spread throughout the United States. Since 1956, forty-nine states have effected differential assessment laws, the exception being Kansas, in which legislation is currently being proposed.⁹

Eligibility factors for placement of land under differential assessment vary from state to state, with most states having combinations of criteria. Some states, such as Texas and Maryland, require that the land be actively devoted to farm or agricultural use. Other

⁷John C. Keene, "Differential Assessment and the Preservation of Open Space," Urban Law Annual, 14, 11 (1977), 12.

⁸American Farm Bureau Federation, Farm Bureau Policies for 1984 (Orlando, Florida, January, 1984), 46.

⁹Owen J. Furuseth, Associate Professor of Geography and Earth Sciences, University of North Carolina at Charlotte, telephone interview, August 7, 1986.

states, including Alaska, Missouri, and Minnesota, require that a certain dollar amount, or percentage of income, be obtained from farming. Minimum contiguous acreages are needed for eligibility in New Jersey, New York, and Tennessee. Other eligibility requirements found in various states include a minimum length of ownership of land by a family, land already zoned for agriculture, and a history of agricultural use for the land.

The Maryland Farmland Assessment Law, enacted in 1956, was the first differential assessment law in the United States. The law provided that the

lands which are actively devoted to farm or agricultural use shall be assessed on the basis of such use, and shall not be assessed as if subdivided, it being the intent of the General Assembly that the assessment of farmland shall be maintained at levels compatible with the continued use of such land for farming and shall not be adversely affected by neighboring land uses of a more intensive nature.¹⁰

As in many other states, the Maryland statute encountered constitutional problems. In 1960, two amendments modified the Maryland constitution to permit the classification of property for tax purposes and to permit the assessment of agricultural land on the basis of agricultural use value.

¹⁰Kenneth E. Wisner, "Effects of Agricultural Use Value Assessments in Washington County, Maryland, 1965-69" (M.S. thesis, University of Maryland, 1971), 1.

Differential assessment laws are usually categorized into three types: restrictive agreements, preferential assessment, and deferred taxation.

Restrictive agreements. Restrictive agreements allow the owner of eligible land to enter into a contract with the state or local government under which he agrees to maintain the land in eligible uses. The landowner is given tax concessions for restricting the use of his land, but only after the determination by a governmental agency that such an agreement serves the public.¹¹ Normally landowners are locked into restrictive agreements for a minimum of ten years, making these programs unattractive to most farmers near urban areas.

Preferential assessment. Under preferential assessment land that is eligible under a particular state's law is assessed on the basis of its use-value for agriculture. No penalty is imposed on the landowner if the land is put into another use at a later date. The exact provisions for eligibility vary among states with Indiana, a state in which all agricultural land is classified for preferential assessment, having the broadest requirements.

¹¹Lapping, Bevins, and Herbers, "Differential Assessment," 371.

Deferred taxation. Deferred taxation has provisions designed to recapture some or all of the property tax savings that result from assessing land at its use value rather than its market value. Under a deferred taxation or rollback tax plan, past tax savings must be paid to the government by the landowner when land is converted to an unqualified use. The methods of computing rollback taxes differ for each state. The length of deferred taxation programs vary between two and twenty years, and some states charge interest in addition to taxes. A few states also impose a conveyance tax on lands converted to a non-eligible use, amounting to ten percent of the assessed value in states such as Vermont and New Hampshire.

Deferred taxation has two principal objectives.¹² First, it is designed to recapture some of the tax revenues lost because of the differential assessment program. The second objective is to provide a deterrent which will prevent owners from converting land to non-eligible uses.

¹²Keene, et al, Untaxing Open Space, 41.

C. TENNESSEE AGRICULTURAL, FOREST,
AND OPEN SPACE LAND ACT

Background

The Tennessee Agricultural, Forest, and Open Space Land Act was passed in 1976 as a means to shift tax burdens from one group to another and to help equalize the tax burden among different sectors of taxpayers. Tax equalization has roots in Tennessee dating back to at least 1870. Article 2, Section 28, of the Constitution of Tennessee remained unchanged from 1870 until the Constitutional Convention of 1972. This article prescribed the state's basic constitutional taxing authority and stated that "all property shall be taxed according to its value...so that taxes shall be equal and uniform throughout the state."¹³

In 1966, the Louisville and Nashville Railroad Company filed suit against the Public Service Commission of Tennessee and State Board of Equalization.¹⁴ The suit claimed that the Public Service Commission, as a policy, assessed the Louisville and Nashville Railroad Company property

¹³Tennessee Constitution, Art. 2, Sec. 28 (1870).

¹⁴Louisville and Nashville Railroad Company v. Public Service Commission of Tennessee State Board of Equalization et al., No. 4310, 249F, Supp. 894, U. S. District Court (1966).

at a higher percentage of actual cash value than custom of local assessors in assessing other property at a smaller fraction of actual cash value, resulting in violation of the Tennessee Constitution and statute and denial of equal protection.¹⁵

The District Court sided with the railroad, but it noted that state law would prohibit any reduction in the railroad's assessment and would only permit an increase of other taxpayer assessments.

The court decision led to a call in 1968 for a Constitutional Convention. At the general election on November 5, 1968, the proposition for "Question 3" was approved by a substantial vote. "Question 3" called for a 1971 Constitutional Convention to establish a system of property classification for tax purposes that would protect homeowners from excessive assessments. The convention resolved to amend Article 2, Section 28 of the Constitution by classifying property into four divisions for assessment purposes. Public utility property would be assessed at 55 percent, industrial and commercial property at 40 percent, residential property at 25 percent, and farm property at 25 percent. The Constitutional Amendment changing the property tax rate structure was approved by voters on August 3, 1972, by almost a three-to-one margin and took effect on January 1, 1973.

¹⁵Ibid.

The "Question 3" legislation "did not have the desired effect" according to Thomas Bailey.¹⁶ Inflation and adjustable tax rates took a toll on large urban-fringe landowners. Though theoretically assessment rates were equally distributed, in reality the tax burden for many farmers did not change significantly. One study showed no significant change in the actual property tax burden for rural and urban-fringe farmers because counties and local governments merely adjusted their tax rates.¹⁷ The Tennessee Farm Bureau Federation lobbied in the state legislature for further relief for farmers, and in March, 1976, the Tennessee State Legislature passed the Agricultural, Forest, and Open Space Land Act. The bill passed easily through both houses of the 89th General Assembly with only one negative vote.¹⁸ Recently, former Tennessee Attorney General William M. Leech, Jr. found that the act's tax deferral system does not violate the Tennessee State Constitution and saw "no constitutional infirmity with the legislature's attempt to recapture

¹⁶Thomas Bailey, Knox County Farm Bureau President, interview in Knoxville, Tennessee, July 30, 1985.

