Date: July 27, 1951

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Title of Study: Location as a Factor in Land Prices in Payne County, Oklahoma, 1941-45

Number of Pages in Study: 65

Under Direction of What Department: Agricultural Economics

Scope of Study: The per acre selling price of farm real estate transfers made in Payne County, Oklahoma, 1941-45 was studied by type of road on which the farmstead was located, distance to pavement and all weather road, distances to rural and urban markets, and distances traveled over dirt roads to markets. Before analyzing the available sales data, factors such as land quality, minerals transferred and size of transfer were controlled. This involved the separating of sales into three soil quality groups out of which only the fair land quality group, being the most representative, was used for the main analysis. Only the sales with 50 or 100 percent of the mineral rights transferred were analyzed as a group in order to control the mineral rights factor. Further efforts were made to control the effect of size of transfer on the per acre selling price. It was possible to combine and use the data in the three most important size groups (30 - 69 acres, 70 - 99 acres, and 140 - 179 acres). A fourth factor, value of improvements, was studied. It was found, however, that control over improvements would not make the results of this study more reliable.

Findings and Conclusions: Direct relationships were found to exist between selling price and each of the location factors studied. (1) The farms located on pavement and gravel roads sold for about 48 and 8 percent more than those on dirt roads. (2) The price paid for farms 0.9 to 5.0 miles from pavement was about one third of that paid for land 0.3 miles or less from pavement. For land 0.6 to 2.0 miles from an all weather road the average price decreased 16 percent over price of land 0.5 miles or less from this type of road. (3) The per acre price of land decreased an average of 2 percent per mile up to 10.0 miles when moving away from a rural market. Where an urban market was involved the average decrease per mile per acre was about 4 percent up to 15.0 miles. Some variations existed in this pattern of decreasing prices. (4) Distances traveled over non all weather road to rural market were responsible for an average decrease of 5 percent in price per mile per acre up to 3.0 miles. In the case of an urban market the average decrease per mile per acre was 4 percent up to 3.0 miles. In some instances the decrease in price was irregular. (5) Improvement values, while somewhat higher on better located farms, accounted for only a small proportion of the total difference in selling price between farms located on the several types of roads and at varying distances from market.

ADVISER'S APPROVAL L. A. Parcher

LOCATION AS A FACTOR IN LAND PRICES IN PAYNE COUNTY, OKLAHOMA, 1941-45

By

ERNEST W. BRODNITZ

Bachelor of Science

Louisiana State University

and Agricultural and Mechanical College

Baton Rouge, Louisiana

1950

Submitted to the Faculty of the Graduate School of

the Oklahoma Agricultural and Mechanical College

in Partial Fulfillment of the Requirements

for the Degree of

MASTER OF SCIENCE

1952

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ACKNOWLEDGMENT

The writer is greatly indebted to the Department of Agricultural Economics of the Oklahoma Agricultural and Mechanical College for the opportunity to make this study.

In particular, the writer wishes to acknowledge with deep appreciation the untiring aid given by Professor L. A. Parcher in preparing the manuscript. Many thanks are also due to Professor R. L. Tontz for his helpful comments and suggestions offered, while the study was under progress.

Further appreciation is extended to Mrs. Barbara Walker for her assistance in preparing the report for presentation.

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Chapter I

INTRODUCTION

It is often said that a part of the price paid for farm land is based on the location of the tract in question. Location can be defined as the relationship of the land to type of road upon which it is located, relationship to distance to roads of various types and to distances to markets, schools, and churches.

For a number of reasons the location of his land is of importance to the farmer. Transporting farm products to market and supplies to the farm are unavoidable expenses that tend to be higher on poor surfaced roads than on good roads. Also the personal satisfaction and convenience of living on a good road is of decided importance to a farm family.[1]

Several agricultural researchers have recognized this influence of roads and distances to markets on the value of land and using a variance of approaches they have tried to get a reliable answer to the question: "How do people who are in the land market, value land with respect to its location?"

The answer should be of importance to real estate people, county tax assessors, land credit appraisers, bankers, highway departments and in general to all people who are interested in the purchase or sale of land. Nearly all of the work on this problem has been done during the past 28 years and it has been fostered mainly by agricultural experiment stations

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1 H. R. Moore, "Buildings and Improvements Influence on Farm Real Estate Prices", Ohio Agriculture Extension Farm and Home Research Bulletin No. 256 (January, 1949), p. 28.

in the northeast part of the United States.

In general, the data used for these studies were based on farmer-owner opinion. In some cases, however, farm appraisal data, farm transfers and census data played a role in determining the effect of location on land prices.

In 1922, E. C. Haas analyzed the price paid for 160 farms in Blue Earth County, Minnesota, by value of buildings per acre, type of land, crop yields, distance from market, size of nearby village and type of road upon which farms were located. He determined by simple tabulation that state macadam roads should be assigned an average valuation per acre of $29.01 in excess of dirt roads. Other things being equal, the farm 11.5 miles from town was worth $35.92 less per acre than the farm a mile from market.[2]

The results of a 1928 study made in southeastern Pennsylvania show the relation of the type of road and distance to town to the farm value per acre. Deviation from average value per acre with other factors equal was a plus of $24.50 for hard surface roads; a plus $8.00 for broken stone and gravel road, while for dirt roads the deviation from average value was a minus $6.90 per acre. In the case of distance from town, there was a decrease of $5.47 in the value per acre for each increase of one mile.[3]

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2 E. C. Haas, Sale Price as a Basis for Farmland Appraisal, pp. 16-22.

3 Mordecai Ezekial, Factors Affecting Farmers' Earnings in S. E. Pennsylvania, pp. 53-39.

C. L. Jordan made a study of factors affecting the selling price of land in Illinois over the years 1913-1927. He sought to isolate the influence of the following factors on a number of farms: type of land, crop yield, value of improvements per acre, distance from market, and type of road on which land was located. Farms on paved roads showed an average selling price of $18 an acre more than those on dirt roads.[4]

A Cornell study made by J. L. Tennant in 1929 was based on the replies of a questionnaire sent to farm bureau committee men in New York State. One hundred and ninety-seven farmers living on hard surface roads estimated the decrease which in their opinion would take place in the value of their farm if they were located one mile and three miles from a hard surfaced road. In the first case, the estimated median decrease in value was $17.82 per acre and in the second case $33.75 per acre. Estimates were also obtained from farmers who lived on gravel roads and who considered the increase in value of their land if it were located on a hard surface road worth $12.50.[5]

Another approach was used by A. B. Lewis in his Economic Study of Land Utilization in Tompkins County, New York. He calculated that the value of farm real estate on hard surface road was 19 percent higher than on dirt roads.

A Missouri study made in 1935 by C. H. Hammar, based on data from farm appraisal reports, shows the effect of distance from town and city

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4 C. L. Jordan, Factors Affecting Land Prices in Illinois, 1913-1927, Masters Thesis, 1929.

5 J. L. Tennant, The Relationships Between Roads and Agriculture in New York, pp. 35-36.

on land value. According to a graph presented in this study the value of land located 15 miles from Kansas City was $100.00 per acre, at 25 miles $54.00 and at 40 miles the value was about $47.00 per acre.[6]

W. M. Curtiss of Cornell University found that the added valuation of the land of a hard surfaced road over dirt and gravel road was 40 percent and 20 percent respectively. The actual dollar increase was between 16 and 25 dollars per acre. This high percentage is likely to be caused by the type of farming carried on in that area, which is dairying and which makes a high frequency of use of roads necessary.[7]

A Vermont study published in 1935 included an analysis of the effect of topography, quality of soil, distance to a state highway, and to a rail shipping point on price of land. The data on which the study was based were obtained mainly from deed records. Farm real estate buyers apparently were willing to pay a premium for location near a state highway when the lands were level or rolling. A decrease of about $16.00 occurred for both these topographic classifications moving from farms less than a mile to those more than eight miles from a state highway.[8]

Charles L. Stewart in the summary of his review of previous studies dealing with the effect of location on land values actually comes to the

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6 A. B. Lewis, Economic Study of Land Utilization in Tompkins County, New York, p. 42.

