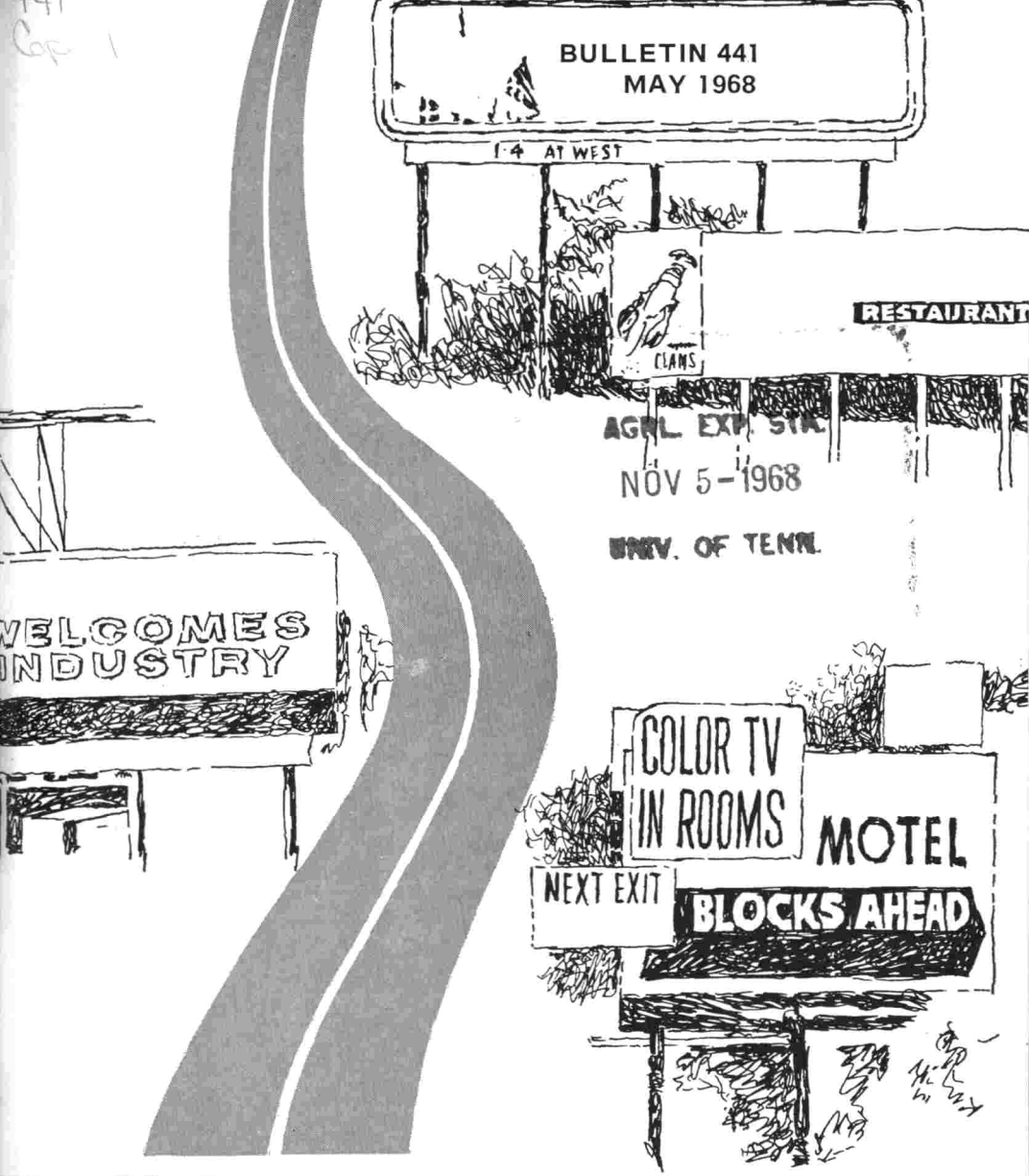
441
Cop. 1



AGRL. EXP. STA.
NOV 5-1968
UNIV. OF TENN.

The Value Of Outdoor Advertising Rights Held by Landowners Along Federal Aid Highways In Tennessee

by Lewis S. Pipkin
Joe A. Martin

The University of Tennessee
Agricultural Experiment Station
John A. Ewing, Director
Knoxville

SUMMARY

The implementation of the Highway Beautification Act by the various states will result in the removal of billboards along many miles of highway frontage. This removal will affect outdoor advertising companies, private businesses utilizing this medium of advertising, and landowners who are currently receiving rental income from billboard sites.

The purpose of this study was to estimate the value of advertising rights to landowners from existing billboard site rentals in Tennessee by estimating the amount of site rental income received annually and capitalizing this income stream into an estimate of value.

An inventory of existing billboards located and classified 24,366 billboards in Tennessee along 6,043 miles of highway frontage. When billboards were classified by land usage, it was found that 71% were located in areas other than commercial and industrial areas and would not be permitted to remain under provisions of the suggested Draft Standards issued by the U. S. Bureau of Public Roads.

Rental income information was collected on 523 billboard sites from a sample of 25 Primary and 3 Interstate road sections. An average site rental by size of billboard was computed and used to estimate the annual income received by landowners. The estimated annual income was then capitalized using a 6% interest rate for a 15-year period to develop estimates of the value of advertising rights of landowners.

It was concluded that the value of advertising rights to landowners from billboard site rentals in Tennessee was approximately $5,950,000. It was estimated that the annual income from billboard site rental in Tennessee is in excess of $600,000.

The authors have been unable to develop an accurate estimate of the number of billboards that would be removed in commercial or industrial areas due to size or spacing requirements. Thus, the accuracy of the estimate of the cost of acquiring advertising rights in commercial and industrial areas depends upon the number of billboards affected by size and spacing requirements. Certainly, some billboards will be permitted to remain in these areas even with very strict enforcement of the suggested standards.

Based upon an assumed estimate that 60% of billboards presently located in industrial or commercial areas would be removed to meet spacing and size standards and the removal of all billboards in non-industrial and non-commercial areas, the esti-

mated cost of acquiring advertising rights as set forth by the Act would be approximately $4,900,000 or an average of about $810 per mile of federal aid highway in Tennessee.

The study has not considered the legal questions of eminent domain as related to the rights of landowners or others to compensation for certain items of loss, but has been concerned only with methods of estimating and measuring value of advertising rights. It was concluded that the traditional cost of reproduction and market comparison approaches of real estate appraisal cannot at this time logically be used in estimating the value of landowners' advertising rights. Thus, the income capitalization approach has been used in this study.

A study conducted under contract by University of Tennessee, Highway Research Program for Tennessee Department of Highways, and Bureau of Public Roads, United States Department of Transportation.

TABLE OF CONTENTS

	Page
Summary	2
Introduction	5
Purpose of the Study	6
Source of Data	6
Background of the Highway Beautification Act and Status of Billboard Control in Tennessee	6
Federal Legislation	6
Billboard Control in Tennessee	10
Inventory of Billboards in Tennessee	11
Number of Billboards by Location	13
Size of Billboards	17
Number of Billboards by Ownership and Type of Advertisers	19
The Value of Advertising Rights to Landowners	20
Sampling Procedure	20
Income from Site Rentals by Size and Location of Billboards	21
Estimate of Income from Billboard Site Rentals in Tennessee	23
The Estimate of Value of Advertising Rights Based on the Capitalization of Net Income	23
Estimated Value of Rights to be Acquired in Commercial and Industrial Areas	25
Estimate of Value of Rights in Non-Commercial, Non-Industrial Areas	26
Appendix A	27
Appendix B	29
Appendix C	30
Appendix D	30

The Value Of Outdoor Advertising Rates Held by Landowners Along Federal Aid Highways In Tennessee

by

Lewis S. Pipkin and Joe A. Martin*

INTRODUCTION

On October 22, 1965, President Johnson signed the Highway Beautification Act of 1965. The Act provides for the control of outdoor advertising, the control of junkyards, and calls for the appropriation of funds for scenic protection and roadside development. The Federal Aid Primary Highway System as well as the Interstate System is covered — a total of 268,000 miles of highway. As regards outdoor advertising, the Act provides for control of billboards within 660 feet of the edge of the right-of-way along all Interstate and Primary systems. The only billboards which are not controlled under the provisions of the Act are "on premise" signs, which are located on property for the purpose of advertising the property for sale or for lease, or for advertising a business activity conducted on the property.[1]

However, the implementation of the provisions of the Highway Beautification Act will not mean elimination of all billboards. Billboards will be premitted in zoned and unzoned commercial and industrial areas subject to regulations of size, spacing, and lighting. In addition, signs intended to inform the public of nearby natural wonders and historical attractions will also be permitted. However, under the suggested criteria issued by the Secretary of Commerce for the public hearings held in each of the 50 states, a substantial percentage of the existing billboards would be eliminated. The Act provides that under certain conditions the owners of these billboards and the owners of property upon which these billboards are located may receive compensation from the state if required to remove billboards.