¹⁷F. D. Goodrow, "Use Valuation of Farmland: A Simulation Analysis of Its Economic Effects as a Growth-Control Tool in the Rural-Urban Fringe of Tennessee" (M.S. thesis, The University of Tennessee, 1976), 82.

¹⁸Tennessee, 89th General Assembly, History of House and Senate Bills (1976), 783.

taxes for different periods upon differences in market value and use value of property."¹⁹

Goals

The Agricultural, Forest, and Open Space Land Act is a deferred taxation measure that assesses eligible land at its use value rather than its market value. The law is designed to preserve agricultural, forest, and open space land in areas "threatened by pressure from urbanization, scattered residential and commercial development, and the system of property taxation."²⁰ The pressure is economic pressure that forces landowners to sell property because of "the imposition of taxes based...on its potential for conversion to another use."²¹

According to the act, the preservation of open space in or near urban areas contributes to the following:

1. The use, enjoyment, and economic value of surrounding residential, commercial, industrial, and public lands.
2. The conservation of natural resources, water, air, and wildlife.

¹⁹Tennessee, Office of the Attorney general, Opinion No. 344 (October, 1983).

²⁰Tennessee Public Chapter 782, Sec. 67-651, 85.

²¹Ibid., 86.

3. The planning and preservation of land in an open condition for the general welfare.
4. A relief from the monotony of continued urban sprawl.
5. An opportunity for the study and enjoyment of natural areas by urban and suburban residents who might not otherwise have access to such amenities.²²

The Agricultural, Forest, and Open Space Land Act presents no specific, measurable objectives but only broad, intangible goals. Also, it sets no optimal number of parcels or acres that should be enrolled to ensure success, and it proposes no ideal length of time that parcels should remain as open space. Some terms, such as "premature development," "pressures from urbanization," and "system of property taxation," are ambiguous or are defined variously.

State, county, and municipal governments are given the power under the Agricultural, Forest, and Open Space Land Act to expend public funds "for the purpose of preserving open space."²³ For example, outright acquisition of open space lands by the state government is possible, but the funds would be available only by raising

²²Ibid., 85.

²³Ibid., Sec.67-652, 86.

taxes for that specific purpose. This method of preserving open space is not advocated by state senators nor is it considered to be favored by the majority of the taxpaying public in Tennessee.²⁴ The expenses have been borne by the counties, which must fund administrative costs, both market and use value appraisal of potential green-belt parcels, and other costs associated with implementing the law.

Eligibility

The Tennessee deferred taxation law, like other states' differential assessment laws, has a unique set of eligibility factors and restrictions. Enrollment in the program is voluntary, and there is no government coercion for landowners to apply for the use-value assessment. To qualify for enrollment of property under the Tennessee law, an owner must have a contiguous tract of 15 acres classified as agricultural land or forest land.²⁵ Tracts larger than 1,500 acres that are held by single owners are not eligible for inclusion under the law. This part of the law is directed primarily at timber companies in

²⁴Tennessee State Senator Douglas Henry, Jr., telephone interview, Nashville, Tennessee, December 16, 1983.

²⁵Tennessee Public Chapter 782, Sec. 67-653, p. 45. (Amended from 25 acres in 1979).

counties where a large portion of the tax base is from property taxes collected from such companies.²⁶

Definitions

"Agricultural land" is defined by the Agricultural, Forest, and Open Space Land Act as a tract of land "engaged in or held for the production or growing of crops, plants, animals, nursery, or floral products, including woodlands and wastelands."²⁷ The county tax assessor determines whether the land is actually agricultural land, taking into account the productivity of the land and the portion that is actually used for farming or held for farming. The key phrase in the definition is "held for." The law states that land does not have to be actively used for agricultural production. Land that probably never again will be used agriculturally can be put under the Agricultural, Forest, and Open Space Land Act until the owner sells it or uses it for urban purposes.

"Forest land" is defined as "land constituting a forest unit engaged in growing of trees under a sound program of sustained yield management...or any tract

²⁶K. C. Dodson, interview, February 7, 1984.

²⁷Tennessee Public Chapter 782, Sec. 67-642, 86.

having tree growth in such quantity and quality and so managed as to constitute a forest."²⁸

This thesis concerns only agricultural and forest land. Open space land, which is land defined by individual municipalities or counties as being highly desirable to be preserved as open space, is not covered in this study.

Rollback Taxes

A landowner who converts the land that has been placed under the Agricultural, Forest, and Open Space Land Act to a non-eligible use is liable for three years of rollback taxes, or the amount saved by the difference in present use-value assessment and market-value assessment for the three years prior to the change. If alteration is made on a portion of the land, the owner is responsible for rollback taxes only on the land that has been converted to other uses, as long as the minimum-acreage restriction is still met by that which remains. A contract for sale of property that is under the Agricultural, Forest, and Open Space Land Act has to specify whether the sale changes the land to a non-eligible use and whether the seller or the buyer is liable for the rollback taxes. These stipulations cause

²⁸Ibid.

no hardship or deterrent to a landowner who wishes to sell his property to speculators, people who would willingly pay rollback taxes to acquire prime land for development in the rural-urban fringe.²⁹

²⁹Howard E. Conklin and William G. Leshner, "Farm-Value Assessment as a Means for Reducing Premature and Excessive Agricultural Disinvestment in Urban Fringes," American Journal of Agricultural Economics 57 (November, 1977), 756.

CHAPTER III

SPATIAL PATTERNS OF AGRICULTURAL, FOREST, AND OPEN SPACE LAND ACT PARCELS IN KNOX COUNTY

The Agricultural, Forest, and Open Space Land Act states that landowners are being forced to sell their properties in the rural-urban fringe because of the imposition of taxes based on potential for conversion to other uses. The law is one under which landowners in the rural-urban fringe receive lower assessments to decrease their tax burdens and to decrease the pressure to sell and/or change the use of the land. This chapter analyzes the number of parcels enrolled and land use on the parcels. It also examines the location of the enrolled parcels relative to urbanized areas and measures urban encroachment pressures.

A. SAMPLE AREAS

Four contrasting areas in Knox County were chosen in which to gather data. Two areas are primarily rural and the other two show high incidences of urban encroachment. They were chosen in order to assess how effective the law is in different types of areas.