7 C. H. Hammar, Factors Affecting Farm Land Values in Missouri, pp. 43-47.

8 W. M. Curtiss, "Value of Improved Roads to New York Farmers", Farm Economics No. 92 (Cornell University, New York), pp. 2237-2238.

conclusion that the relationship mentioned depands largely upon the type of farming conducted in the area. Where a large proportion of the crops grown were of a perishable nature the effect of a good location greatly enhanced the value of the farm.[9]

H. R. Moore considered the influence of buildings and improvements on land prices. In connection with types of roads he found an increase in value of land 16 percent and 6 percent for main highways and hard surfaced secondary roads over gravel roads. He further observed that the tax valuation of buildings on a highway is 13 percent higher as compared to buildings on gravel stone roads. He estimated that improvements account for a difference of 1 percent in land prices on secondary roads and 5 percent on main highways as compared to land on gravel stone roads. He finally concluded saying that all weather roads influence the land price but that on a highway the main increase in value arises from better buildings and other improvements.[10]

In the South West of the United States, the only studies on location affecting land values have been made in Oklahoma as part of a state wide project carried out by the State Experiment Station at Stillwater, Oklahoma.

Donald Lee Wood studied land transfers in Jackson County and found positive relationships for value of land and road type and for value of

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9 Charles L. Stewart, "Farm Land Values as Affected by Road Type and Distance", Journal of Farm Economics, Vol. XVIII, No. 4 (Nov., 1936).

10 H. R. Moore, "Buildings and Improvements Influence on Farm Real Estate Prices", Ohio Agriculture Extension Farm and Home Research Bulletin, No. 256 (January, 1949), p. 29.

land and distance to rural and urban markets. Land on all weather roads sold for $4.45 or 14 percent more per acre than land on improved dirt roads and $11.20 or 45 percent more per acre than land on unimproved dirt roads. The value of land decreased for 17 miles in moving from the urban market and for about 7 miles in moving from rural markets.[11]

In Grady County, Oklahoma, farms located on improved dirt roads sold for about 45 percent less than those on all weather roads and for about 35 percent more than those on unimproved roads. It was found that the per acre selling price decreased as the distance from an all weather road, distance traveled over dirt roads to rural markets and distance traveled over dirt roads to urban market increased up to 8.5 miles. Generally, the price paid for farms within one mile from an all weather road was about twice that paid for farms 5.6 to 8.5 miles from an all weather road. The per acre price paid for farms 3.1 - 5 miles from rural market was about 30 percent less than that paid for farms within 2 miles from market and about 50 percent higher than that paid for farms more than 8 miles from market. The farms 9.1 - 14 miles from the market were selling for about 40 percent less than those within 5 miles. The metropolitan area exerted enough influence on the selling price of good quality land to be reflected for about 40 miles.[12]

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11 D. L. Wood, Land Prices as Affected by Location, Jackson County, Oklahoma, unpublished Master of Science Thesis, 1950.

12 Wayne Forrest, Location Factors Affecting Land Prices in Grady County, Oklahoma, 1941-1945, unpublished Master of Science Thesis, 1951.

All the foregoing studies show that value of location depends to a certain extent upon type of farming.

This study deals with the relationships between the value of farm land and its location in Payne County, Oklahoma, with respect to road type, distances to hard surface road, all weather road, nearest market, important shopping center and distances traveled over non all weather road to reach the nearest or important shopping center, taking into account the quality of the land, the improvements on it, the size of the transfer and the percentage of mineral rights conveyed. In particular, the land transfers that occurred in Payne County during 1941-1945 are analyzed. While in some respects this study resembles the two earlier ones made in Oklahoma, a more refined method is used to bring out some points that have not been considered previously, such as the influence of improvements on land values. Chapter III examines the improvement factor in order to study the relationship of value of improvements to location, as indicated by road type and distance to nearest important shopping center and its relationship to soil quality.

Chapter II

PROCEDURE

An accurate test of the relationship of land prices to location is not easy, because each tract of farm real estate has a combination of qualities differing from those of any other tract. Likewise sellers and buyers differ sufficiently in their judgment and motives to add an uncertainty factor to the process of comparing one sale with another.

The above random difficulties become less when a large number of sales are used to make comparisons.

In this study as many as 634 sales which occurred in Payne County during the years 1941-45 have been used to start with and in addition to that an attempt has been made to control or partially control some of the most important factors influencing land values.

Most of the data pertaining to bona fide land transfers made in Payne County during the years 1941-1945 had previously been copied from the official records of the County Clerk's Office at Stillwater, Oklahoma, by field workers of the Agricultural Experiment Station. The following information useful to this study was obtained: date of transfer, legal description of the tracts transferred, the number of acres involved in each sale, the proportion of mineral rights transferred, and total consideration which included cash paid and the mortgage balance. Where the consideration was not given, it was estimated from the federal revenue stamp appearing on the record. The rate of estimation was $500 for each fifty-five cents value of the stamp, taking an average of $250 for the

last 55 cent stamp of each transaction. Where a mortgage was assumed, the amount of it was added to the consideration as estimated from the stamps because the amount of the assumed mortgage is not included in the federal revenue stamp.

Additional data referring to the assessed value of the improvements on each tract of land sold, were compiled from the records of the Payne County Tax Assessor. These figures do not represent the real value of the improvements, but they give an indication of the proportionate weight that can be attached to the improvements in comparing land values.

The next step was to find the type of road on which each transferred tract was located, together with the distances to hard surface road to all-weather road, to nearest market, to important shopping center, distances traveled over non all-weather roads to nearest market and to important shopping center and finally the quality of the soil of each tract.

Therefore, a road map of Payne County was used into which the boundaries of three main soil quality areas were traced. These areas were called good, fair and poor soil areas and they were determined with the help and advice of the District Soil Conservation Service.

From the legal descriptions of the farm lands sold, representing all the usable transfers[1] between 1941 and 1945, outlines of the tracts were drawn in on the road map and their relationship to road types, markets and soil quality was determined.

All this information together with the size group and average price per acre for each sale, was coded and transferred to coding sheets in

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1 Sales with insufficient information about number of acres transferred, total consideration or amount of revenue stamps were excluded.

order to make it possible to punch it on I. B. M. cards and to use I. B. M. machines for further sorting and calculating.

The coding for the improvements, for size groups, for distance to various types of roads and markets, and for minerals conveyed was done according to certain class intervals in order to bring the closest groups together.

In total there were 634 usable sales which had occurred between 1941-1945. Urban property and extremely small plots were excluded in order to limit the study to land used for agricultural purposes. Although data for the years 1946-1949 were available, they were not considered because of extreme changes in land values after the war.

Before setting up tables comparing land values with relation to road types, distance to markets and distances traveled over non all-weather roads to markets, it was necessary to determine to what extent, and how, other factors influencing land values could be controlled.

Donald Wood and especially W. Forrest in their studies on land values as affected by location factors, had already examined rather thoroughly other factors which might influence the value of land such as soil quality, mineral rights transferred and size of transfer and had come to the conclusion that those factors should be controlled as far as possible.[2,3]

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2 W. Forrest, Op. cit., p. 6-9.

3 D. L. Wood, Op. cit., p. 6-8.

In Payne County the same factors and a fourth one, the value of improvements were considered, before making an analysis of selling prices of land.

To begin with, the mineral rights factor was examined. E. D. Davidson and L. A. Parcher in their bulletin on the influence of mineral rights on land transfers in Oklahoma, had already established that there was a wide variance in price per acre of land sold in Payne County according to the proportion of mineral rights conveyed, but that average price per acre was nearly the same, where 50 and 100 percent of the minerals were conveyed.[4]

However, a more detailed examination of the mineral factor was made in this study after sorting the data out according to soil quality groups first (Appendix Table 1).

The average prices per acre in the eight class intervals which were set up to separate tracts with different percentages of mineral rights transferred, were represented by index numbers taking the average price in the eighth interval where 100 percent of the minerals was transferred as the base.

In the good soil group (Appendix Table 1a), an irregularly decreasing trend in selling price of land for the various class intervals starting with the base interval, could be found. There was a difference of only one percent in average prices between the class intervals where 100 percent and 50 percent of the mineral rights was transferred. The prices in the other intervals deviated considerably from the base price. The

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4 E. D. Davidson and L. A. Parcher, The Influence of Mineral Rights on Transfers of Farm Real Estate in Oklahoma, p. 11.

majority of the sales was included in the two above mentioned intervals, making up together 78 percent of the total number of transactions in this soil quality group.

The fair land group (Appendix Table 1b) showed a somewhat different picture. The sales were concentrated in the first (no minerals transferred), the fifth (50 percent of the minerals transferred) and the eighth (100 percent of the minerals transferred) class intervals and made up respectively 19 percent, 33 percent and 37 percent of the total number of transactions. Average prices as a whole decreased with decreasing portions of mineral rights conveyed. However, there were some exceptions. For some reason the average price of land where 50 percent of the mineral rights were transferred was 3 percent higher than the average price of land with all the mineral rights transferred.