---

*Research Instructor, Tennessee Highway Research Program, Engineering Experiment Station, University of Tennessee, and Professor of Agricultural Economics, University of Tennessee, respectively.

[1]U. S. Department of Commerce, Bureau of Public Roads, **Highways to Beauty** (Washington: U. S. Government Printing Office, 1966).

PURPOSE OF THE STUDY

The purpose of this study was to estimate the value of advertising rights of the owners of property fronting on the Interstate and Federal Aid Primary Highway Systems in Tennessee. This estimate was made assuming that the law will be implemented in compliance with the Draft Standards issued by the Bureau of Public Roads for the public hearing held in each state. Specifically, the study deals with two problems related to the value of advertising rights: a) defining an acceptable method of measuring value and b) the measurement or estimation of value.

SOURCE OF DATA

The primary source of data for this study was an inventory of outdoor advertising signs and displays made by the Tennessee Department of Highways. This inventory included with certain exceptions all signs along the Interstate and Federal Aid Primary Systems which were within 660 feet of the nearest edge of the right-of-way and visible from the main traveled-way of the system. The inventory excluded directional and other official signs, signs advertising the sale or lease of property upon which they are located, signs advertising the activities conducted on the property on which they were located, and temporary signs. This inventory was conducted based upon the methods and controls used by state highway departments to inventory bridge record data for highway defense requirements. Location control was established by following the road section numbering on the bridge index map prepared by the Research and Planning Division of the Tennessee Department of Highways.

In addition to inventory data prepared by the Tennessee Department of Highways, data on rental income have been acquired by interviews with sign owners and landowners along selected sample areas of each highway system.

BACKGROUND OF THE HIGHWAY BEAUTIFICATION ACT AND STATUS OF BILLBOARD CONTROL IN TENNESSEE

Federal Legislation

Commercial outdoor advertising in the United States dates from the 1880's. Legislation, usually in the form of municipal ordinances, dating back to the 1890's is evidence that the desire

[2]Ross D. Netherton, **Roadside Development and Beautification** (Washington: National Academy of Sciences — National Research Council, 1966), p. 39.

for some control of outdoor advertising has been recognized for almost the same period of time.[2] In early cases testing these ordinances, the courts were generally opposed to efforts to control billboard advertising. Numerous municipal ordinances were declared unconstitional, primarily on the basis that aesthetic considerations were a matter of luxury and not a matter of necessity. However, in the case of **St. Louis Gunning Advertising Company vs. St. Louis** in 1911, the Court upheld a municipal ordinance regulating the size, height, and location of billboards on the grounds of public safety and amenity.[3] This method of regulation proved popular and numerous ordinances were upheld on the grounds of public safety.

About 5 years after the decision in the St. Louis-Gunning case, the United States Supreme Court gave its approval to the use of aesthetic consideration as a goal of governmental action in **Berman vs. Parker** when the Court said:

> Public safety, public health, morality, peace and quiet, law and order — these are some of the more conspicuous examples of the traditional applications of the police power in municipal affairs. Yet they primarily illustrate the scope of the power and do not delimit it . . . The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary.[4]

Efforts to regulate outdoor advertising by special ordinances, or as a part of local comprehensive zoning law, have shown slow but steady growth. By 1958 all of the states had in effect some form of legislation designed to control outdoor advertising.[5]

With each state having individual statutes and with numerous municipal and special ordinances, little uniformity was present in efforts to control outdoor advertising. Much of the municipal law dated from a quarter of a century ago and offered minimal protection to present day highway and roadside values even with strict enforcement.

Model ordinances for county and municipal regulation of billboards and legislation for statewide roadside zoning have been prepared and proposed by various private and professional organizations. None, however, has been widely adopted.[6]

The first legislative attempt to develop effective and uniform control or regulation of roadside advertising occurred in 1955

---

[3]**Ibid.**, p. 40.

[4]**Ibid.**, p. 42

[5]Highway Research Board, **Outdoor Adverising Along Highways**, Special Report 41 (Washing: National Academy of Sciences — National Research Council, 1958), p. 1.

[6]Netherton, **op. cit.**, p. 48.

when Senator Richard Neuberger (Oregon) introduced an amendment to the Federal Aid Highway Bill. This amendment was deleted from the Highway Bill. In 1957 Senator Neuberger again submitted a bill to Congress designed to control outdoor advertising along the Interstate Highway System. This bill was killed in committee. In 1958 several billboard control bills were introduced before Congress. One of these bills was a revised version of Senator Neuberger's bill. A similar bill was also introduced by Senator Prescott Bush (Connecticut). All of these bills were considered at a common hearing on March 10, 1958. The bills offered by Senator Neuberger and Senator Thomas Kuchel (California) were combined to form a bill acceptable to a majority of the subcommittee. This bill passed the full committee and was approved by both houses and signed into law by President Eisenhower on April 16, 1958.[7]

The pertinent provisions of this bill are contained in Section 131 of Title 23, U. S. Code, "Highways" which provided that the erection and maintenance of outdoor advertising signs, displays, or devices within 660 feet of the nearest edge of right-of-way of the Interstate Highway System acquired after July 1, 1956, should be regulated consistent with the national standards to be prepared and promulgated by the Secretary of Commerce. These standards were published on November 13, 1958, in the **Federal Register** and provided that certain classes of signs may be permitted in protected areas. Signs that were to be permitted were official or directional signs, on premise signs or signs within 12 miles distance of advertised activities, signs giving information in the specfic interest of the traveling public, and signs for sale or lease of property.[8]

Neither the Act nor the national standards made any provision for removing existing signs. Thus, this problem was left entirely to the State's jurisdiction. The responsibility for enacting control legislation was left to the individual state legislatures. The role of the Federal Government was to encourage state participation by increasing the financial grant by one-half of one percent of the cost of any highway project which the states agreed to regulate in accordance with the minimum billboard standards.

This section of the Federal law and the accompanying national standards promulgated by the Secretary of Commerce have not had

---

[7]Charles U. Vaughn, **Legislative Considerations of Controlling Outdoor Advertising Along the Interstate Highway System** (unpublished Master's thesis, University of Tennessee, Knoxville, 1962), pp. 11-14.

[8]United States National Archives, **Federal Register**, Vol. XXIII, No. 222 (Washington: Government Printing Office, 1958), pp. 8793-8795.

the effects initially expected. The incentive of one-half of one percent bonus, in addition to the 90% Federal share payable to the states for the Interstate Highway System, has proved inadequate to induce a majority of the states to comply with national standards. As of August, 1965, only 20 of the 50 states had indicated any interest in the Federal bonus payment for the control of outdoor advertising; and of these 20 only 8 had become eligible for payment.[9] With this limited endorsement of the National Standards by the individual states, consideration was again given to the subject of billboard control. After a White House conference in May, 1965, the President submitted to Congress his recommendation for a new bill.[10] The Senate acted on the proposed Highway Beautification Bill on September 16, and the House of Representatives, in a record session of more than 12 hours on October 7, debated and passed its version of the Bill. The Senate concurred on October 13, 1965, and the President signed the Bill into law on October 22, 1965.[11]

The Highway Beautification Act of 1965 covers three fields: control of outdoor advertising, the control of junkyards, and the scenic enhancement of roadside beauty. For purposes of this study we are concerned only with the provisions for the control of outdoor advertising along Interstate and Federal Primary Highway systems. The Act provides in part that:

> a) The congress hereby finds and declares that the erection and maintenance of outdoor advertising signs, displays, and devices in areas adjacent to the interstate system and the primary system should be controlled in order to protect the public investment in such highways, to promote the safety and recreational value of public travel, and to preserve natural beauty . . .
>
> b) Effective control means that after January 1, 1968, such signs, displays, and devices shall, pursuant to this section, be limited to 1) directional and other official signs and notices, which signs and notices shall include, but not be limited to, signs and notices pertaining to natural wonders, scenic and historical attractions, which are required or authorized by law, which shall conform to national standards hereby authorized to be promulgated by the Secretary hereunder, which standards shall contain provisions concerning the lighting, size, number, and spacing of signs, and such other requirements as may be appropriate to implement this section; 2) signs, displays, and devices advertising the sale or lease of property upon which they are located; and 3) signs, displays, and devices advertising activities conducted on the property on which they are located.