Sample area one is located in extreme western Knox County and borders the Clinch River (Figure 3.1). It is rural in character and includes a portion of Hardin

Valley, one of the best farming areas in the county. Highway 162 or Pellissippi Parkway crosses area one. The parkway has been designated the Knox County Technology Corridor, an area to which promoters hope to attract "high-technology" biotechnology, pharmaceutical, computer, and semiconductor-oriented industries. The area is also the site of the new campus of the State Technical Institute at Knoxville and a branch campus of Roane State Community College. Presently, sample area one is being slightly infringed upon by urban development in its southern and eastern parts, especially along Interstate 40/75 and Kingston Pike. With major road improvements planned (and in some cases implemented) for Interstate 40/75, Pellissippi Parkway, Middlebrook Pike, and Lovell Road, and with minor projects planned for other roads, area one seems to be part of the prime route of urban growth.¹

Sample area two is situated in the extreme northeast corner of Knox County, bordering Union and Grainger counties (Figure 3.2). This part of the county is strictly rural and quite rugged and forested. The prominent Figure 3.1 landscape feature is House Mountain, a large peak 2,129 feet high. Access to area two, which

¹Knoxville-Knox County Metropolitan Planning Commission; Technology Corridor Study Area Capability and Suitability Analysis, May 1983, 9-14.

has four-lane highways, is not as well developed as access to area one. Area two has little evidence of urban encroachment, thus providing an interesting contrast to area one.

Sample area three is located in the western part of the city of Knoxville and includes adjoining land that has not been annexed (Figure 3.3). Located in the most rapidly growing section of Knox County, much of this area is urbanized. Kingston Pike and Interstate 40/75 are the axes for the rapid urban growth. The southern part of area three, bordering the Tennessee River, is not as commercially developed as the Kingston Pike-Interstate 40/75 axis, but it is the site of new subdivisions and increasing urban development. Area three was chosen because it is under immense pressure from urban encroachment and development. Easy and quick access to downtown, along with large tracts of relatively flat, easily developable land, make area three a prime investment area.

Like area three, the fourth sample area is partly within the city of Knoxville (Figure 3.4). However, it is located on the eastern side of the city where there has been little urban sprawl. Part of area four is urbanized, primarily the area west of the Holston River, but the rest is essentially rural. Interstate 40 and the Asheville

Highway provide axes for urban development. However, access to these major arteries is hampered by hilly terrain and by the Tennessee, Holston, and French Broad rivers. Although encroachment pressure is not as serious in area four as in area three, the opening of East Towne Mall near the western edge and the growing industrial development at the Forks of the River Industrial Park could spur further growth.

B. PARCEL ENROLLMENT

For each of the four study areas, the percentage of eligible parcels that had been placed under the Agricultural, Forest, and Open Space Land Act as of March, 1984, was ascertained (Table 3.1). Parcels of fifteen or more acres that were not eligible included land owned by the city, county, and state, such as public schools and the Lakeshore Mental Health Facility. Federal property, including land owned by the United States Postal Service and by the Tennessee Valley Authority also was not eligible. Other non-eligible property included gravel pits, quarries, and other parcels that did not fit the definitions of the law.

The total number of eligible parcels for the four sample areas was 1,248. Of those parcels eligible, 571 or 45.8 percent were under the Green Belt law as of March,

Table 3.1. ENROLLMENT OF PARCELS UNDER THE AGRICULTURAL, FOREST, AND OPEN SPACE LAND ACT, KNOX COUNTY, TENNESSEE, MARCH, 1984

SAMPLE AREA	UNDER LAW			NOT UNDER LAW		
	NUMBER	PERCENT	ACREAGE PERCENT	NUMBER	PERCENT	ACREAGE PERCENT
Area 1 West/Rural	162	42.0%	8791	223	58.0%	7970
Area 2 East/Rural	243	53.8%	15352	209	46.2%	7824
Area 3 West/Fringe	57	38.8%	2861	90	61.2%	2794
Area 4 East/Fringe	109	41.3%	5684	155	58.7%	7016
TOTAL	571	45.8%	32688	677	54.2%	25604

Source: Knox County Property Assessor's Office, 1984.

1984. The primary data that stands out in Table 3.1 are the differences in parcel enrollment percentage between area two and the other three sample areas and the difference between the percent of parcels enrolled and the percent of acreage enrolled. Area two had almost 54 percent of its eligible parcels under the Agricultural, Forest, and Open Space Land Act. In contrast, the other three areas combined had only 41.2 percent of their eligible parcels under the law. The total parcel enrollment is the opposite of what one would expect if the premise of the law is taken literally. However, the percentage of acreage enrolled is consistently higher in each sample area than the percentage of parcels enrolled, meaning large tracts of property throughout the county are being enrolled. One would expect that the areas experiencing the greatest amount of urban pressure to have had the highest percentage of eligible parcels enrolled. Following this line of argument, the areas with little urban pressure should have had lower percentages of parcels enrolled. The enrolled parcels are not where the law has seemingly made parcel enrollment attractive, that is in the fringe areas and within the Knoxville city limits. In order for one to fully determine the accomplishment of the law's goals, the land use and the

relationship to urban areas of the enrolled parcels must be analyzed.

C. LAND USE ON ENROLLED PARCELS

Land use on the parcels under the Agricultural, Forest, and Open Space Land Act also varies among the four sample areas in Knox County. Pasture is the dominant land use on enrolled parcels in sample areas one, two, and four (Table 3.2). All four areas have little cropland. This is not surprising because livestock raising is the most important farming activity in Knox County.² Cropland is dominated by tobacco, silage, and landscape and nursery products.

Studies have shown that the character of land use may change more than twenty years before an area is actually urbanized and that former agricultural land is often idle years in advance of actual urban development.³ The percentage of idle parcels can help to determine actual and anticipated urban encroachment. The amount of idle and wooded parcels corresponds to the distance from the actual urban buildup in Knox County, decreasing as

²U. S. Department of Commerce, Bureau of the Census, 1982 Census of Agriculture (Preliminary Report).

³H. James Brown, Robyn S. Phillips, and Neal A. Roberts, "Land Markets at the Urban Fringe," Journal of the American Planning Association, 47 (April 1981), 131.

Table 3.2. DOMINANT LAND USE ON SAMPLE PARCELS ENROLLED UNDER THE AGRICULTURAL, FOREST, AND OPEN SPACE LAND ACT, KNOX COUNTY, TENNESSEE^a

SAMPLE AREA	PASTURE ^b		FOREST ^c		IDLE ^d		CROPLAND ^e	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Area 1 West/Rural	44	73.3%	2	3.3%	10	16.7%	4	6.7%
Area 2 East/Rural	94	78.3%	10	8.3%	8	6.7%	8	6.7%
Area 3 West/Fringe	16	33.3%	16	33.3%	15	31.3%	1	2.1%
Area 4 East/Fringe	<u>37</u>	<u>67.3%</u>	<u>2</u>	<u>3.6%</u>	<u>14</u>	<u>25.5%</u>	<u>2</u>	<u>3.6%</u>
TOTAL	191	67.5%	30	10.6%	47	16.6%	15	5.3%

^aLargest Portion of parcel devoted to the land use.

^bActively devoted to grazing cattle, horses, sheep, or other animals.

^cSubstantial tree growth but not necessarily sustained-yield management.

^dNot in any current pasture, forest, or cropland use.

^eActively used for growing fruit, vegetables, grain, silage, hay, or landscape stock.