A similar situation prevailed in the poor soil group (Appendix Table 1c). Here also the price of land with all the minerals conveyed was lower than the average price of tracts which had only 50 percent of their mineral rights transferred. The difference was 6 percent.

These two intervals and also the interval where no mineral rights were transferred were the most important groups as far as the distribution of sales was concerned. The percentages of the total number of transactions were respectively 25 percent, 29 percent, and 32 percent. The difference in average prices between the first (no minerals transferred) and the eighth (100 percent of the minerals transferred) class interval was 25 percent taking the last interval as the base. The average prices in the other class intervals were not very representative due to a limited number of sales.

All this seemed to indicate that people did attach an approximately equal degree of value to land with 100 percent and 50 percent of the mineral rights.

The explanation is logical. In a county where there is a chance for development of subsurface resources, mineral rights will be considered very carefully when making a transaction of land. Therefore, if the buyer and seller can either secure or retain, whichever the case may be, 50 percent of the mineral rights, it is considered frequently a "break even" point.[5] That is, the seller feels that if he retains half the minerals he will not regret having sold the farm if oil should ever be discovered on it, and the buyer feels that he has enough of the mineral rights to protect him in case of discovery. So buyers and sellers often are relatively indifferent whether 50 or 100 percent of the mineral rights are transferred when land is sold. While the seller probably would like to keep part or all of the mineral rights, he apparently does not raise his price much, if any, if the buyer insists on all rights. Also, there frequently is a stipulation in the contract that the seller retain a share of the mineral rights for a certain number of years after which all rights revert to the buyer.

In order to control the mineral factor as far as possible, it was thought advisable to use only those sales where 50 and 100 percent of the mineral rights were transferred, and which actually represented the majority of the available transfers (78 percent in the good soil group, 70 percent in the fair land group and 54 percent in the poor soil group).

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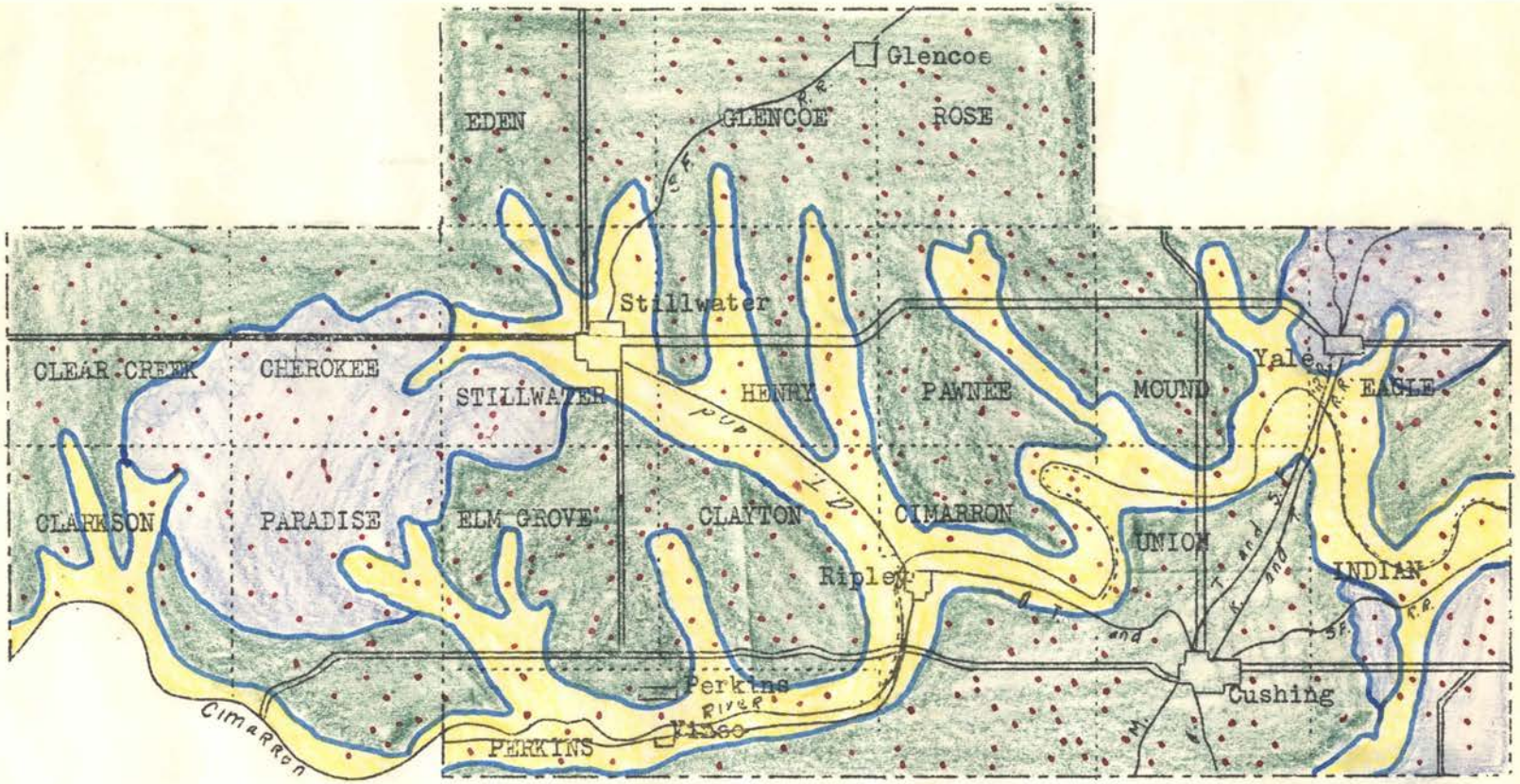
5 Donald L. Wood, Op. cit., p. 7.

Soil quality, one of the greatest factors affecting agricultural land values, could be controlled only by dividing the country in three soil quality groups as explained earlier and by trying to analyze each group separately (Figure I). The average prices per acre for the soil quality groups were $43.00 for good land, $24.00 for fair land and $17.00 for poor quality land.

It was found, however, that the greatest number of sales fell into the fair soil quality group, while there was only a relatively low number of sales in the good and poor soil quality groups. It appeared that more reliable results could be obtained if the main analysis were based on the fair soil quality group and if the transfer data in the other soil quality groups were used as supporting data only.

It was felt that this would give a fairly representative impression of the general relationships of land values in Payne County to existing location factors as most of the land in this county is of medium quality and 68 percent of the sales were of this quality. The tables dealing with the poor and good quality land groups should serve merely to give an indication when and where any importance should be attached to these groups with respect to their location.

In pursuing the study, the size of the tract transferred, which often has some influence on the sales price, was analyzed. All sales had been coded according to five size groups. After sorting them out within each soil quality group and taking only the sales where 50 percent and 100 percent of the mineral rights were transferred, it was found that in the good soil quality group the average price per acre decreased considerably when the size of the tract transferred grew. In



PAYNE COUNTY

1" = 5 M.
= Highways

Figure I. Geographical Distribution of Sales 1941-45 and Soil Quality Boundaries

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the fair soil quality group the price per acre did not change very much with changes in size of transfer and in the poor soil quality group no definite trend with respect to price per acre and size of transfer could be discovered (Appendix Table 2).

In the good soil quality groups, the average prices per acre for the most important size groups were $50.53 (30-69 acres); $48.43 (70-99 acres); and $37.19 (140-171 acres). In the fair soils quality group the average prices per acre were respectively $25.47, $25.53 and $24.36.

Apparently buyers and sellers of fair quality land did not attach any particular significance to the size of transfer. Therefore, in order to use as many data as possible, all sales falling into the most important size groups (30-79 acres, size group 2; 70-99 acres, size group 3; and 140-179 acres, size group 5) were analyzed together within the fair soil group. In the good and poor soil groups all sizes were used because the number of data was limited.

The fourth main factor studied was the improvement factor. The assessed improvement values for all the Payne County sales between 1941 and 1945 had been separated in several groups within each soil quality group. A preliminary analysis showed that there was some difference in average prices per acre, varying with the amount of improvements and it was also found that most of the tracts transferred had assessed improvement values below $300 (Appendix Table 3).

The relationship of the value of improvements and other factors has not been studied in Oklahoma and seems to warrant a more thorough analysis. This analysis is made in the following chapter.