---

[9] "The Highway Beautification Program," **American Road Builder**, XLII (August, 1965), 10.
[10] Randolph Russell, **American Road Builders Association Newsletter**, IX (October, 1965), 1.
[11] **Ibid.**

c) In order to promote the reasonable, orderly, and effective display of outdoor advertising while remaining consistent with the purposes of this section, signs, displays, and devices whose size, lighting, and spacing, consistent with customary use is to be determined by agreement between the several States and the Secretary may be erected and maintained within 660 feet of the nearest edge of the right-of-way within areas adjacent to the Interstate and Primary systems which are zoned industrial or commercial under authority of State law, or in unzoned industrial or commercial areas as may be determined by agreement between the several States and the Secretary.[12]

The Act also provides that any sign, display, or device lawfully in existence along the Interstate or other primary highway system which does not conform to this section shall not be required to be removed until July 1, 1970. The Act provides under Section G that:

Just compensation shall be paid upon the removal of the following outdoor advertising signs, displays, and devices: 1) those lawfully in existence on the date of enactment of this subsection; 2) those lawfully on any highway made a part of the Interstate and Primary system on or after the date of enactment and this subsection and before January 1, 1968; and 3) those lawfuly erected on or after January 1, 1968.[13]

Billboard Control in Tennessee

Outdoor advertising in Tennessee is subject to regulations as set out in Public Chapter No. 359, Senate 386. This law was enacted by the General Assembly of the State of Tennessee in 1965. This Act provides that no person shall engage in the business of outdoor advertising without obtaining a license from the State Commissioner of Revenue. The law also provides that a permit must be obtained from the Commissioner of Revenue for the erection of any outdoor advertising structure outside any incorporated town or city within the state. The Act provides that the Commissioner of Revenue will issue serially numbered metal permit tags to be attached to the sign or to the face of the advertising structure.

The other pertinent regulatory provision of the Act is that no advertising signs shall be erected or constructed within 15 feet of the outside boundary of any Federal or State highway or within 100 feet of any school, church, cemetery, park, public reservation, public playground, or state or national forests. The Act further provides that signs and displays which use intermittent lights or

[12]United States Department of Commerce, Bureau of Public Roads, **The 1967 Estimate of the Cost of Carrying Out the Provisions of the Highway Beautification Act of 1965** (Washington: n.n., n.d.), p. 1-1.

[13]**Ibid.**, p. 1-2.

any rotating or flashing lights cannot be within 100 feet of state-owned right-of-way; that the use of the word "stop" or "danger" implying the existence of danger is prohibited; that signs placed on the inside of a curve in such a manner as to obstruct the view of approaching vehicles are prohibited.

Excepted from provision of the Act are signs constructed by the owner or lessee of the business located on premises or within 100 feet of the business or residence, signs displayed on the property indicating the property is for sale or rent, and official notices or advertisements posted by direction of any public or court officer. Various other types of signs primarily under the public interest or historical interest category are also exempted from the provisions of the Act.[14]

INVENTORY OF BILLBOARDS IN TENNESSEE

In order to implement the Highway Beautification Act of 1965, the Tennessee Department of Highways inventoried all outdoor advertising signs, displays, and devices along the main traveled way of routes of the Interstate and the Federal Aid Primary systems within the state of Tennessee. The inventory was conducted by the Department of Research and Planning of the Department of Highways and was performed with eight survey parties consisting of personnel of the Department of Research and Planning. The inventory covered a time period of December 15, 1965, through February 28, 1966. Approximately 6,043 miles of highway frontage were surveyed in order to list and describe all existing advertising signs, displays, and devices. The routes covered in the inventory are shown in Figure 1 and include all of the Interstate and Federal Aid Primary systems. Signs reported in the inventory included all signs along the Interstate and Federal Aid systems which were within 660 feet of the nearest edge of the right-of-way and visible from the main traveled way of the system. The only signs excluded from the inventory were 1) directional and other official signs or notices which are authorized or required by law and located on the right-of-way, 2) signs advertising the sale or lease of property upon which they are located, 3) signs advertising activities conducted on the property on which they are located, and 4) temporary signs.[15]

---

[14] **Tennessee Code Annotated.** Section 62-114-1132, 1965 cumulative supplement, Vol. II, p. 52.

[15] Statement by F. W. McMichael, Department of Research and Planning, Department of Highways, Nashville, Tennessee, personal interview.

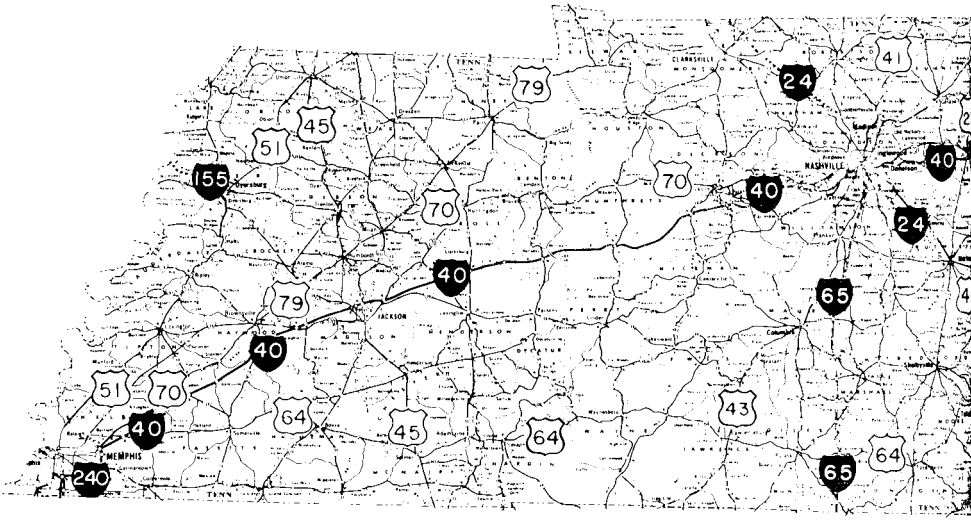


Figure 1. Location of Billboards

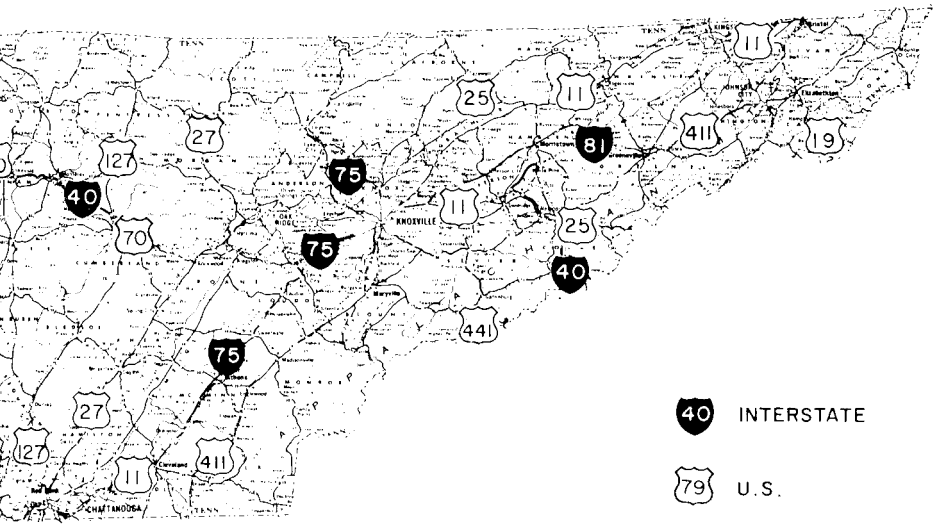
The routes inventoried, classified by road sections as established to inventory bridge record data for highway defense requirements, are shown in Figure 1. This is a skeletonized map and does not include all roads within the State. The mileage of highway inventoried, classified by land use, and highway system is shown in Table 1.