Source: Telephone interviews and field surveys by author, February - March, 1984.

distance increases from Knoxville. The distinction between idle land and forest land was difficult to determine. Tree growth often occurs on land that is not used and is actually idle; thus chances for sustained yield tree growth or the clearing of these lands for agriculture diminishes near urban areas.

Table 3.2 shows what is to be expected of highly pressured land that lies primarily within the city limits of Knoxville. Area three has a high percentage (64.4%) of parcels idle or in forest growth and a high percentage of non-farmers (Figures 3.5 - 3.8). The majority, approximately 70 percent, of the parcels in areas similar to three, according to Brown, Phillips, and Roberts, should be owned for investment and development purposes.⁴ This is in contrast to the other three sample areas which have large percentages of the parcels in pasture. Areas one, two, and four should have had fewer parcels owned by investors and developers.⁵ Agricultural uses remain in these areas, though not necessarily intensive uses.

In area four, part of which also lies within the Knoxville city limits, 29.1 percent of the parcels are idle or wooded. However, speculators and investors have

⁴Brown, Phillips, and Roberts, "Land Markets at the Urban Fringe," 136.

⁵Ibid.



Figure 3.5. Idle parcel (foreground) on Amherst Road (Area 3).



Figure 3.6. Wooded parcel (background) off Middlebrook Pike (Area 3).



Figure 3.7. Wooded parcel (background) near I-640 and Western Avenue (Area 3).



Figure 3.8. Wooded parcel (background) near 640 Plaza (Area 3).

not driven up land prices as in areas one and three. The large amount of pasture land in area four indicates an area still essentially rural in character even though encroached upon by the eastern part of Knoxville and the Forks of the River industrial development (Figures 3.9 and 3.10). Even though it is primarily rural, with 59.5 percent of its enrolled landowners full or part-time farmers, area four is in a transition stage between the total rural character found in area two and the heavily urban characteristics seen in area one (Table 3.3). With overall urban encroachment pressures light, land use changes should progress slowly throughout most of area four, except those areas in the Interstate 40, Rutledge Pike, and Asheville Highway corridors.

TABLE 3.3. OCCUPATION OF OWNERS OF ENROLLED PARCELS
BY SAMPLE AREA, KNOX COUNTY, TENNESSEE

SAMPLE AREA	FULL OR PART-TIME FARMERS		NONFARMERS	
	NUMBER	PERCENT	NUMBER	PERCENT
Area 1 West/Rural	39	81.2%	9	18.8%
Area 2 East/Rural	67	76.1%	21	23.9%
Area 3 West/Fringe	6	54.5%	5	45.5%
Area 4 East/Fringe	<u>22</u>	<u>59.5%</u>	<u>15</u>	<u>40.5%</u>
TOTAL	134	72.8%	50	27.5%

Source: Telephone interview by author, February - March, 1984.



Figure 3.9. Enrolled parcel (foreground) near I-40 (Area 4).



Figure 3.10. Cropland on French Road (Area 4).

The amount of idle and forest land in area one, 20.0 percent of the enrolled parcels, is caused in large part by absentee and speculative ownership in the proposed technology corridor and lands adjacent to Interstate 40 and Kingston Pike (Figures 3.11 and 3.12). This sample area is moderately pressured by speculation. It has retained a high percentage (81.2 percent) of farmers as landowners and a large number of agricultural parcels (Figures 3.13 and 3.14). Accordingly, this area, especially Hardin Valley, is typical of the type of land that the Agricultural, Forest, and Open Space Land Act is designed to preserve. The median acreage of Hardin Valley parcels under the law is 94 acres, which is 54 acres larger than the average for sample parcels enrolled in Knox County. But the combination of urban market pressures and actual urban buildup will apply increasing pressures on landowners in this area to sell all or portions of their property. The amount of pasture land can be expected to decrease while the number of idle parcels increase.

Area two has a large number of farmers (76.1 percent) and much agricultural and wooded land (Tables 3.2 and 3.3). Most of the hilly areas are wooded and only the more level areas are used for pasture (Figures 3.15 and 3.16). With urban pressures relatively weak, there is



Figure 3.11. Wooded parcel on Pellissippi Parkway (Area 1).



Figure 3.12. Idle parcel (foreground) near I40/75 and Outlet Drive (Area 1).



Figure 3.13. Pasture on Hardin Valley Road
(Area 1).



Figure 3.14. Pasture on Pellissippi Parkway
(Area 1).



Figure 3.15. Pasture/woodland (foreground) near House Mountain (Area 2).



Figure 3.16. Pasture (foreground) near Washington Pike (Area 2).

little expectation of any immediate urban development. Isolation from intense urban pressures should help keep the land use on parcels in area two more stable than in the other three sample areas.

Enrollment of parcels under the Agricultural, Forest, and Open Space Land Act and the amount of idle and forest land in each of the sample areas are related to the distance from urbanized areas. Area three, which is the most heavily urbanized sample area, has the most idle and forest land and the least number of parcels under the law. Following this argument, areas four, one, and two, respectively, are decreasingly urbanized, have fewer idle parcels, and have increasingly higher rates of parcels enrolled. Area two, with a large amount of pasture land and lack of urbanization, has the highest number of parcels enrolled. Agricultural parcels are being put under the law at higher rates in rural areas, but in the more urbanized areas parcels are likely to be idle or forest. The law, however, emphasizes land that is under heavy pressure from urban encroachment. The law is partially fulfilling its goals in that the majority of parcels enrolled are in agricultural use and farmers represent 72.8 percent of the enrolled property owners. However, as surrounding land is urbanized, parcels are

taken out of agricultural use and the likelihood for enrollment is lessened.

D. URBAN ENCROACHMENT PRESSURES ON ENROLLED PARCELS

The prime device used to measure relative urban encroachment pressure and tax saving is a market-value/use-value index. The index is a measure of the percentage of tax saved on an individual parcel that is enrolled under the Agricultural, Forest, and Open Space Land Act. The higher the market-value/use-value index, the larger the tax savings for a landowner.

Both the market value and use value of a parcel of property are determined by the Knox County Property Assessor's Office. The market value of a parcel is based on its highest use potential and, in Knox County, that is normally an urban use. The potential use value of a tract of land is measured on the basis of topography, drainage, and soil, not on economic functions of urbanization. Use-value assessment in Knox County is divided into five categories and is based on the most productive agricultural use for land (Table 3.4).

The use-value classification of land in Knox County does not consider a parcel's distance from the city. A parcel's use-value characteristics, however, are often used to determine the market value. For example, a parcel

Table 3.4. USE-VALUE CATEGORIES FOR LAND IN
KNOX COUNTY, TENNESSEE

LAND USE	ASSESSED VALUE PER ACRE		
	GOOD	AVERAGE	POOR
Row Crop	\$ 1540/acre	\$ 1510/acre	\$ 1485/acre
Rotation Crop	1130	1105	1080
Pasture	620	590	555
Woodland	325	310	230
Non-Productive	200	No Measure	No Measure

Source: Knox County Property Assessor's Office, 1984.

that is flat and well drained is desirable for both agricultural and urban uses. Therefore, parcels with high use-value assessments theoretically should have similarly high market values, all other things being equal.