Chapter III

RELATIONSHIP OF ASSESSED VALUE OF IMPROVEMENTS TO LOCATION AND SOIL QUALITY

Preceding the analysis of average prices per acre as affected by location, it was felt an effort should be made to determine whether or not improvements on the land sold were responsible for differences in prices paid and to find the extent to which value of improvements influenced variations in price of land located on different road types, and at various distances from market. In addition the variation in value of improvements on the three land quality groups was studied. An analysis of the distribution of the number of sales in the various improvements was studied and related to the general analysis.

Assessed Values of Improvements and Road Types

Table 1 shows the percentage of sales in the various improvement groups for each type road. Between 80 and 85 percent of the sales in each road type group were concentrated in the first three improvement groups representing assessed values of $300.00 or less. This indicates a similar distribution of improvements is found on land adjacent to dirt, gravel, and paved roads.

In order to get an estimate of differences in value of improvements on land adjoining the several road types, the average assessed value of improvements per acre was calculated.

Table 1. Improvements and Road Types

a Dirt Road

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
Under $100	189	45.2	9,450	16,500	316,823
$101 - 200	84	20.1	12,600	9,077	179,040
201 - 300	88	21.1	22,000	10,578	260,105
301 - 500	45	10.8	18,000	6,067	179,150
501 - 750	9	2.2	5,625	1,320	37,500
751 -1000	1	0.2	875	160	7,250
1001 -1500	1	0.2	1,250	160	7,000
1501 -2000	1	0.2	1,750	80	250
Totals	418	100.0	71,310	43,942	985,623

Average Price Per Acre $22.45

Average Value of Improvements per Acre $ 3.24

b Gravel Road

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
Under $100	68	41.5	3,400	6,654	139,149
$101 - 200	35	21.3	5,250	4,160	94,215
201 - 300	33	20.1	8,250	4,067	101,885
301 - 500	20	12.2	8,000	2,457	74,714
501 - 750	5	3.0	3,125	600	20,250
751 -1000	3	1.8	2,625	350	16,300
Totals	164	100.0	30,650	18,298	446,513

Average Price Per Acre $24.70

Average Value of Improvements per Acre $ 3.38

c Paved Road

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
Under $100	24	41.4	1,200	1,744	42,340
$101 - 200	8	13.8	1,200	860	19,625
201 - 300	15	25.9	3,750	1,718	54,710
301 - 500	9	15.5	3,600	1,195	44,100
501 - 750	1	1.7	625	164	7,650
751 -1000	1	1.7	875	160	5,250
Totals	58	100.0	11,250	5,841	17,367

Average Price Per Acre $29.77

Average Value of Improvements per Acre $ 3.84

The tables show the total assessed values of improvements in each class interval. These totals were obtained by multiplying the number of sales by the midpoint values for each class interval (for example, the first class interval is $0.00 - $100.00 - the midpoint value is $50.00). The total number of acres in each road type group was divided into the total of the calculated values of improvements in the same group, resulting in the following assessed values of improvements per acre; $1.62 for land on dirt roads, $1.69 for land on gravel roads and $1.92 worth of assessed improvements per acre where land was adjacent to paved roads.

Because improvements generally are assessed at 50 percent of their value by county tax assessors, it was thought advisable to double the above mentioned figures in order to make them conform more closely to reality. The values for improvements per acre calculated in the indicated manner were $3.25 per acre of land on dirt roads, $3.38 per acre of land on gravel roads and $3.84 per acre of land located on paved roads.

Expressed in percentages, the average values of improvements per acre for land on gravel and paved roads were respectively 4 percent and 18 percent higher than average values of improvements for land on dirt roads.

If it is assumed that buyers take the value of the improvements into consideration when buying a farm and that assessed valuations reflect the relative worth of improvements, then one must conclude that improvements on land adjacent to paved roads are at least partly responsible for the higher price of that land as compared to prices of tracts located on other types of roads.

Further calculations were made to determine more exactly to what extent improvements account for the differences in land prices on various roads. Therefore, the average prices per acre of land on dirt, gravel, and paved roads were compared to the same average prices from which the corresponding average values of improvements per acre had been subtracted. (Table 2).

The difference between the change in average price per acre of land on dirt and gravel roads on one hand ($2.25) and the change in average price per acre of land without improvements on dirt and gravel roads on the other hand ($2.11) is $0.14. This amount was expressed as a percentage of the difference in average value per acre of land on dirt and gravel roads ($2.25), leading to the conclusion that improvements may be responsible for 5.9 percent of the difference in price of land on dirt roads and the price of land on gravel roads. A similar calculation shows that 8.1 percent of the difference in prices of land on dirt and paved roads may be attributed to improvements.

There are several reasons why these percentages should be considered as an estimate only. It may be that because of the general practice of assessing improvements at 50 percent of their depreciated normal replacement cost, the assessed valuation as shown in the assessor's record does not truly reflect the value of the improvements. That is, in some instances age alone will bring the value down to a figure lower than might be justified by the actual quality of the improvements. Furthermore, only a restricted number of farms were examined and which in general seemed to have low improvement values.

Table 2. Differences in Average Prices Per Acre of Land on Three Road Types and Percentages of the Difference Due to Improvements

Road Types	Average Price Per Acre of Land	Differences in Average Prices Per Acre	Average Price of Improvements Per Acre	Average Price Per Acre of Land Without Improvements	Differences in Average Price Per Acre for Land Without Improvements	Percentage of The Difference In Price of Land on Various Road Types Due To Improvements
Dirt	$22.45	$2.25	$ 3.24	$19.21	$2.11	5.9
Gravel	$24.70		$ 3.38	$21.32		
Dirt	$22.45	$7.32	$ 3.24	$19.21	$6.72	8.1
Paved	$29.77		$ 3.84	$25.93		

The important thing, and the one which may give the comparison validity, is the fact that the proportion of sales in the various improvement groups varies but slightly between the different road types.

It was felt, however, that the differences expressed in dollar values were too small to warrant the controlling of the improvement factor in the final analysis, at least as viewed from this angle.

Relationship Between Improvements and Distances to Nearest Important Shopping Center

The distribution of sales among the various improvement groups at varying distances to a shopping center was irregular (Table 3).

In the first three distance groups, representing distances up to four miles to town, the majority of farms had small improvement values, around 85 percent of the farms having improvements under $300.00. In the next four distance intervals ranging between four and fifteen miles to town, about 95 percent of the sales in each group had improvements under $500.00 per farm.

As the average selling price per acre of land was high when located within one mile from town while assessed improvement values were low ($1.57 per acre), the conclusion is warranted that for this distance group land values were high because of nearness to town and not on account of improvements. In the next distance group (1.1 - 2.0 miles), the average assessed value per acre of improvements was much higher, $2.10, indicating that a larger share of the selling price may have been due to improvements.

Table 3. Improvements and Distances to Nearest Important Shopping Center

Under 1 mile

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	6	75.0	300	357	16,150
$101 - 200	1	12.5	150	30	2,000
$301 - 500	1	12.5	400	155	6,000
	8	100.0	850	542	24,150

Average Price per Acre of Land $44.55
Average Assessed Value of Improvements per Acre $ 1.57

1.1 - 2.0 miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	8	38.4	400	790	21,144
101 - 200	4	19.5	600	400	15,425
201 - 300	5	23.8	1,250	479	16,660
301 - 500	1	4.7	400	40	450
501 - 750	2	8.5	1,250	120	7,250
751 -1000	1	4.7	875	160	6,500
	21	100.0	4,775	1,989	67,729

Average Price per Acre of Land $34.05
Average Assessed Value of Improvements per Acre $ 2.40

2.1 - 4.0 miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	37	43.0	1,850	4,112	40,650
101 - 200	13	15.0	1,950	1,200	35,200
201 - 300	21	24.3	5,250	2,393	70,900
301 - 500	13	15.0	5,200	1,445	39,850
501 - 750	1	1.1	625	80	1,750
751 -1000	1	1.1	875	40	3,000
	86	100.0	15,750	9,270	241,350

Average Price per Acre of Land $26.00
Average Assessed Value of Improvements per Acre $ 1.69

- continued -

Table 3. Improvements and Distances to Nearest Important Shopping Center
- continued -

4.1 - 6.00 miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	52	49.5	2,600	4,749	100,580
101 - 200	17	16.1	2,550	1,385	36,540
201 - 300	18	17.1	4,500	2,228	64,825
301 - 500	15	14.2	6,000	2,094	67,500
501 - 750	1	0.9	625	153	7,750
751 -1000	1	0.9	875	160	6,750
1001 -1500	1	0.9	1,250	160	7,000
	105	100.0	18,400	10,929	290,945

Average Price per Acre of Land $26.62
Average Assessed Value of Improvements per Acre $ 1.68