Table 1. Mileage of road inventoried by land use and highway system, Tennessee, 1965-66

Land Use	Highway System		
	Interstate	FAP*	Total
Industrial — Zoned	24.0	202.0	226.0
Industrial — Unzoned	2.5	75.0	77.5
Commercial — Zoned	4.0	488.5	492.5
Commercial — Unzoned	3.5	314.5	318.0
Other Uses**	341.0	4,587.5	4,928.5
Total	375.0	5,667.5	6,042.5

*Federal Aid Primary System.

**Other uses included: agriculture, forest, recreation, residential, idle.



raffic Volume, Tennessee, 1966.

Before beginning the inventory, copies of all available zoning and land use maps were acquired from state or local planning agencies. This information was used to establish land use categories in the zoned areas. In unzoned areas a field evaluation of the land use activity was made to distinguish commercial, industrial, and other uses. Where industrial or commercial activities were carried on in an unzoned area, the land for a distance of 200 feet along the right-of-way from the structure of the commercial installation or 400 feet from the structure of an industrial installation were considered as unzoned commercial or industrial land uses.[16] The data from this inventory were used for the analysis that follows.

Number of Billboards by Location

The inventory located a total of 24,366 signs adjacent to the 6,043 miles of highway included in this survey, or an average of 4.03 signs per mile. The number of signs classified by land usage, rural and urban, and type of highway system is shown in Table 2. Over 25% of the signs were located in areas that were classified as industrial or commercial areas and would be permitted to remain in

[16]U. S. Department of Commerce, Bureau of Public Roads, **Manual for Inventory of Outdoor Advertising Signs, Displays, and Devices, and of Junkyards** (Washington: n.n., December, 1965), pp. 5-7.

Table 2. Number of signs classified by land use, rural and urban, and highway system, Tennessee, 1965

Land Use	Completed Interstate	Interstate Traveled Way	Other FAP*	Total
Industrial (zoned & unzoned)				
Rural	0	0	48	48
Urban	25	0	227	252
Commercial (zoned & unzoned)				
Rural	4	44	1,356	1,404
Urban	52	107	4,277	4,436
Other Activities				
Rural	324	126	14,783	15,233
Urban	43	7	2,127	2,177
Signs on Right-of-Way				
Rural	0	11	645	656
Urban	0	22	138	160
All Land Uses				
Rural	328	181	16,832	17,341
Urban	120	136	6,769	7,025
Total	448	317	23,601	24,366

*Federal Aid Primary System.

place provided they meet the criteria for size, lighting, and spacing. About 3% of the signs or 816 were located on highway right-of-way. The remaining 71% were located in areas that would be controlled, and the only signs permitted to remain would be limited to official signs and on-premise signs advertising business conducted on the property and for sale and for lease signs.

The number and location of signs have been classified by counties as shown in Appendix Table A. These data show that signs are widely dispersed over the geographical divisions of the state but tend to be concentrated near the urban centers.

The number of signs per county ranges from 3 in Hancock County with 5 miles of road inventoried to 1,709 in Hamilton County with 149.6 miles of road inventoried. The counties with the largest numbers of signs were Hamilton, Davidson, Shelby, Knox, and Marion, respectively. When the counties are ranked by number of signs per mile of road inventoried, the leading counties were Hamilton, Marion, Marshall, Bradley, and Knox. Hamilton, Knox, and Marion counties are in the top 5 counties in both total number of signs and signs per mile of highway.

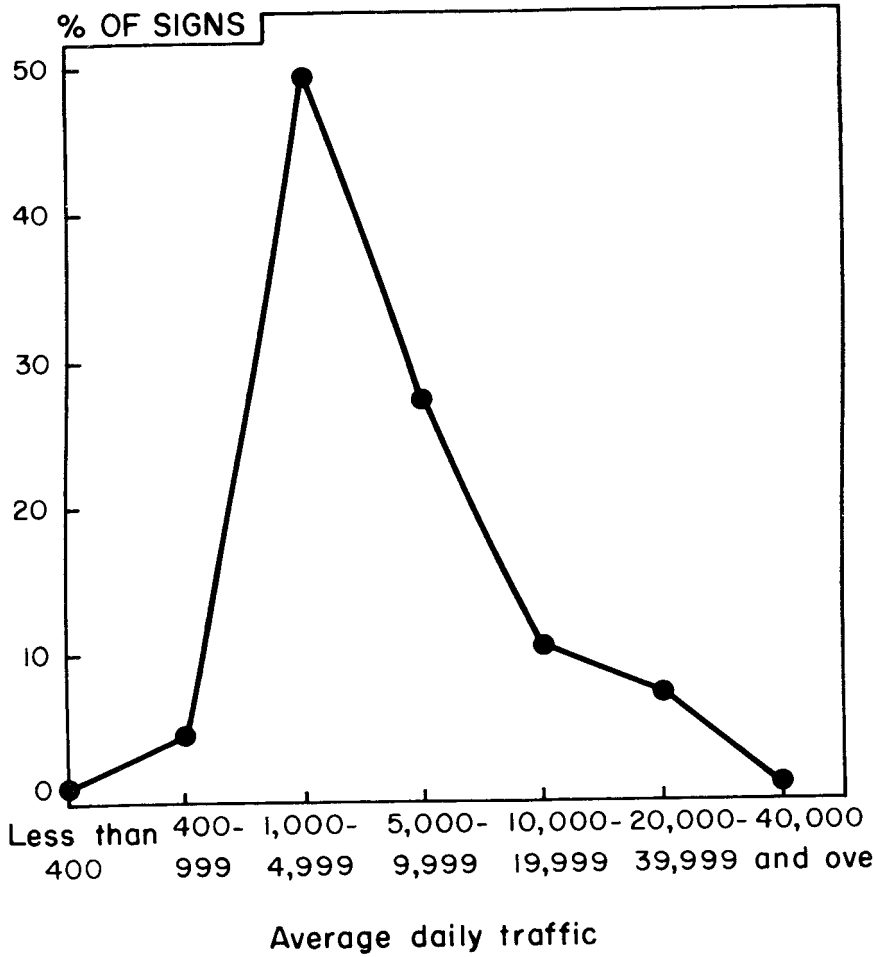


Figure 2. Routes inventoried by Road Section, Tennessee, 1966

Counties with urban centers had the largest proportion of signs located in commercial or industrial land use areas. About two-thirds of the billboards in the 4 large urban counties were located in commercial and industrial areas. These signs would be permitted to remain in place provided they meet the requirements for size, spacing, and lighting.

The relationship between the number of signs and the average daily traffic passing a site is shown in Figure 2 and Table 3. Almost 50% of the signs were located on routes having an average daily traffic count of from 1,000 to 4,999 vehicles. About three-

Table 3. Location of outdoor signs by land use and highway traffic volume groups, Tennessee, 1966

Land use	Traffic Volume Groups							Totals
	0-400	400-900	1,000-4,999	5,000-9,999	10,000-19,999	20,000-39,999	40,000 & over	
Industrial	0	0	73	100	46	81	0	300
Commercial	10	122	1,299	1,370	1,482	1,556	1	5,840
Other Activities	125	856	10,298	5,015	930	172	14	17,410
Signs on Right-of-Way	18	73	487	157	37	44	0	816
All Land Uses	153	1,051	12,157	6,642	2,495	1,853	15	24,366

Table 4. Number of signs by land use and horizontal size of panel, Tennessee, 1966

Land Use	Sign Size Groups Horizontal dimensions of sign panel in feet (estimated)							Total
	Under 3	3-9	10-19	20-23	24-29	30-39	40 and over	
Industrial	7	32	50	8	141	13	39	300
Commercial	291	945	959	184	2,802	236	423	5,840
Other Uses	1,140	7,317	3,829	693	3,084	826	521	17,410
All Land Uses	1,521	8,861	4,966	894	6,050	1,079	995	24,366

fifths of the road mileage was within this traffic volume group. The remaining one-fifth of the highway mileage had over 5,000 average daily traffic and had over 45% of the total number of signs.