However, urban pressures along with perception shape the market values of parcels of land in Knox County. While use value is based on a constant rate determined by the county assessor's office, market value for land with the same physical characteristics differs dramatically from one area of the county to another.

Market-value/use-value indices were calculated for every property parcel in the four sample areas that had been placed under the Agricultural, Forest, and Open Space Land Act. A mean market/use value for each sample area

was then calculated from the data (Table 3.5). Because of the variation in physical characteristics, almost every parcel had a combination of use-value assessments. No attempt was made to subdivide individual parcels into their respective land-use categories. Every property parcel under the law is assessed at both a market value and at a use value for agriculture. The market/use-value index was calculated by dividing the acreage of a parcel into both the total market value and total use value minus improvements, then dividing the use value per acre into the market value per acre. For example, if a parcel had an average market value of \$1,000 an acre and an average use value of \$200 an acre, the landowner with no improvements would save 80 percent on his property taxes

Table 3.5. MEAN MARKET/USE VALUE INDICES FOR ENROLLED PARCELS IN THE SAMPLE AREAS

SAMPLE AREA	NUMBER OF PARCELS	MARKET/USE VALUE INDEX
Area 1 West/Rural	162	65.26%
Area 2 East/Rural	243	57.13%
Area 3 West/Fringe	57	73.69%
Area 4 East/Fringe	109	55.05%

Source: Knox County Property Assessor's Office, March, 1984.

by having his land assessed at the use value rather than the market value.

The market/use value index is also a measurement of relative urban encroachment. A parcel with a market/use value index of zero theoretically has no value for urban use or development. A very high market/use value index denotes extreme urban encroachment and imminent development. Owners of property with a high market-value/use-value index should have the most incentive to place their property under the Agricultural, Forest, and Open Space Land Act.

Sample area three has the largest savings percentage which is not surprising because the Kingston Pike-Interstate 40/75-Northshore Drive corridor lies within the area (Figure 3.17). Tax savings of more than 90 percent are not uncommon and yearly tax savings for enrolled property owners commonly total \$2,000 - \$4,000 with savings of up to \$21,000.⁶ These figures are significant because much of the area is physiographically conducive to further growth.⁷ Sample area three has two sections where the majority of the parcels are enrolled. However, both the northwest and southwest portions of the area have only

⁶Knox County Property Assessor's Office.

⁷Knoxville-Knox County Metropolitan Planning Commission; Land Use Study-Knoxville-Knox County, Tennessee, May 1980, 8.

modest enrollment of parcels, although both are relatively free of urbanization. This area shows clearly how urban encroachment deters enrollment of property.

Area one, which is in the western part of Knox County and is primarily rural, has the next highest market/use index (Figure 3.18). This area has a higher market/use value index than area four, which is adjacent to the eastern Knoxville city limits. Tax savings between 70 and 95 percent were found in the southeastern portion of area one along Interstate 40/75 and Kingston Pike.⁸ In Hardin Valley, property owners typically saved 60 to 70 percent on their annual taxes. The trend of population movement is toward the west, thus driving up the market value of land. Much of area one also is amenable to house and apartment construction. There are more sewer lines than in most parts of Knox County.⁹ Area one is close to more shopping centers and business establishments and is central to the Knoxville-Oak Ridge corridor. Many of the parcels in area one are artificially kept at high market values because of prospects for the Knox County Technology Corridor. Finally, west Knox County is perceived as an urbane white collar area. It is perceived as a

⁸Ibid.

⁹Ibid.

desirable area in which to live by persons transferred into the Knoxville area.¹⁰ Even though perception may be only partially accurate, it has a significant impact on land values. Enrolled parcels in area one are fairly evenly distributed throughout the area because most of the area is not urbanized. The southeastern portion has the fewest parcels enrolled. Urban encroachment has put pressure on large property owners along Interstate 40/75, Kingston Pike, and portions of Pellissippi Parkway.

The market/use index for area four is low despite its location in the eastern part of Knoxville and the presence of the large Forks of the River Industrial Park (Figure 3.19). Some parcels with high (over 70 percent) tax savings can be found at the Interstate 40-Strawberry Plains intersection, adjacent to Rutledge Pike and Asheville Highway, and inside the Forks of the River Industrial Park.¹¹ The majority of enrolled parcels are in the rural southern and eastern portions of the area. The lack of enrolled parcels near the Forks of the River Industrial Park is indicative of urban pressures associated with industry and trade and possible

¹⁰John Grisse, AAIM Century 21 Real Estate; Greg Reese, Volunteer Realty, North Knoxville Office; James Slyman, Slyman Real Estate, interviews in Knoxville, Tennessee, March 1, 1984.

¹¹Knox County Property Assessor's Office.

speculation by entrepreneurs hoping for further development. The group of parcels on Millertown Pike is an anomaly caused by urban pressures. Although they all have relatively low market/use values (under 60 percent), these parcels appear highly vulnerable to urban pressures.

The majority of the sample parcels in area four have low market/use values as a result of low market values for property. Low market values are caused by steep slopes, shallow soils, poor access to transportation, susceptibility to flooding, and the difficulty of providing urban services. Also, market values are low because of the perception of area four as a blue-collar area with a relatively large group of low-income families.¹² Constraints such as these should keep urban pressures low in area four until more desirable areas are developed.

Although market/use value percentages over 60 percent for individual parcels are not uncommon, area two also has a relatively low market/use index (Figure 3.20). High indices for individual parcels are the result of extremely low use values for land. Higher market/use values (over 70 percent) are found along portions of Rutledge Pike, Emory Road, Maloneyville Road, Ridgeview

¹²John Grisse, Greg Reese, and James Slyman, interviews in Knoxville, March 1, 1984.

Drive, and southern Washington Pike. These parcels have high market values (over \$2,000 per acre) that result in a higher market/use value index. Lack of demand for land for urban uses because of the low population density, hilly topography, and limited highway access keeps the market value of property at a level lower than that in much of the county.

Enrolled parcels in area two are distributed evenly throughout the study area except for a relative absence along the southern part of Rutledge Pike. The almost total lack of urban encroachment should ensure that most of the parcels remain enrolled. Area two is a good example of a rural area that has taken advantage of the Agricultural, Forest, and Open Space Land Act.