6.1 - 8.00 miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	51	40.0	2,550	3,846	82,490
101 - 200	21	19.6	3,150	2,380	54,950
201 - 300	30	23.3	7,500	3,229	94,935
301 - 500	17	13.3	6,800	2,072	82,689
501 - 750	6	4.7	3,750	847	26,100
751 -1000	2	1.5	1,750	320	12,050
	127	100.0	25,500	12,694	353,214

Average Price per Acre of Land $27.82
Average Assessed Value of Improvements per Acre $ 2.00

8.1 - 10.00 miles

Improvements - Dollars	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars
under $100	46	47.9	2,300	3,479	74,583
101 - 200	19	19.6	2,050	2,723	46,775
201 - 300	20	20.8	5,000	2,205	49,580
301 - 500	9	9.3	3,600	1,348	36,125
501 - 750	1	1.0	625	164	7,650
1501 -2000	1	1.0	1,750	80	250
	96	100.0	16,125	9,999	214,963

Average Price per Acre of Land $21.40
Average Assessed Value of Improvements per Acre $ 1.61

- continued -

Table 3. Improvements and Distances to Nearest Important Shopping Center
- continued -

10.1 - 12.00 miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	30	37.2	1,500	2,847	40,355
101 - 200	24	29.6	3,600	2,727	44,215
201 - 300	19	23.4	4,750	2,321	47,350
301 - 500	7	8.6	2,800	700	18,050
501 - 750	1	1.2	625	160	3,250
	81	100.0	13,275	8,755	153,220

Average Price per Acre of Land $17.50
Average Assessed Value of Improvements per Acre $ 1.51

12.1 - 15.00 miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	42	45.0	2,100	3,868	62,640
101 - 200	22	23.6	3,300	2,572	47,920
201 - 300	17	18.3	4,250	2,634	50,500
301 - 500	9	9.6	3,600	1,305	39,900
501 - 750	3	3.2	1,875	560	11,550
	93	100.0	15,123	10,939	212,500

Average Price per Acre of Land $19.42
Average Assessed Value of Improvements per Acre $ 1.38

15.1 and over miles

Improvements - Dollars -	No. of Sales	Percentage of Sales	Assessed Value of Improvements	Acres	Consideration - Dollars -
under $100	9	37.5	450	850	9,725
101 - 200	7	29.1	1,050	840	13,150
201 - 300	6	25.0	1,500	874	20,950
301 - 500	2	8.3	800	560	7,100
	24	100.0	3,800	3,124	50,925

Average Price per Acre of Land $16.30
Average Assessed Value of Improvements per Acre $ 1.20

Following the various distance intervals, decreasing average assessed values of improvements per acre were found with the exception of the 6.1 - 8.0 mile distance group, where the average assessed value of improvements per acre was $2.00. The assessed improvement values per acre decreased to a $1.20 per acre value in the "15.1 miles and over" distance group. There seemed to be an inverse relationship between increasing distances and decreasing assessed improvement values after a distance of eight miles is reached.

This decrease may account for part of the decrease in selling price per acre of land as the distance to a larger town becomes greater.

Assessed Values of Improvements and Land Qualities

The distribution of sales in each land quality group according to amount of improvements shows that 80 to 90 percent of the sales tended to concentrate in the first three improvement groups (Table 4). In other words, most of the tracts transferred had improvements values between 1.00 and 300.00 dollars, no matter which land quality was involved.

In the fair soil group, 45 percent of the sales had improvements under $100.00, while 47 percent of the sales in the poor land group had improvements valued at less than $100.00. Sales in the good land group do not show quite so great a concentration in the lowest improvement bracket. Only 32 percent of the sales had improvements valued at less than $100.00, while each of the next two improvement groups show about 22 percent of the total number of sales in the good soil group.

As a whole, the distribution of the value of improvements was similar for all land quality groups, but with the good and fair land farms

Table 4. Improvements and Land Qualities

a Good Land

Improvements - Dollars -	No. of Sales	Percentage of Sales	Value of Improvements	Acres	Consideration - Dollars -
under $100	28	32.1	1,400	2,252	88,238
101 - 200	19	21.8	2,850	1,647	63,200
201 - 300	19	21.8	4,750	1,528	60,510
301 - 500	15	17.2	6,000	1,846	86,164
501 - 750	5	5.7	3,125	498	25,450
751 -1000	1	1.1	875	160	6,500
	87	100.0	19,000	7,933	330,067

Average Price per Acre of Land $ 41.60
Average Assessed Value of Improvements per Acre $ 4.78

b Fair Land

Improvements - Dollars -	No. of Sales	Percentage of Sales	Value of Improvements	Acres	Consideration - Dollars -
under $100	197	45.1	9,850	17,005	342,724
101 - 200	79	18.1	11,850	9,457	178,955
201 - 300	98	22.4	24,500	12,420	309,540
301 - 500	50	11.4	20,000	6,726	192,075
501 - 750	8	1.8	5,000	1,266	34,400
751 -1000	3	0.7	2,625	680	18,800
1001 -1500	1	0.2	1,250	160	7,000
	436	100.0	75,075	47,514	1,083,744

Average Price per Acre of Land $22.77
Average Assessed Value of Improvements per Acre $ 3.16

c Poor Land

Improvements - Dollars -	No. of Sales	Percentage of Sales	Value of Improvements	Acres	Consideration - Dollars
under $100	56	47.8	2,800	5,641	67,355
101 - 200	30	25.6	4,500	3,151	54,020
201 - 300	19	16.2	4,750	2,415	45,650
301 - 500	9	7.2	3,600	1,147	19,725
501 - 750	2	1.7	1,250	320	5,450
751 -1000	1	0.8	875	40	3,000
	117	100.0	17,775	12,714	195,200

Average Price per Acre of Land $15.35
Average Assessed Value of Improvements per Acre $ 2.78

having a somewhat higher concentration in the upper improvement groups. These groups of farms (good and fair) show about 24 and 15 percent of the sales having improvements valued at more than $300.00. The poor land farms show only about 10 percent with improvements above $300.00.

The average value of improvements per acre showed some marked differences between the quality groups. On good quality farms, the improvements were valued at an average of $4.78 per acre. The average value of improvements per acre where fair and poor quality land was involved was $3.16 and $2.78 respectively.

Improvement values on good land were 71 percent higher than on poor land. On fair land, improvement values were 13 percent higher than on the poor quality farms.

This wide difference in the per acre value of improvements between the three classes would seem to make it highly desirable to separate the various soil qualities for analysis because of the difference in improvement value as well as for the difference in productivity.

However, when comparing the average prices per acre of good, fair, and poor land with the same average prices from which the average values per acre of improvements had been subtracted, it was found that improvements account for only 5 percent of the difference in price between poor and fair land and only 13 percent of the difference in price between poor and good land. While the latter figure seems rather high, it is to be remembered that land quality alone apparently accounts for 87 percent of the difference in prices paid.

Even so, by taking only one soil quality group for the final analysis of the value of location, not only is the difference paid for superior

productivity minimized, but also the difference in value of improvements is minimized.

Concluding, it might be said that although improvements and soil quality on one hand and improvements and location as indicated by road type and distance to nearest shopping center on the other hand were directly related, the controlling of the improvement factor in the main analysis of land values as affected by location, would not give more reliable results since the differences in dollar values caused by improvements of land sold, were relatively small.

By sorting the transactions out according to uniform improvements, an unnecessarily great number of sales would be eliminated, making the results of the analysis less reliable.

Chapter IV

RELATIONSHIP OF AVERAGE PRICE OF LAND PER ACRE TO ROAD TYPE

During the period 1941-45, a total of 634 usable sales were transacted in Payne County. These sales are here compiled in one way tables which show the influence of road type and distances to paved and all-weather roads on the average price per acre of land. At the same time, an attempt has been made to control such factors as mineral rights transferred, soil quality, and size of transfer, so that the effect of these factors on land prices will be minimized.

The main analysis will be based on the farms having fair quality soil; the group in which the greatest number of sales was found. Sales falling into the poor and good soil quality groups will be used as supporting illustrative data only. As the number of sales in these last two groups is limited, the size of transfer factor has not been controlled. For the fair quality land group only the data in the three most important size groups (30 - 69 acres; 70 - 99 acres; and 140 - 179 acres) were analyzed. The majority of the sales is included in those groups and their average prices indicated that size is of little importance in the fair soil quality group (Appendix Table 2).

The figures in the good and poor land quality groups are presented mainly to give an indication when and where any importance can be attached to the different quality groups.