Size of Billboards

The casual observer may note that billboards appear in an almost endless variety of shapes, sizes, and designs; however, some conformity in size and shape, especially in billboards owned by the members of the Outdoor Advertising Association, is evident. The sign panel with a 12-foot vertical and 24- or 25-foot horizontal dimension is considered a standard size panel. This size panel is widely used by outdoor advertising firms, but many of the unleased business proprietor-owned signs are smaller and vary more in both shape and design.

The Draft Standards as printed in the **Federal Register** appear to reflect concern primarily in restricting the maximum size of billboards. No restriction on minimum size or shape is given. The Standards provide for maximum area of 300 square feet, a maximum length of 30 feet, and a maximum height of 15 feet for signs located within 150 feet of the nearest edge of the traveled way. Signs located over 150 feet from the nearest edge of the traveled way would be permitted to a maximum area of 400 square feet, a maximum length of 40 feet, and a maximum height of 20 feet.[17]

If the Highway Beautification Act is enforced under the criteria as stated in the Draft Standards, the size of signs will affect the number of signs that will be allowed to remain in commercial or industrial areas. The signs inventoried have been classified by horizontal size of panel and by square foot area of the panel in order to estimate the number of signs that exceed the criteria either in length or in square footage of the panel. It may be observed from Table 4 that over 91% of the signs have horizonal dimensions of less than 30 feet. These signs would not be affected by the restrictions on length of the sign panel. Of the remaining 9%, 711 signs or 2.9% are located within 150 feet of the main traveled way. The restriction on the size or length of signs would require the removal of these signs. The signs classified by overall height and area of sign are shown in Table 5. This method of classification gives almost an identical percentage

[17]United States National Archives, **Federal Register**, Vol. XXXI, No. 19 (Washington: Government Printing Office, January, 1966), p. 1163.

Table 5. Number of signs by land use, overall height, and by area of signs, Tennessee, 1966

Land use and overall height	Sign Area (Sq. ft.) 25 and under	26-120	121-300	301-400	401-600	601-900	901 and larger	Totals
Industrial								
Under 30	31	55	105	5	8	8	0	212
Over 31	0	1	56	0	9	21	1	83
Commercial								
Under 30	823	1,213	2,421	124	215	97	14	4,907
Over 31	1	8	667	12	126	100	14	933
Other uses								
Under 30	5,575	6,096	4,288	414	530	177	89	17,169
Over 31	2	5	90	10	54	21	59	241
All land uses								
Under 30	6,429	7,364	6,814	543	753	282	103	22,283
Over 31	3	14	813	22	189	147	74	1,262

as that shown in Table 4. Ninety-one percent of the signs have an area under 300 square feet. Of the remaining 9% which exceed 300 square feet in area, 754 are located in either industrial or commercial areas.

Number of Billboards by Ownership and Type of Advertisers

Much of the discussion of billboard control has centered around the effects on the outdoor advertising industry and upon the businesses that use this medium of advertising. Those in favor of more stringent billboard control have suggested that billboards are in a large measure forced upon a captive audience, the traveling public; and that this medium is, in fact, dominated by a few large advertisers who take advantage of this medium as a windfall to their advertising program. Those opposed to billboard control have suggested that for certain types of businesses billboard advertising is the only effective and available means of informing potential customers of the availability of a product or service.

Signs were classified by type of product advertised as shown in Table 6. Over 7,000 of the 24,366 signs inventoried or approximately 29% advertise local businesses. In addition to this number, over 4,000 of the signs advertise local motels; and 1,500 of the signs advertise restaurants. In classifying motels and restaurants, no distinction was made between chain and locally-owned motels or restaurants. If motels and restaurants are also considered as a part of the local business structure, over 41% of the

Table 6. Number of signs by type of product advertised, Tennessee, 1966

Product Advertised	Number of Signs	Percent of Total
Motels	4,127	16.9
Scenic Attractions	2,405	9.9
Restaurants	1,505	6.2
Other Local Business	7,015	28.8
National Product (Gas)	1,219	5.0
National Products (Drink)	1,262	5.2
National Products (Food)	1,083	4.4
National Products (Liquor)	896	3.7
National Product (Auto)	730	3.0
National Products (Miscellaneous)	2,115	8.7
Public Service	1,195	4.9
Official Signs	814	3.3
Total	24,366	100.0

signs inventoried were used to advertise local businesses. Approximately 29% of the signs advertise national products with the two leading products advertised being beverages and gasoline. About 10% of the signs advertise scenic attractions or points of historical interest. Approximately 4% of the signs were devoted to public service advertisement and 814 or 3.3% were classified as official signs. Of the 24,366 signs inventoried, 8,267 had identification indicating that they were owned by an outdoor advertising company; thus, about two-thirds of the signs apparently were owned by local businessmen.

THE VALUE OF ADVERTISING RIGHTS TO LANDOWNERS

Sampling Procedure

The primary information necessary for an estimate of the value of advertising rights to landowners is the amount of the income produced by site rental. The billboard inventory conducted by the Tennessee Department of Highways did not contain any information on site or billboard space rentals. Therefore, a sample representative of the highway system was selected to estimate the total income received by landowners from site rentals.

To select sample road sections to obtain rental information, the billboard inventory was divided into Interstate and other Federal Aid Primary road sections. A 5% random sample was drawn from each group. This gave 25 Federal Aid Primary sections and 3 Interstate sections. Eleven of the highway sections drawn were located in East Tennessee, 9 in Middle Tennessee, and 8 of the sections were located in West Tennessee. The road sections selected for sampling are shown in Appendix Table B by geographic division and by county. The differences between values for the sampling sections and values for the state inventory were less than 4% for average number of signs per mile of road, sign size distribution, and sign ownership distribution (see Appendix Tables B and C).

In order to minimize cost of data collection, it was determined that rental information would be collected on all signs on any sample section having less than 50 billboards. On sections having over 50 billboards, information was collected until the average rental for billboards within each size classification did not change appreciably upon the addition of more data. This yielded a sample of 523 signs for which rental data were obtained.

Rental information was collected by personal interview with the owner or manager of the outdoor advertising company or in some instances by mail questionnaire to obtain rental information for all signs owned by an outdoor advertising company. Rental information for signs that were individually owned by a firm with a limited number of signs was collected by interviewing either the owner of the business advertised on the billboard, or by interviewing the owner of the land upon which the sign was located.

Income from Site Rentals by Size and Location of Billboards

The number of billboards on which rental information was obtained and the average rental by size of billboard panel is shown in Table 7. The average rental given is a simple average computed

Table 7. Average annual site rental rates on billboards by size classes, Tennessee, 1966

Size of panel square feet	Number Signs	Percent	Average annual site rental
0-25	179	34.3	$ 0.83
26-120	132	25.3	14.18
121-300 Rural	171	32.8	30.00
121-300 Urban	18	3.4	70.00
301-400	14	2.7	61.50
401-600	7	1.4	58.75
601-900	2	0.4	68.50
901-over			100.00
	523	100.0	—

by adding the annual rentals paid within each size classification and dividing these totals by the number of signs within each size class.