The objectives of the Agricultural, Forest, and Open Space Land Act have been achieved more in the rural areas of Knox County than in the fringe areas. The rural areas, primarily sample area two, have a higher rate of parcel enrollment, more agricultural land enrolled, more full or part-time farmers enrolled, and higher percentages of total acreage under the law. Overall, the law is attracting much agricultural land, even in the fringe areas. But less than half of the eligible parcels are enrolled. Agriculturally-oriented landowners are not the only property owners in Knox County, especially in the

urban-fringe areas. The incentive for enrolling property under the law is not effective among the non-farming population. The reasons why the law is attracting primarily agriculturally-related property owners and parcels, not parcels where the tax savings incentive is the highest, is analyzed in the next chapter.

CHAPTER IV

FAMILIARITY WITH THE AGRICULTURAL, FOREST, AND OPEN SPACE LAND ACT

The previous chapter has shown low rates of participation and the bias towards agricultural parcels in the Agricultural, Forest, and Open Space Land Act program. Several explanations can be proposed which may help explain why the Agricultural, Forest, and Open Space Land Act program does not attract a larger number of landowners in the fringe areas and also those that are not agriculturally related.

A. EXPLANATIONS FOR LOW ENROLLMENT OF LAND

One explanation that might account for low enrollment in the program is that landowners are unwilling to participate because of the penalty of paying rollback taxes. Lapping, Bevings, and Herbers have shown that owners of land susceptible to development pressures have been unwilling to participate in use-value assessment programs that have penalties for conversion to nonqualifying uses. However, penalties imposed by a rollback tax are usually quite small relative to developmental opportunities.¹ Also, rollback taxes are

¹Lapping, Bevins, and Herbers, "Differential Assessment," 385.

deductible for federal income tax purposes and often are less than the amount of tax which an owner has saved. The Tennessee law has a slight rollback. The rollback tax, which is not interest-bearing, should not discourage enrollment under the law in urban fringe areas.

A second explanation that might account for the lack of enrollment of landowners is that the tax savings on land under the law are not large enough to warrant participation. As shown earlier, however, areas with high market/use value indices have low enrollment. Area three, the area with the largest tax-savings, has the lowest enrollment. Conversely, area two, which has lower tax-savings incentives, has the highest number of parcels enrolled. Without any other information available, landowners with the most incentive seem to be the least interested in taking advantage of the law.

A third explanation that might account for the low enrollment of parcels under the Agricultural, Forest, and Open Space Land Act in Knox County is that landowners are unaware of the law. As shown earlier, in March, 1984, less than 50 percent of eligible landowners had their property enrolled. It is logical to believe that landowners who can save a large percentage of property taxes would enroll their land under a law that has few risks and many monetary benefits. However, according to

one Knox County appraiser, "people don't know" about the Agricultural, Forest, and Open Space Land Act.² The extent of unfamiliarity was further emphasized by an employee of the Tennessee State Planning Office who noted that the "state does not run into it [the Agricultural, Forest, and Open Space Land Act] often." We "accidentally found out about it recently," cited the worker, "while checking for tax relief for various parcels in Jefferson County, Tennessee."³ These sentiments were echoed by the Tennessee Environmental Council in a 1979 assessment of the Act. The council found that 86 percent of the farmers surveyed near Nashville did not know about it.⁴

Because lack of knowledge of the law is significant, owners of eligible but unenrolled property were surveyed. Seventy-four percent of those owners had never heard of the Agricultural, Forest, and Open Space Land Act, and 79.4 percent were not aware that their property was eligible for enrollment (Table 4.1). That less than 25 percent of owners of unenrolled land were familiar with

²Bob Bird, Knox County Property Appraiser, interview, Knoxville, Tennessee, July 20, 1984.

³David K. Williams, Principal Planner, Tennessee Department of Economic and Community Development, interview, Knoxville, Tennessee, July 30, 1985.

⁴Tennessee Environmental Council, Tennessee's Agricultural, Forest, and Open Space Land Act of 1976: Second Year Assessment (June, 1979), 9.

Table 4.1. FAMILIARITY WITH THE AGRICULTURAL, FOREST, AND OPEN SPACE
LAND ACT AMONG ELIGIBLE PARCEL OWNERS

SAMPLE AREA	NOT FAMILIAR WITH LAW	NOT AWARE OF ELIGIBILITY	AWARE OF ELIGIBILITY BUT NOT ENROLLED
Area 1 West/Rural	71.4% (21 of 28)	78.6% (22 of 28)	17.9% (5 of 28)
Area 2 East/Rural	74.2% (23 of 31)	80.6% (25 of 31)	12.9% (4 of 31)
Area 3 West/Fringe	76.9% (17 of 23)	80.8% (17 of 23)	17.4% (4 of 23)
Area 4 East/Fringe	<u>73.9%</u> (20 of 26)	<u>77.3%</u> (21 of 26)	<u>11.5%</u> (3 of 26)
TOTAL	74.1% (80 of 108)	78.7% (85 of 108)	14.8% (16 of 108)

Seven landowners were either applying for enrollment, selling the land, or subdividing it.

Source: Telephone interviews, March, 1984.

the Agricultural, Forest, and Open Space Land Act emphasizes the unfamiliarity with it in Knox County.

B. INFORMATION SOURCES

Landowners have four major sources of information about the Agricultural, Forest, and Open Space Land Act in Knox County: the Knox County Property Assessor's Office, various agricultural agencies, the news media, and word of mouth (friends, neighbors, and relatives). Each of these sources has played a part in disseminating information about the law to the public but in varying degrees. The initial information source concerning the law among those who have their land enrolled is shown in Table 4.2.

The two major sources of information for the Agricultural, Forest, and Open Space Land Act were the Knox County Property Assessor's Office and agricultural agencies. Together they account for 78 percent of the sources from which landowners initially learned about the law. The Knox County Property Assessor's Office is a passive information source while the various agencies take an active role in information distribution.

No direct or active publicity for the Agricultural, Forest, and Open Space Land Act emanates from the Knox County Property Assessor's Office according to Ralph E. Watson. "Basically," said Watson, "education about the

Table 4.2. INITIAL SOURCE OF INFORMATION CONCERNING THE AGRICULTURAL,
FOREST AND OPEN SPACE LAND ACT

SOURCE	AREA 1 WEST/RURAL	AREA 2 EAST/RURAL	AREA 3 WEST/FRINGE	AREA 4 EAST/FRINGE	TOTAL NUMBER PERCENT
Assessor's Office	6	10	9	9	34 37.4%
Farm Agency	10	19	2	6	37 40.6%
News Media	2	2	2	2	10 11.0%
Word of Mouth	<u>2</u>	<u>3</u>	<u>2</u>	<u>3</u>	<u>10</u> <u>11.0%</u>
TOTAL	20	34	17	20	91 100.0%

Source: Telephone interviews, March, 1984.

law is left up to the Tennessee Farm Bureau Federation and the Knox County Agricultural Extension."⁵ This statement adheres to the policy of the Division of Property Assessments of the Tennessee State Treasury:

The method of distribution of the (Agricultural, Forest, and Open Space Land Act) applications is left to the discretion of each Assessor. In all probability, property owners desiring to apply under this Act will be contacting their Assessor. Since this is a voluntary program, Assessors should not send an application to every farmer.⁶

Landowners are told about the law by the Knox County Property Assessor's Office only if they contact the office and specifically request information. During the 1983 reappraisal, which significantly raised property values in the county, the assessor's office did not inform landowners of the law unless pressured to do so. One property owner with 91 acres of agricultural land "bitched at the assessor" about the high appraisal. He then was told of the law.⁷ Several other landowners who were interviewed said that they called the assessor's office after the 1983 reappraisal to complain about high

⁵Ralph E. Watson, Administrative Assistant, Knox County Property Assessor's Office, interview, Knoxville, Tennessee, July 26, 1984.