In Payne County there are three main types of roads: paved, gravel and dirt roads. The paved roads generally are marked highways, but also include a few secondary bituminous roads. Most of the dirt roads are graded and drained. Only paved roads are classified as hard surface roads while all-weather roads also include the gravel roads.

Average Land Prices Per Acre and Road Types

The relationship of average land price per acre and road type by relative soil qualities is shown in Table 5.

There were 266 sales in the fair quality group and 153 or 58 percent were of tracts located on dirt roads, 81 tracts, or 30 percent, were on gravel roads while 32 farms, or 12 percent, were located on paved roads.

The average size of the farms sold was nearly the same on the various road types, the widest difference being only four acres. The average price per acre for land on dirt roads was $23.27, while the average prices for land on gravel and paved roads were $25.07 and $34.54 respectively.

Using the average price per acre of land on dirt roads as a base, average prices per acre for land on gravel and paved roads were 8 percent and 48 percent higher. The fact that there was a relatively small difference between prices of land on dirt and on gravel road, can be partially explained by the generally good condition of dirt roads in Payne County so that passage is assured on most days of the year. Furthermore, the type of farming carried on in this county makes the frequent use of roads less necessary than, for instance, in a dairy region. While average price per acre of land on pavement was nearly 50 percent more than the price of land on dirt roads, as indicated in Chapter III, it may be that about 8

Table 5. Selling Price Per Acre and Road Types

a Fair Land (Minerals transferred 50 and 100 percent, size groups 2, 3 and 5)

Road Type	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
Dirt	153	16,045	107	373,420	23.27	100
Gravel	81	8,415	104	210,434	25.07	108
Paved	32	3,304	103	114,150	34.54	148

b Good Land (Minerals transferred 50 and 100 percent, all size groups)

Road Type	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
Dirt	48	4,241	88	193,260	45.56	100
Gravel	17	1,845	109	68,750	37.26	82
Paved	1	54	54	2,250	41.66	91

c Poor Land (Minerals transferred 50 and 100 percent, all size groups)

Road Type	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
Dirt	46	4,674	102	78,620	16.82	100
Gravel	10	1,213	121	24,050	19.82	117
Paved	7	775	111	16,820	21.70	129

percent of the difference in price paid is due to superiority of improvements.

Examination of the price figures for the good land group (Table 5 b) shows no definite relationship of price and type of road. The average prices per acre for and on dirt, gravel and paved roads were, respectively, $45.56, $37,26, and $41.66. There was only one farm on pavement in this group, so that its average price per acre cannot be considered representative. However, there were enough sales on gravel roads that the average should be fairly reliable. Even so, buyers of good quality farms on dirt roads, on the average, paid more for their farms than did those buying equal quality farms on gravel roads. Apparently, buyers of good soil farms attach less value to the type of road on which the land was located than do buyers of poore quality land. Both D. Wood[1] and W. Forrest[2] found this same relationship in the counties they studied.

In the poor soil group (Table 5 c), a relationship similar to the one in the fair land group is found. Average prices per acre of land increased with changes from dirt roads to better roads. The average price per acre for land on dirt roads was $16.82, while $19,82, per acre was paid for land on gravel roads. This was an increase of 17 percent. In the fair soil group, a similar increase was only 8 percent.

The increase in price per acre between land on dirt roads and paved roads amounts to 29 percent, a low percentage increase when compared to the corresponding figure of 18 percent in the fair land group. However,

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1 Donald L. Wood, Op. cit., p. 14.

2 W. Forrest, Op. cit., p. 21.

there were only 7 sales in the class interval for paved roads in the poor land group, and it is doubtful whether much significance can be attached to the average price and consequently to the percentage difference of 29 percent.

The general impression gained is that as the productivity of the land decreases somewhat more significance is attached to location with respect to road type. Admittedly, data are too sparse in some instances to allow any firm conclusion.

Average Price Per Acre of Land and Distance to Hard Surface Road

The general relationship of the average price of land per acre at varying distances from pavement may be seen in Table 6 a, which shows sales in the fair soil group where the main factors influencing land values were controlled. The sales were well distributed over the various distance groups. The variation in average sizes of farms, which ranged from 73 to 113 acres probably was not great enough to influence average prices.

The trend in average prices of land per acre when moving away from pavement may be best seen by looking at the corresponding index numbers. Using the first distance group (under 0.3 miles) as a base, it may be seen that there is a 23 percent decrease between the average price per acre of land located under 0.3 miles from a paved road and the price of land located between 0.3 and 0.8 miles from a hard surface road. The decrease continued with a 12 percent decrease in the average prices of land located in the next distance interval, 0.9 and 1.3 miles from paved

Table 6. Selling Price Per Acre and Distance to Hard Surface Road

a Fair Land (Minerals transferred 50 percent and 100 percent, size groups 2, 3, and 5)

Distance -Miles-	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.3	46	4,533	99	155,250	34.24	100
0.3 - 0.8	38	4,310	113	113,544	26.34	77
0.9 - 1.3	58	6,578	113	147,220	22.38	65
1.4 - 2.0	36	3,420	95	79,635	23.29	68
2.1 - 3.0	52	4,939	94	110,740	22.42	65
3.1 - 5.0	23	2,585	112	60,800	23.52	68
5.1 - 8.0	6	434	73	9,000	20.50	59
8.1 and over	7	960	137	21,815	22.72	65

b Good Land (Minerals transferred 50 percent and 100 percent, all size groups)

Distance -Miles-	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.8	14	1,154	82	55,250	47.87	100
0.9 - 2.0	29	2,808	97	114,610	40.08	83
2.1 - 5.0	20	1,987	99	85,250	42.90	89
5.1 and over	3	191	64	9,150	47.90	100

c Poor Land (Minerals transferred 50 percent and 100 percent, all size groups)

Distance -Miles-	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.8	16	1,680	105	31,620	18.82	100
0.9 - 2.0	24	2,714	113	52,640	19.39	103
2.1 - 5.0	15	1,598	107	25,650	16.05	85
5.1 and over	8	670	84	9,580	14.29	76

Prices in the next four distance groups stayed at approximately the same level. The last class interval (0.1 miles and over) was an open end class with only seven sales, so that the corresponding index number of 65 cannot be considered very reliable.

The data indicate that the effect of location of land with respect to distance from paved roads probably is confined to a distance of five miles and that the greatest influence occurs between the first and the second distance group (0.3 - 0.8) miles. However, many tracts in the first distance group probably adjoin paved roads, so that the above mentioned change in price is logical. The changes in the index numbers after the first sharp break were relatively small and irregular. On the average, land between 0.9 and 5.0 miles from hard surface roads had price which was 34 percent lower than the price for land close to or on paved roads.

Tables showing the relationship of distance to pavement and price paid for good and poor land had a wider range within the distance groups in order to get a greater number of sales in each category.

The average prices per acre of land shown in these tables were rather irregular but indicated basically the same thing that had been found for the fair land group, namely a general downward trend in price when distances from paved roads increased. There was one exception, however: The average price of land in the poor soil group (Table 6 c) which was located between 0.9 and 2.0 miles from a paved road was 3 percent higher than the price of land located only under 0.8 miles from a paved road. In the next distance interval (2.1 - 5.0 miles) the price of land went down 15 percent under the base price, and another 9 percent in the last class interval.

In the good land group (Table 6 b), the average price per acre of land decreased 17 percent between the first and second distance interval, then it increased 6 percent for the 2.1 - 5.0 distance interval. The last class interval had only three sales, so that its average price could not be considered representative.

It is possible, however, in all three soil quality groups that after a certain distance from pavement has been reached the influence of poorer location with respect to market or important shopping center is partly responsible for the decrease in average price.

Average Price Per Acre and Distance to All Weather Road

When analyzing the effect of road type on land values, the location of a farm with respect to distance from an all weather road would appear to be of more importance, perhaps, than distance from pavement.

The results obtained from analyzing the sales in the fair land group are shown in Table 7 a. The farms were located from "under 0.5 miles" up to "3 miles and over" from an all weather road. It so happened that 148 out of a total of 266 farms were located on or very close to an all weather road leaving respectively 56 and 53 sales in the next two distance groups. The last two distance intervals had only a few sales so that average prices per acre in those groups may be unreliable.

Starting with the first distance group which had an average price of $27.00 per acre a decrease of 22 percent in the 0.5 - 1.0 mile interval is found. It is possible that some of the land in the first distance group is located on a paved road which would boost its average price.