The low average annual site rental of $0.83 for billboards of 25 square feet or less as shown in Table 7 is due to lack of any payment for site rental for many billboards of this size. In many cases only a small token payment was made at the installation of the billboard and no annual payment made thereafter. In cases where an annual rental was paid, this payment usually ranged from $3.00 to $5.00 per year. Of the 179 billboards in this size classification investigated, a rental payment was made on only 49 sites. In the 26-120 square foot classification — for 45 of the 132 sites investigated — no site rental payment was made. In the re-

Table 8. Estimate of annual income to landowners from billboard site rental by type of land use, Tennessee, 1966

Billboard Size (Sq. ft.)	Non-Commercial, Non-Industrial Land			Commercial and Industrial Land			Total Income
	No. Signs	Av. Annual Rental	Income	No. Signs	Av. Annual Rental	Income	
		$	$		$	$	$
0-25	5,577	0.83	4,628.91	855	0.83	709.65	5,338.56
26-120	6,101	14.18	86,512.13	1,277	14.18	18,107.86	104,620.04
121-300 Rural	3,721	30.00	111,630.00	488	30.00	14,640.00	126,270.00
121-300 Urban	657	70.00	45,990.00	2,761	70.00	193,270.00	239,260.00
301-400	424	61.50	26,076.00	141	61.50	8,671.50	34,747.50
401-600	584	58.75	34,310.00	358	58.75	21,032.50	55,342.50
601-900	198	68.50	13,563.00	231	68.50	15,823.50	29,386.50
901-over	148	100.00	14,800.00	29	100.00	2,900.00	17,700.00
Total	17,410		337,510.00	6,140		275,155.00	612,665.00

maining classifications, some cases were encountered where no site rental payment was made; however, these cases were far less frequent and usually involved special circumstances such as friendship or family relationship between the landowner and sign owner. Cases of no rental payment for billboard sites for panels above 121 square feet did not occur frequently enough to substantially change the average site rental computed. However, an analysis of the sample data by road sections for billboards in the 121-300 square foot classification indicates a substantial difference between the site rental paid in urban and rural areas. Thus, the average rental for this classification was also adjusted for rural or urban location based on the percentage of billboards in rural and urban locations as shown in Table 2.

Estimate of Income from Billboard Site Rentals in Tennessee

The estimate of income from billboard site rentals by size sign as shown in Table 8 is based on the average site rental shown in Table 7 times the number of billboards in the state within each size class. However, the site rental paid is obviously influenced by other factors in addition to the size of the billboard. The location of the site and the rate charged for the billboard advertising space appear to be important factors in determining the site rental. Adjustment has been made for rural-urban location factor as indicated in Table 7 in the size classification of 121-200 square feet. This size classification includes the standard size panel and will include most of the billboards owned by outdoor advertising companies.

The income from site rentals for billboards located on non-commercial and non-industrial land as shown in Table 8 was estimated to be $337,510.00. The estimate of income from site rentals on land used for commercial and industrial purposes was $275,155.00. The total estimated annual income from billboard site rentals in Tennessee was $612,665.00.

The Estimate of Value of Advertising Rights Based on the Capitalization of Net Income

Of the three conventional methods[18] of property appraisal, it appears that the income capitalization method is the most suitable approach to an estimate of the value of advertising rights. The extent of the interests or right taken will determine the amount

[18]See Appendix 18 for a discussion of three appraisal methods.

due the landowner as just compensation. Here the right that the Federal Government proposes to take is a right to use certain land for specific purpose. To arrive at an estimate of the economic loss that a property owner actually suffers as a result of the taking away of one use right, in many cases, is a very difficult task. The use of any given parcel of land for a billboard site may be only one of several uses for which the property could be utilized. A restriction on the property against this particular use would not mean a total diminution of value, but only a reduction representing the difference in value of the property for that use and the value of the property for the next highest and best use.[19] Thus, if a property had two alternative uses, one for billboard site rental and another for some other use which would produce an equal income, the restriction of the property against billboard use would not, per se, reduce the value of the property.

In this method of estimating value, the capitalization rate used and the expected duration of the income stream are critical factors. A variation in the interest rate used can produce a wide variation in the value estimate. As shown in Table 9, a variation of 1% in the rate of interest used can result in an increase or decrease of as much as 7% in the value estimate.

Table 9. Present value of $1 per year for 15 years capitalized at interest rates ranging from 5% to 8%

Years	5%	5½%	6%	6½%	7%	7½%	8%
15	$10.379	$10.037	$9.712	$9.402	$9.107	$8.829	$8.559

Source: C. D. Hodgmann, **Mathematical Tables**, 7th ed. Chemical Rubber Publishing Company, Cleveland, Ohio, 1941.

For those who receive rental income, the reliability and stability of the billboard site rental income is usually good. The rental paid the landowner is a very small percentage of the total expense of the advertising company or business owner. The effort to obtain the site lease is usually made by the advertising company or business owner. The rental to the landowner is in effect a net rental usually mailed to the landowner who has no management or maintenance expense. After considering these factors, a capitalization rate of 6% would appear to be reasonable.

[19] Walter E. Gunning, "Valuation of Restrictive Easements," **The Appraisal Journal**, Vol. XXXI, No. 1, pp. 29-33.

The estimate of the normal duration of the income stream received by the landowner is based on information gathered from outdoor advertising firms. Thirteen firms provided information on the average length of time billboards owned by the firm had been in their present location. The average length of time for billboards on present sites computed from these data is 15 years.

Estimate of total value of advertising rights. With the data in hand, one may now arrive at an estimate of the value of outdoor advertising rights to landowners along Tennessee highways. The computation to arrive at an estimate of value is made by multiplying the present worth of $1 annually for 15 years capitalized at 6% by the total estimated annual income from billboard site rental in the state as follows:

Present worth of $1 annually for 15 years capitalized at 6% is $9.712 (Table 9). Total estimated annual income is $612,665 (Table 8).

$$\$612{,}665 \times 9.712 = \$5{,}950{,}202$$

The accuracy of the estimate of approximately $5,950,000 depends primarily upon the validity of the capitalization rate used. The 6% rate is a judgment selection based on a subjective analysis of the very low risk and management required of this type property and the outlook regarding interest rates over the next 15 years. If the reader feels that a higher or lower rate of capitalization should be used, one may refer to the data in Table 9 to make the required computation.

The above estimate is the indicated total value of advertising rights to landowners from existing billboard sites. However, the cost of acquiring rights in the implementation of the Highway Beautification Act should be less than the total value for two reasons: 1) Some owners may not suffer economic damage by the loss of advertising rights; hence, there would be no legal basis for payment. 2) Some billboards presently located in zoned or unzoned commercial or industrial areas will be allowed to remain in place.

Estimated Value of Rights to be Acquired in Commercial and Industrial Areas

The Highway Department inventory data discussed earlier indicated that 6,140 billboards are located in commercial or industrial areas. The estimated annual income from site rental for these locations was $275,155 (Table 8). It was concluded that size restrictions would be of only minor importance in determining

the number of billboards that would have to be removed in these areas. From the available data, no analysis of the number that would have to be removed due to spacing requirements could be made. However, interviews with outdoor advertising company officials indicate that a substantial number of billboards located in industrial or commercial areas will be affected by the spacing requirements. In order to develop some estimate of the probable cost of acquiring advertising rights, a projected loss of 60% of the billboards currently located in commercial or industrial areas is used. Assuming 60% of the sites in commercial and industrial areas will be acquired, the estimate of value would be computed as follows:

Present worth of $1 annually for 15 years capitalized at 6% is 9.712 dollars.

Sixty percent of $275,155 received annually as site rental in commercial and industrial areas is $165,093.

$165,093 × 9.172 = $1,603,383

Estimate of Value of Rights in Non-Commercial, Non-Industrial Areas

The legislation requires the removal of all billboards in the non-commercial, non-industrial areas. The estimated annual site rental income in these areas was $337,510 (Table 8). Thus, we have the following computation:

$337,510 × 9.712 = $3,277,897

The total estimated cost of acquiring outdoor advertising rights held by landowners for existing billboard sites in Tennessee with the stated assumptions outlined in this study is $1,603,383 for 60% of the sites in commercial and industrial areas plus $3,277,897 for sites in other areas giving a total of $4,881,280 or approximately $4,900,000. On a per mile basis for 6,042 miles of Interstate and Primary roads in Tennessee, the estimate is approximately $810 compared with an estimate of $670 per mile for the nation as a whole made by the Secretary of Commerce.[20]

---

[20] "The Secretary of Commerce Testifies," **American Road Builder**, XLII (September, 1965), p. 5.