⁶Tennessee State Treasury, Division of Property Assessments, Guidelines for Administration of the Agricultural, Forest, and Open Space Land Act of 1976, (No Date), 4.

⁷Knox County landowner, interview, July 28, 1985.

appraisals and then were told about the law, rather than being informed of it during the reassessment by the field appraiser.

The Knox County Property Assessor's Office's reluctance to actively promote the law is understandable because the task of the office is to collect the maximum amount of property taxes. The lack of promotion and the concern over lost tax revenues are also sensitive issues with other assessors in Tennessee, who have questioned the value of the law as a planning tool.⁸

The major active sources of information about the Agricultural, Forest, and Open Space Land Act are the Tennessee Farm Bureau Federation and the Knox County Agricultural Extension Service. Both of these agencies have actively publicized the law through radio broadcasts, mailings, and meetings. The Tennessee Farm Bureau Federation had a full page article about the law in the May, 1976, issue of the Tennessee Farm Bureau News only two months after its passage.⁹ This had little noticeable effect in Knox County because the appraised value was slightly more than half of the market value for property

⁸Tennessee Environmental Council, Second Year Assessment, 10.

⁹"Farmers, Other Landowners Get Tax Break With New Agricultural, Forest, and Open Space Land Act of 1976," Tennessee Farm Bureau News (May 1976), 3.

in 1976, that difference offered little incentive and small, if any, tax savings for the landowner.

The Knox County Agricultural Extension Service has played the most active role in publicizing the Agricultural, Forest, and Open Space Land Act in Knox County. The service mailed letters to its members, who number about 1,000 in Knox County, shortly after the 1983 property reappraisal.¹⁰ At the same time, Knox County agent, Harry D. Bryan, also promoted the law through his weekly radio broadcast. This effort at publicizing the Green Belt law came directly after the reappraisal because of the large number of complaints to the agency about excessively high property appraisals which narrowed the gap between the market value and the appraised value.¹¹

Harry Bryan believes that the publicity effort plus the large rise in property appraisals explained the jump from 267 parcels being enrolled under the law in 1982 to 1,631 parcels being under the law by the end of 1983.¹² Even the Knox County Tax Assessor, Park M. Strader, was surprised by the number of applicants after the publicity

¹⁰Harry D. Bryan, Knox County Agricultural Extension Leader, Letter to Knox County Agricultural Extension Members, April 29, 1983.

¹¹Thomas Bailey, interview, Knoxville, Tennessee, July 30, 1985.

¹²Harry D. Bryan, interview, Knoxville, Tennessee, July 30, 1985.

campaign in 1983.¹³ Since reappraisal, however, no major effort has been made by the Knox County Extension Service or the Farm Bureau to further publicize the Agricultural, Forest, and Open Space Land Act. Both agencies believe that the law has been well publicized and that those who wanted to take advantage of it have done so.¹⁴

The other two major sources, the news media and word of mouth, account for 22 percent of the initial information concerning the Agricultural, Forest, and Open Space Land Act. The small number of people who found out about the law through the radio suggests that Harry Bryan's radio show did not derive the benefits Bryan thought. The Knoxville News Sentinel published two articles in 1983 concerning the law, both about the reduction in Knox County's property tax collections.¹⁵ An article that acknowledged the decline in number of farms in Tennessee, published in the University of Tennessee campus newspaper, totally ignored the Agricultural, Forest, and Open Space Land Act. It even stated that the 1972 Tennessee Constitutional Convention was the "last big

¹³Ibid.

¹⁴Ibid., Thomas Bailey, interview, July 30, 1985.

¹⁵"Land Act Reduces Tax Take," Knoxville News-Sentinel, 1 December 1983, Sec. D, p. 7; "Knox Growth Helps Ease Tax Bite, Strader Says," Knoxville News-Sentinel, 17 April 1983, Sec. A, p. 1.

test of rural power" despite contrary evidence offered by the passage of the Agricultural, Forest, and Open Space Land Act with support from the Tennessee Farm Bureau Federation.¹⁶ These news media were ineffective in informing landowners about the law.

Word of mouth conveyance among friends, family, and neighbors, although advocated by Tom Bailey and Knox County Horticulturist Douglas Dalton, has had a minimal effect.¹⁷ Perhaps the reluctance to talk about or inquire about another's personal finances presents a barrier to interpersonal communication. Also, the influx of people into the rapidly growing portions of Knox County does not facilitate personal communication or diffusion.

The variance in information sources about the Agricultural, Forest, and Open Space Land Act has produced major differences in who is aware of the law and in where the law is most effective. Agricultural agencies have targeted their members to receive information about the law. Table 4.3, when compared with Table 4.2, shows that rural landowners who have agricultural ties were more likely to have their property enrolled.

¹⁶"How Rural Are We?: Farm Losses Barely Affect State Politics," The Daily Beacon (The University of Tennessee, Knoxville), 4 November 1983, p. 3.

¹⁷Douglas Dalton, Knox County Horticulturist, interview, Knoxville, Tennessee, July 26, 1985; Thomas Bailey, interview, July 30, 1985.

Table 4.3. MEMBERSHIP IN AGRICULTURAL ORGANIZATIONS
BY OWNERS OF ENROLLED PARCELS

MEMBER OF ORGANIZATION	AREA ONE WEST/RURAL		AREA TWO EAST/RURAL		AREA THREE WEST/FRINGE		AREA FOUR EAST/FRINGE		TOTAL	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Yes	12	68%	25	74%	4	24%	7	35%	48	52.7%
No	8	32%	9	26%	13	76	13	65%	43	47.3%

80

Source: Telephone interviews, August, 1985.