Table 7. Selling Price Per Acre and Distances to All Weather Roads

a Fair Land (Minerals transferred 50 percent and 100 percent, size groups 2, 3, and 5)

Distances -Miles-	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.5	148	15,442	104	416,934	27.00	100
0.5 - 1.0	56	6,110	109	132,380	21.60	78
1.1 - 2.0	53	5,223	99	127,090	24.33	90
2.1 - 3.0	7	669	96	13,350	19.95	73
3.1 and over	2	320	160	8,250	25.78	45

b Good Land (Minerals transferred 50 percent and 100 percent, all size groups)

Distances -Miles-	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.5	26	2,326	87	99,150	42.62	100
0.5 - 1.0	28	2,823	100	128,410	45.48	106
1.1 - 2.0	9	680	76	29,600	43.52	102
2.1 - 3.0	1	71	71	3,000	42.25	99
3.1 and over	2	240	120	4,100	13.08	31

c Poor Land (Minerals transferred 50 percent and 100 percent, all size groups)

Distances -Miles-	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.5	26	2,768	106	54,370	19.64	100
0.5 - 1.0	14	1,614	115	28,590	17.71	90
1.1 - 2.0	12	1,136	94	20,405	17.96	90
2.1 - 3.0	3	474	158	11,250	23.73	121
3.1 and over	8	670	83	4,875	7.27	37

Consequently, the decrease in average price toward the second distance interval may not entirely be due to greater distance from an all weather road but rather be caused partly by the difference in road type namely from paved or gravel to dirt road.

The third distance group, however, shows an increase in average price per acre, which was only 10 percent below the price in the first group. The last two distance groups had average prices per acre which were 27 percent and 5 percent below the base. The last class, however, is an open end class and had only two sales, so that its average price per acre could not be considered very representative.

All these results seem to indicate that buyers purchasing land more than 0.5 miles from an all weather road in general were conscious of some disadvantage in location and were not willing to pay as much as for land located under 0.5 miles from an all weather road. On the average, 16 percent less was paid for land between 0.5 - 2.0 miles from an all weather road than for land under 0.5 miles from this same type of road.

The trend in average prices which follows the distance groups for good and poor land (Table 7 b and c) was also rather irregular.

In the good land group (Table 7 b), the prices of land actually increased somewhat with increasing distances. So here the increasing distance from all weather road did not seem to affect the prices unfavorably until the 2.1 - 3.0 mile group was reached.

In the poor land group (Table 7 c), prices did decrease with increasing distances to all weather roads until the 2.1 - 3.0 mile group was reached where the average price went up again. A decrease of 10 percent

from the base price could be found for average prices in the third distance interval, while the last two class intervals had too few sales to make their average prices reliable.

Concluding, it could be said that only with fair and poor land any kind of direct relationship between land price and distance to all weather road existed. The average prices per acre of fair and poor land between 0.5 and 2.0 miles from an all weather road were respectively 16 and 10 percent lower than their base prices.

Chapter V

RELATIONSHIP OF AVERAGE OF LAND PRICE PER ACRE TO NEAREST MARKET

The effect of the nearness of a rural market on the average selling price of land was studied from two perspectives: distances to rural market and distance traveled over non all weather road to nearest market. Any type of buying point, important enough to be shown on a highway map was considered a rural market. Usually it is a place which has a cotton gin, an elevator, and some marketing facilities.

Average Price Per Acre and Distance to the Nearest Market

The general relationships of land prices per acre and distances to a rural market are shown in Table 8a, which represented the fair land group with the main factors influencing land values controlled to the greatest possible extent. Distances to market were separated into seven groups representing distances from "under 1.0" to "10.0 miles and over". Sales were fairly well distributed over the various distance groups with the exception of the first and last distance interval which had only 8 sales each. The average sizes ranged from 83 to 120 acres, the lowest average sizes being in the first and last interval.

There was a decline of 12 percent between the average price per acre of land located under one mile from a market and the price of land which was between 1.1 - 2 miles from the nearest market. In the next three distance groups for some unknown reason the price went up again and was only

Table 8. Selling Price Per Acre and Distance to Nearest Market

a Fair Land (Minerals transferred 50 percent and 100 percent: size groups 2.3 and 5.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1	8	665	83	18,300	27.58	100
1.1 - 2.0	29	2,617	90	64,019	24.46	88
2.1 - 3.0	56	5,529	98	143,700	25.99	94
3.1 - 5.0	77	8,674	112	229,465	26.45	96
5.1 - 7.0	58	5,962	102	149,130	25.01	90
7.1 -10.0	30	3,604	120	80,540	22.34	81
10.1 and over	8	713	89	12,850	18.02	65

b Good Land (Minerals transferred 50 percent and 100 percent: all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1	4	299	74	13,400	44.81	100
1.1 - 2.0	11	873	79	38,110	43.65	97
2.1 - 3.0	12	1,093	91	41,600	38.06	84
3.1 - 5.0	26	2,459	94	107,700	43.79	98
5.1 - 7.0	11	1,216	110	60,350	49.62	110
7.1 and over	2	200	100	3,100	15.50	33

c Poor Land (Minerals transferred 50 percent and 100 percent: all size groups.)

Distances - Miles	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1 mile	1	40	40	750	18.75	100
1.1 - 2.0	6	825	137	16,345	19.81	105
2.1 - 3.0	13	1,419	109	27,575	19.43	104
3.1 - 5.0	22	2,174	98	43,290	19.91	105
5.1 - 7.0	13	1,294	99	20,700	16.00	85
7.1 and over	8	910	113	10,630	11.90	63

a little lower than the base price as represented by the average price per acre in the first distance group.

This seemed to indicate that distance to market is responsible for an irregular price decline up to a distance of seven miles from a market. The average decrease for the distance of 1.0 - 7.0 from market was 8 percent from the base price. In the 7.1 - 10.0 mile and 10.0 and over mile distance groups the average prices per acre showed another sharp decrease, being 19 percent below the base in the 7.0 - 10.0 mile group and 35 percent below the base in the over 10.0 mile group.

The weakness in this approach is that all road types have been a analyzed together in order to have a sufficient number of sales with which to work. It is probable, therefore, that some of the average prices per acre are affected by the type of road on which the farm is located, although a majority of the tracts in this group are located on dirt and gravel roads as indicated by Table 5a. Out of 266 sales, 153 or 59 percent were located on dirt roads and 81 or 31 percent on gravel roads, and there was a difference of only 8 percent between the average prices per acre of land on those two road types.

A similar lack of a regular relationship between price and distance to a rural market is found in land of good quality (Table 8b). The average price decreased only a few percent with increasing distances, with the exception of the 2.1 - 3.0 mile distance interval where a 18 percent decline from the base price was found and the 5.1 - 7.0 mile interval which shows a 10 percent increase over the base price. Apparently the quality of the soil in this case was of greater importance than the location of land with respect to distance to market.

The table dealing with the poor quality land (Table 8c) showed no decline but an increase of 5 percent in average prices with increasing distances with the exception of the 5.1 - 7.0 miles and 7.1 and over miles distance groups where average prices went 15 and 37 percent below the base price. However, in general, there were too few sales to enable a conclusion to be drawn.

It is clear that distances between 1.0 and 7.0 miles to the nearest market affect land prices only to a limited extent in Payne County. Some regularity was found only in the fair land group where there was an average decline of 8 percent for that distance and a decline of 19 percent for land between 7.0 - 10.0 miles. However, the general irregularity of relationships found between land price and nearness to rural market makes the results of the analysis of this distance factor somewhat vague.

Donald Wood in his analysis of the relationship of land value and location with respect to rural market also found that the decrease per mile is greater in the medium soil group than on the good quality land. He found the greatest price decline within the first 2 miles and then another sharp decline after 5 miles.[1]

Wayne Forrest, who also made a study of the relationship of the price per acre of land paid and its distance from rural market, found a 30 percent decrease in price of land between 3.1 - 5.0 miles from market over land that was located within two miles from market. And in the best soil group, land within two miles from market sold for only about 8 percent more than farms 3.1 to 5.0 miles from market.[2]

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1 D. L. Wood, Op. cit., p. 54.

2 W. Forrest, Op. cit., p. 39.

Average Price Per Acre and Distance Traveled over Non All Weather Road to Rural Market

When studying the influence of the distance to market on land prices, the question also should be examined as to whether shorter or longer distances traveled over dirt roads in order to reach the nearest market affect the average price paid per acre.