APPENDIX TABLE A. NUMBER OF SIGNS PER COUNTY AND PER MILE OF HIGHWAY, TENNESSEE, 1966

County	No. of signs	No. in commercial or industrial area	Inventoried miles	No. of signs per mile
Anderson	332	5	56.60	5.86
Bedford	259	38	53.98	4.80
Benton	53	9	22.08	2.40
Bledsoe	66	4	47.64	1.58
Blount	490	43	67.16	7.30
Bradley	462	190	51.80	8.00
Campbell	342	53	49.57	6.90
Cannon	37	1	19.19	1.90
Carroll	179	27	52.70	3.40
Carter	242	61	55.83	4.33
Cheatham	186	6	46.08	4.04
Chester	203	30	81.68	2.48
Claiborne	270	25	55.44	4.87
Clay	36	14	23.64	1.52
Cocke	203	34	74.42	2.73
Coffee	440	121	62.71	7.02
Crockett	79	2	43.30	1.82
Cumberland	298	69	97.90	3.04
Davidson	1,315	881	223.36	5.89
Decatur	19	—	15.59	1.22
DeKalb	151	16	51.65	2.92
Dickson	83	46	53.05	1.56
Dyer	121	46	46.61	2.60
Fayette	241	19	119.72	2.01
Fentress	71	26	33.80	2.10
Franklin	198	54	39.77	4.98
Gibson	528	65	120.68	4.37
Giles	250	29	94.71	2.64
Grainger	168	6	46.84	3.59
Greene	359	52	110.73	3.24
Grundy	151	42	61.22	2.47
Hamblen	316	102	25.33	2.48
Hamilton	1,709	1,081	149.69	11.42
Hancock	3	—	5.43	0.55
Hardeman	190	33	100.63	1.89
Hardin	175	13	85.89	2.04
Hawkins	277	46	84.38	3.28
Haywood	165	15	120.30	1.77
Henderson	83	1	75.50	1.10
Henry	474	20	72.34	6.55
Hickman	71	—	45.43	1.56
Houston	6	—	23.09	0.26

APPENDIX TABLE A (continued)

County	No. of signs	No. in commercial or industrial area	Inventoried miles	No. of signs per mile
Humphreys	72	5	57.55	1.25
Jackson	18	6	19.40	0.93
Jefferson	299	54	62.66	4.77
Johnson	92	6	43.66	2.10
Knox	1,037	650	135.85	7.63
Lake	59	—	25.80	2.29
Lauderdale	127	13	51.86	2.45
Lawrence	200	26	51.34	3.49
Lewis	18	3	35.42	0.50
Lincoln	313	56	87.87	2.56
Loudon	276	18	42.60	6.48
McMinn	299	1	67.42	4.43
McNairy	240	31	67.74	3.54
Macon	—	—	—	—
Madison	472	53	126.11	3.74
Marion	741	110	73.98	10.02
Marshall	116	17	12.28	9.45
Maury	258	51	97.58	2.64
Meigs	80	26	47.40	1.69
Monroe	256	12	39.48	6.48
Montgomery	414	58	61.79	6.70
Moore	37	—	16.14	2.29
Morgan	167	18	43.02	3.88
Obion	334	9	78.59	4.25
Overton	36	—	20.99	1.71
Perry	58	3	50.32	1.15
Pickett	39	16	22.55	1.73
Polk	275	4	57.87	4.75
Putnam	356	112	97.14	3.66
Rhea	306	69	67.44	4.54
Roane	288	80	84.47	3.41
Robertson	239	37	63.54	3.76
Rutherford	560	118	126.05	4.44
Scott	171	25	41.81	4.09
Sequatchie	48	24	42.72	1.12
Sevier	460	83	87.05	5.28
Shelby	1,129	764	203.65	5.54
Smith	68	39	70.97	0.96
Stewart	180	15	37.95	4.74
Sullivan	583	169	96.60	6.03
Sumner	162	9	74.78	2.17
Tipton	107	4	33.44	3.20

APPENDIX TABLE A (continued)

County	No. of signs	No. in commercial or industrial area	Inventoried miles	No. of signs per mile
Trousdale	56	12	19.14	2.92
Unicoi	127	22	30.32	4.19
Union	58	—	15.43	3.73
Van Buren	27	12	28.80	0.94
Warren	215	46	80.92	2.66
Washington	380	151	56.99	6.67
Wayne	110	14	77.57	1.42
Weakley	244	13	66.35	3.68
White	173	52	48.12	3.59
Williamson	210	18	155.34	1.35
Wilson	348	34	104.64	3.32
Total	24,366	6,493	6,043	4.03

APPENDIX TABLE B. LOCATION OF SAMPLING SECTIONS, MILES AND NUMBER OF SIGNS IN EACH COUNTY, RENTAL INCOME SURVEY, TENNESSEE, 1966

Area and county	Road section nos.	Miles	No. signs
East Tennessee			
Bradley	101 and 343	11.10	40
Blount	201	2.39	13
Campbell	316	10.32	1
Cocke	123 and 259	30.11	69
Hamilton	98 and 162	28.25	347
Jefferson	118	30.33	84
Meigs	391	17.96	33
McMinn	388	10.94	53
Middle Tennessee			
Davidson	27, 365, and 434	35.01	43
Putnam	498 and 499	13.88	25
Sumner	83	23.04	81
Warren	288	0.26	0
Williamson	75	18.12	147
Wilson	270	25.91	115
West Tennessee			
Hardeman	355	4.86	19
Hardin	472	25.98	54
Haywood	413	3.74	4
Madison	313 and 479	24.79	17
Shelby	9, 124 and 125	9.64	89
Total	—	326.63	1,234
Average Per Mile	—	—	3.77

APPENDIX TABLE C. NUMBER AND PERCENTAGE OF SIGNS BY SQUARE FEET AREA OF PANEL IN THE SAMPLE SECTIONS AND IN THE STATE, TENNESSEE, 1966

Size — square feet	State		Sample area	
	No.	Percentage	No.	Percentage
0-25	6,432	27.3	354	28.8
26-120	7,378	31.3	344	27.9
121-300	7,627	32.4	431	34.7
301-400	565	2.4	42	3.6
401-600	942	4.0	42	3.3
601-900	429	1.8	16	1.4
901-larger	177	0.8	5	0.4
Total	23,550	100.0	1,234	100.0

APPENDIX D

Application of Appraisal Techniques to the Valuation of Advertising Rights

In any program where the state or other governmental unit must acquire private property for public use, the state or governmental unit is charged with the responsibility of making fair compensation for the property right taken.[1] However, determination of what is fair and just is obviously no easy problem. In the United States value determination of property is basically left to the function of a free market; thus, the states or governmental units are faced with a difficult task. They are charged by public necessity with acquiring property rights from private landowners for public needs and with determining the fair market value of these rights without being able to use directly the main forum for value determination—the market. Thus, the acquiring agency must estimate market value. This estimate of value is generally based on a real estate appraisal which estimates the fair market value of the property rights to be acquired. However, the appraisal of real estate is not an exact science. It is an observational one based on facts, judgment, and experience. While facts are objective, the subjective application of these facts is an intangible process; therefore, appraisers can only estimate value.[2]

[1] **Tennessee Code Annotated, 1958**, Vol. I Constitutions, p. 134.

[2] Frank R. Shugrue, "The Nature of Real Estate Appraisal," **Encyclopedia of Real Estate Appraising** (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959), p. 3.

It may be said that the fundamental difficulty in appraisal is the inherent involvement of the human element. Value is nebulous and to a great extent subjectively determined. But to admit the nebulous nature of market value does not invalidate appraisal techniques or disavow attempts to make these techniques more disciplined and exact.

To handle this problem there has been developed a theoretical method for appraising any property. The theoretical method is basically made up of three approaches to the estimate of value:

1. The value indicated by summation — the cost theory which espouses the principle that value tends to be set and established by the depreciated cost of reproducing the property.
2. The market approach — the value indicated by comparison with sales of like property or worth by trial in the market.
3. The income approach — the value indication by ability of the property to earn a net income on money invested in it.

The Cost Approach

Cost as used in appraisal terminology refers to replacement cost of an asset. Replacement cost is generally regarded as the monetary outlay required to buy a reasonably similar substitute for the asset under appraisal. This concept differs from accounting cost concepts in that replacement cost does not necessarily equal the actual cost or original cost of the asset. Cost in this sense may be more rigorously defined as the actual monetary expenditures for labor, material, services, and interest on borrowed and invested capital necessary for the production of an economic good.[3]

The cost approach is not only an appraisal technique but also basically a theory of value. Cost is viewed more as a long run rather than a short run determinate of value. More emphasis is given in the short run to the demand concept of value.