Areas one and two have the most people who are members of agricultural organizations. They also have high percentages of landowners who have property enrolled under the law. This means that the publicity campaigns by the Farm Bureau and the Agricultural Extension Service were effective in these portions of Knox County, particularly in area two. Property owners in areas one and two were more likely to find out about the Agricultural, Forest, and Open Space Land Act than those in fringe areas because there is a higher percentage of land owners in agricultural associations and in farming in those areas than in other areas. One official of the Knox County Farm Bureau noted that publicity about the law was intentionally not directed toward western Knox County because agricultural agencies did not want speculators taking advantage of the law.¹⁸

Property owners in sample areas three and four were more likely to learn about the Agricultural, Forest, and Open Space Land Act from sources other than agricultural agencies. These sources are inactive and contribute to the low enrollment in the non-agricultural, urban-fringe areas. But with only 45 percent of the eligible parcels enrolled under the law, many other property owners have yet to make a decision concerning enrollment of their

¹⁸Thomas Bailey, interview, July 30, 1985.

property. Only 15 percent of the landowners who knew about the law did not enroll their property under it (Table 4.1). Some property owners did not want to deal with a government agency, some did not "need the bother," and others did not feel that the tax savings were high enough.¹⁹ That 15 percent, plus the 45 percent who have their land under the law, totals only 60 percent of the eligible landowners who have made a decision on enrollment of property. The remaining 40 percent have not heard of the law; therefore they do not know that their land may be eligible for reduced taxes. These landowners seem to be outside the publicity network and can only find out about the Agricultural, Forest, and Open Space Land Act through a passive source, such as by contacting the assessor's office to discuss property taxes or by receiving the information through the news media.

As a control of urban encroachment, the Agricultural, Forest, and Open Space Land Act cannot be effective without a high rate of property enrollment. The relatively low enrollment can be attributed primarily to lack of knowledge and selective distribution of information about the law. Education about the benefits of the Agricultural, Forest, and Open Space Land Act must

¹⁹Various Knox County property owners, interviews, March, 1984.

be broadened so that all eligible property owners can make a decision concerning the enrollment of their property. Although designed by and for agriculturally oriented landowners, the law must also be equally available to other eligible property owners. As a tool for lowering urban-fringe farmers' property taxes, the law is fairly effective. But as a method of reducing or controlling urban sprawl, the law must be amended to permit permanent open space rather than temporary tax relief for farmers and non-farmers alike.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

One of the most popular types of land use legislation is differential assessment, which has been adopted by 49 states. Tennessee passed a differential assessment law in 1976, the Agricultural, Forest, and Open Space Land Act, to preserve open space and agricultural lands near cities. Tennessee's particular type of differential assessment is deferred taxation, which requires landowners to pay the previous three years of tax savings if the land is taken out of an eligible use. The deferred tax is a penalty to discourage sale and development of open space.

The purposes of this study are to determine rate of parcel enrollment under the law, location of the parcels, land use on the parcels, tax-savings to owners, and owners' knowledge of the law. A primary conclusion is that as of March, 1984, the maximum potential enrollment under the Agricultural, Forest, and Open Space Land Act in Knox County had not been achieved. Despite variations in enrollment throughout the county, only 45.8 percent of the eligible parcels and 56 percent of the eligible acreage were enrolled under the law. Enrollment percentages vary throughout the four sample areas, but they do not support the law's premise that higher tax savings should promote

higher participation. The rate of parcel enrollment is inverse to the amount of urban encroachment. The sample area with the highest market/use value index, area three, has the lowest percentage of eligible parcels enrolled while area two, the most rural area, has the highest enrollment. The tax-savings incentive will not keep property owners from selling land for attractive offers.

Participation in the Agricultural, Forest, and Open Space Land Act program is linked to awareness of the law, which in turn is determined by the information available. The primary information sources, the Knox County Property Assessor's Office and the various agricultural agencies, differ in the mode of conveyance. The agricultural agencies are active information sources but only reach owners involved in agriculture. The assessor's office is a passive information source, revealing information about the law only if questioned by a property owner. Approximately 40 percent of the potential Agricultural, Forest, and Open Space Land Act program participants in Knox County are not aware of the law. Substantial enrollment gains cannot be obtained without a comprehensive and active public information program.

Property owners in Knox County who enroll land under the Agricultural, Forest, and Open Space Land Act can save large amounts of property tax. Even landowners at the

low end of the market/use index scale, specifically those in sample areas two and four, can realize more than 50 percent savings on annual property taxes. These property owners have little chance of selling their land for development. Some property owners, specifically along the I40-75/Kingston Pike corridor in sample areas one and three, can save more than 90 percent on property taxes.

The Agricultural, Forest, and Open Space Land Act is moderately successful in enrolling the larger active agricultural property parcels throughout the county. However, as distance from the urban area decreases more parcels are idle and forested. Idle parcels are assumed in the law to be "held for farming or agricultural operation." Few if any of the idle parcels in Knox County will ever be returned to agriculture. The idle parcels that are heavily influenced by urban market pressures are in a state of transition. As urban pressures increase, land use on the parcels will change to ineligible uses or the parcels will be subdivided to below eligible acreage requirements.

A law that has no clearly measurable goals and objectives, enrolls parcels of questionable eligibility, and reduces county property tax revenues by more than \$1 million a year is difficult to justify. The Agricultural, Forest, and Open Space Land Act is a temporary land-use

control that lowers county tax collections by offering savings to a small number of property owners. The law does not balance out favorably for the majority of Knox County taxpayers who cannot enjoy or use the private properties enrolled under the law and somehow must supplement the tax losses sustained by the county.

The Agricultural, Forest, and Open Space Land Act currently seeks to protect all agricultural, open space, and forest lands from development by implementing use-value taxation as an incentive to keep those lands in current use. However, the law has no measurable objectives and success or failure of the legislation is left to subjective interpretation. More specific, measurable goals should be developed for the act.

The law is a temporary, stopgap measure for the problems that it addresses. A provision is needed to keep lands in open space or farmland for extended periods of time. A contract between a property owner and the county government would fulfill this purpose and give some permanency to the program.

Ideally, open space is more valuable and available for public enjoyment if it is in or near urban areas. The law stresses that open space and agricultural lands are being threatened by pressure from urbanization, but there is no special provision to render urban-fringe land any

more important than other land. The program must focus on the urban-fringe or the area that is uniquely threatened. Lower tax rates could be offered to landowners in the urban-fringe. Land-use differentiations with structured tax rates could help preserve farming in the urban-fringe and in rural areas close to the city by giving farmers larger tax reductions for keeping their property in agricultural uses.

Whether changes in the law are implemented or not, it will never be totally effective without maximum participation. The program must be made known to the public. Promotion should be financed by the state. Widespread knowledge of the law would be healthy and would enhance public discussion by those who bear the burden of supporting the program. The intentions of the Tennessee Agricultural, Forest, and Open Space Land Act are certainly worthy. However, the goals and general effectiveness of the law should be reviewed carefully by a broad spectrum of land-use experts, politicians, tax assessors, landowners, and others to maximize the usefulness, potency, and fairness of the legislation.

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