In the cost approach the value of an asset can be more or less objectively determined. It is the cost of the new structure minus depreciation plus the land or site value.[4] Theoretically cost tends

[3]John R. White, "Relationship of Real Estate Cost and Value," **Selected Readings in Real Estate Appraisal** (Chicago: American Institute of Real Estate Appraisers, 1953), p. 141.

[4]Robert L. Free, David L. Montonna, and Herman O. Walther, **The Appraisal of Real Estate** (Chicago: American Institute of Real Estate Appraisers, 1962), p. 225.

to set the upper limit of value since a good can never be worth more than it would cost to replace it with a good of like utility. Thus, an investor would construct realty of the same character on an equally well-located lot before he would pay an amount above the cost of this construction for existing realty.[5] A difficult problem often faced in using the cost approach in real estate appraisal is that some units or plots of land may possess peculiar site values, such as location, that cannot be reproduced or duplicated at any cost. Where this is the case, the appraiser must rely on other methods. Where it can be used, the acceptance of the cost approach as a complete theory of value must be based on important assumptions. The primary assumption is perfect competition. Often this condition does not exist. In the real estate market, there often are vast differences between value and cost because of market imperfections.

The cost approach as an indication of the value of real estate is one of the basic steps in the valuation process. The cost approach logically has three sequential steps: estimating land value from comparison with sales of vacant land similar to the property under appraisal; estimating the reproduction cost of the improvement; and estimating accrued depreciation to the improvement.[6]

The Market Data Approach

The market data approach is not only an appraisal technique but also a basic theory of value. The theory simply stated is that in the short run prices are determined by demand. This is not to say that market determined prices represent "fair" value. It only means that, since in the short run supply is limited, market prices reflect the immediate wants and the available means to satisfy these wants at a specific moment of time. Market value thus can be looked at in two distinct ways: one as a theory of value; and second, as a market price in fact.[7]

The market data approach is a process of comparing prices paid for similar properties. The approach basically depends on the actions of buyers and sellers in the market. Application of the market data approach requires the comparing of similar properties which have sold to the property being appraised. Demand is by its very nature subjective, and thus, the market data approach is possibly the most subjective of the three approaches to value.

---

[5]White, **op. cit.**, p. 143.

[6]Free, **op. cit.**, p. 225.

[7]W. Harrison Carter, and William P. Snavely, **Intermediate Economic Analysis** (New York: McGraw-Hill, Inc., 1961), pp. 151-153.

It is important to remember that the legal concept of market value does not necessarily coincide with market price. A comprehensive definition of market value is given by Adrian F. McDonald as:

> Market value is the price which a willing buyer would be justified in paying and a willing seller would be warranted in accepting if each is well-informed or well-advised, motivated by reaction of typical users, free of undue stimulus, financially capable of ownership, occupancy or use, and allowed a reasonable time in which to test the market.[8]

Sales on the market are made for many reasons and may not include one or more of the characteristics necessary to meet the above definition of market value. However, in the long run and with a large number of sales, market price will gravitate toward market value.

The Income Approach

The income produced by a property is an indication of value of the property. It is not value, and income capitalization does not give value; but it is a method by which we may achieve some estimate of worth.

In using the income approach, the appraiser is concerned with the present worth of the future potential income to a property owner. This is generally measured by the net income which a fully informed person is warranted in assuming the property will produce during its remaining useful life.[9]

The income approach is commonly used in connection with the appraisal of investment types of real estate. Usually these types of properties are important to the owner only because of their present and prospective ability to produce net monetary income and have little amenity value.[10]

Basically this approach is an attempt to estimate the price that a prudent purchaser would pay for the right to receive the future net income produced by a property or a property right. Since this is an estimate of future conditions, it must of necessity involve many uncertainties which may affect the annual amounts received and the length of time such returns will continue. An estimate of value based on the income produced by a property may be arrived at by several different procedures depending on the type

---

[8]Adrian F. McDonald, "The Meaning of Value," **Encyclopedia of Real Estate Appraising** (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959), pp. 22-24.

[9]Free, **op. cit.**, p. 71.

[10]**Ibid.**, p. 72.

of property. The essential element in all procedures is to arrive at an estimate of expected annual net income that the property will yield, which — when capitalized at the proper rates of interest — will give an estimate of present worth. Capitalization simply discounts expected future income back to its present value. The formula for capitalization is:

$$\text{Present Value} = \frac{\text{Annual Income}}{\text{Discount Rate}}$$

The rate of discounting used is the rate of interest that is expected to prevail in the future, plus the risk element and the management burden associated with the property.

Which Appraisal Method Is Applicable to the Task at Hand?

These three approaches to value are primarily designed to estimate the fair market value of real property; however, the acquisition of advertising rights along the highway system does not involve the purchase of land and all rights in the land but only the purchase of the right which the owner or his lessee has to erect outdoor advertising signs. Thus, the appraisal problem here is one of separating out this one specific right in land and estimating its value.

All three of the appraisal methods considered here may be adapted to the problem of divisibility of property rights if the necessary data are available. It is because of the lack of necessary data that neither the market data approach nor the cost approach can be used to arrive at an estimate of the value of advertising rights held by landowners. Tennessee has had little or no experience with easements limiting the erection of billboards and, thus, there are no market sales on property so encumbered; therefore, market data on comparable property are not available. In like manner, the cost approach is not applicable because advertising rights are not a reproducible asset. Of the three conventional methods of property appraisal, it appears that the income capitalization method is the most suitable approach to an estimate of the value of advertising rights.

THE UNIVERSITY OF TENNESSEE
AGRICULTURAL EXPERIMENT STATION
KNOXVILLE, TENNESSEE

Agricultural Committee

Board of Trustees

Andrew D. Holt, President
Clyde M. York, Chairman
Ben Douglass, Harry W. Laughlin, Wassell Randolph
W. F. Moss, Commissioner of Agriculture

STATION OFFICERS

Administration

Andrew D. Holt, President
Webster Pendergrass, Dean of Agriculture
E. J. Chapman, Assistant Dean
J. A. Ewing, Director
Eric Winters, Associate Director
J. L. Anderson, Budget Officer

Department Heads

S. E. Bennett, Agricultural Biology
T. J. Whatley, Agricultural Economics and Rural Sociology
J. J. McDow, Agricultural Engineering
Harold J. Smith, Agriculture, University of Tennessee at Martin
L. F. Seatz, Agronomy
C. S. Hobbs, Animal Husbandry-Veterinary Science
Ruth L. Highberger, Child Development and Family Relationships
J. T. Miles, Dairying
Grayce E. Goertz, Food Science and Institution Management
M. R. Johnston, Food Technology
J. W. Barrett, Forestry
Myra L. Bishop, Home Management, Equipment, and Family Economics
B. S. Pickett, Horticulture
R. L. Hamilton, Information
Mary R. Gram, Nutrition
K. L. Hertel, Physics
O. E. Goff, Poultry
Anna J. Treece, Textiles and Clothing

University of Tennessee Agricultural Research Units

Main Station, Knoxville, J. N. Odom, Superintendent of Farms
University of Tennessee-Atomic Energy Commission Agricultural Research Laboratory, Oak Ridge, N. S. Hall, Laboratory Director
University of Tennessee at Martin, Martin, Harold J. Smith, Head, Agriculture Department

Branch Stations

Dairy Experiment Station, Lewisburg, J. R. Owen, Superintendent
Highland Rim Experiment Station, Springfield, L. M. Safley, Superintendent
Middle Tennessee Experiment Station, Spring Hill, J. W. High, Jr., Superintendent
Plateau Experiment Station, Crossville, J. A. Odom, Superintendent
Tobacco Experiment Station, Greeneville, J. H. Felts, Superintendent
West Tennessee Experiment Station, Jackson, B. P. Hazlewood, Superintendent

Field Stations

Ames Plantation, Grand Junction, James M. Bryan, Manager
Cumberland Plateau Forestry Field Station, Wartburg, J. S. Kring, Manager
Friendship Forestry Field Station, Chattanooga
Highland Rim Forestry Field Station, Tullahoma, P. J. Huffman, Jr., Manager
Milan Field Station, Milan, T. C. McCutchen, Manager
Oak Ridge Forest and Arboretum, Oak Ridge

(2500 - 9-68)