Table 9a shows the above mentioned relationship for the fair land group. Out of 266 sales, 172 fell into the first distance group or in other words 65 percent of the tracts sold were located under one mile from an all weather road. There was a decline of 11 percent in the average price per acre between this first class and the 1.1 - 2.0 mile distance class which had 63 sales or 26 percent of the total. For the following group, the 2.1 - 3.0 mile group, the price went up slightly by 2 percent. So it might be said that a 3 miles distance from an all weather road to market was responsible for approximately a 10 percent decline in land price. The figures in the last three distance intervals were extremely irregular and had very few sales so that their average prices per acre of land were not at all representative.

The average selling prices per acre in the various distance classes for the food soil group indicated that buyers were not too responsive to location with respect to distances traveled over non all weather roads, as there was only a 3 percent decrease in price between the [illegible] - 1.0 mile and the 1.1 - 2.0 mile distance class. The next class intervals had not enough sales to make reliable conclusions drawn from average prices per acre.

Table 9. Selling Price Per Acre and Distance Traveled Over Non All Weather Road to Nearest Market

a Fair Land (Minerals transferred 50 percent and 100 percent: size groups 2.3 and 5.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1.0	172	17,767	103	463,634	26.00	100
1.1 - 2.0	63	6,368	101	147,220	23.10	89
2.1 - 3.0	24	2,950	122	69,800	23.66	91
3.1 - 4.0	4	319	79	8,350	26.17	100
4.1 - 5.0	2	200	100	7,750	38.75	149
5.1 and over	1	160	160	1,250	7.80	30

b Good Land (Minerals transferred 50 percent and 100 percent: all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1.0	39	3,696	94	158,860	42.9	100
1.1 - 2.0	22	1,973	90	82,300	41.72	97
2.1 - 3.0	3	231	77	19,000	82.20	191
3.1 - 4.0	2	240	120	4,100	17.08	40

c Poor Land (Minerals transferred 50 percent and 100 percent: all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1.0	32	3,368	105	65,220	19.30	100
1.1 - 2.0	18	1,950	108	35,440	18.17	94
2.1 - 3.0	5	550	110	10,125	18.40	95
3.1 - 4.0	4	514	128	5,500	10.70	55
4.1 and over	4	280	70	3,205	11.40	59

A slightly different situation was found in the poor soil group. A 6 percent decrease in average price between the first and second distance intervals was shown in Table 9c. In the 2.1 - 3.0 mile interval the average price per acre leveled off and then continued to decrease again in the last two class intervals. So in this land quality group, a 3 mile distance traveled over non all weather road was responsible for a decrease in price of 5 percent over the base price.

The results of the data presented in Table 9 gave more evidence to the statement made earlier that in Payne County distances traveled on dirt roads affect the average price per acre of land to a limited extent only as most dirt roads are improved (graded and drained) and are passable practically the year round. Only after a heavy rain do dirt roads become impassable and then for a few hours only until dry.

Chapter VI

RELATIONSHIP OF AVERAGE PRICE OF LAND PER ACRE TO IMPORTANT SHOPPING CENTER

Particular importance should be attached to the relationships between average price per acre of land and its location with respect to an important shopping center. More and more farmers use the nearest large town to do their business as most of them now own a truck or a car, which makes it possible for them to get to town without much loss of time. So the rural market is often by-passed in favor of a town with larger and more convenient marketing and shopping facilities.

Perhaps even more important than the total distance to town are the distances traveled over dirt road in order to reach the nearest important shopping center. Sometimes it depends entirely on the passability of a dirt road whether a trip to town is possible or not.

In this study the important shopping center in nearly all cases was the county seat, Stillwater. Some farms located in the southeast of the county were nearer to Cushing and Drumright, while a few farms in the north were closer to Pawnee.

Average Prices per Acre and Distances to Shopping Center

The table showing the fair land group (Table 10a) had the sales rather well distributed over the distance class intervals, with the exception of the first and last interval which had only four and six

Table 10. Selling Price Per Acre and Distance to Important Shopping Center

a Fair Land (Minerals transferred 50 percent and 100 percent; size groups 2, 3, 5.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1.0	4	305	76	11,650	38.10	100
1.1 - 2.0	10	792	79	30,869	38.00	100
2.1 - 4.0	38	4,330	113	119,950	27.70	71
4.1 - 6.0	46	4,404	95	124,365	28.23	74
6.1 - 8.0	56	5,624	100	145,800	25.93	68
8.0 - 10.0	44	4,546	103	100,170	22.02	57
10.1 - 12.0	28	3,154	112	53,535	16.97	44
12.1 - 15.0	34	3,849	113	94,565	24.56	64
15.1 and over	6	760	126	17,100	22.50	59

b Good Land (Minerals transferred 50 percent and 100 percent; all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1.0	3	219	73	11,000	50.22	100
1.1 - 2.0	5	439	87	18,860	42.96	85
2.1 - 4.0	5	440	88	21,350	48.52	96
4.1 - 6.0	17	1,649	97	71,700	43.48	86
6.1 - 8.0	21	2,171	103	92,450	42.58	84
8.1 - 10.0	7	613	87	26,750	43.63	95
10.1 - 12.0	5	325	65	13,500	41.53	82
12.1 - 15.0	3	284	94	8,650	30.45	60

c Poor Land (Minerals transferred 50 percent and 100 percent; all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 1.0	3	478	159	8,950	18.72	100
1.1 - 2.0	17	1,674	104	38,250	22.84	122
2.1 - 4.0	10	1,206	120	21,250	17.62	94
4.1 - 6.0	6	620	103	8,075	13.02	69
6.1 - 8.0	8	750	93	9,700	12.93	69
8.1 - 10.0	4	287	71	4,715	16.42	87
10.1 - 12.0	12	1,293	107	20,550	15.80	84
12.1 - 15.0	3	354	118	8,000	22.50	120

sales respectively. Also the average size of transfer in the intervals were 78 and 126 acres, deviating somewhat from the average sizes for the other classes which range from 79 to 113 acres.

The average price of land located within two miles distance from town was $38.00 per acre, a relatively high price. It is possible that the relatively small average size of transfer in this interval partly accounted for that although it appears that nearness to town was the principal governing factor in the price. The decrease in average price per acre between the second distance interval and the third one which includes all the land sold between 2.1 and 4.0 miles from town was quite sharp. It amounted to a decrease of 29 percent taking the average price in the first distance interval as a base. For the next two miles the average price per acre increased about 3 percent and then it dropped to $25.93 per acre representing a total decline of 32 percent from the base price. The decrease continued with 43 percent and 56 percent for the 8.1 - 10.0 and 10.1 - 12.0 mile intervals and finally the average price per acre went up again to $24.56 and $22.50 for the last two distance classes, as represented by the index numbers 64 and 59.

Apparently the urban market exercised considerable influence on land prices within 4 miles. Between 2.1 and 8.0 miles the prices went down an average of 30 percent. Another 4 miles distance is responsible for a 50 percent drop in price, while the average price of land over 12 miles from town for some unknown reason rose again by 14 percent. The possibility has been suggested that after 12 miles, the urban market influence on price may be less than the rural market influence and that generally a farm is closer than 12 miles to some rural market.

In any event, the indications are that distances to a shopping center definitely affect average land prices. For instance, the price was about halved when a 10 mile distance was reached. This decrease amounted to about $1.10 per acre for each additional mile in distance.

In this table, no special consideration has been given to road types, which could be partially responsible for the difference in prices. An insufficient number of sales for a reliable analysis would have resulted if sales had been separated by distance according to road types.

However, the tables on land prices and distances traveled on non all weather roads to town (Table 11a) show that 182 sales or over two-thirds of the tracts concerned are located on or within a distance of one mile from a gravel or a paved road. It was felt that the analysis of this group where all road types were combined did not unduly distort the picture.

The good land group (Table 10b) shows a slight downward trend in average prices per acre with increasing distances from important shopping center. The first decline in price, a 15 percent decrease was between land located under one mile from town or practically in it and the 1.1 - 2.0 mile group. In the next distance group the price was only 4 percent below the base, while for the 4.1 - 8.0 mile distance interval a 15 percent decrease in price was found. However, the limited number of sales in these classes makes the average unreliable. The figures do, however, leave the impression that varying distances to town affect average prices of land to a greater or lesser extent.

The poor land group (Table 10c) shows, as a whole, a steady decrease in land prices with increasing distances from town. The average price

in the second interval is somewhat out of line with this pattern being twenty-two percent above the base price. However, there were only three sales in the first class interval, which did not make for a very representative average price per acre. The decline in average price between the first interval and the 2.1 - 4.0 mile interval was noteworthy. It amounted to 6 percent while the decrease in average price for the next two class intervals was 31 percent. Apparently buyers of poor land attached some importance to location with respect to distance from important shopping center. It may be that the most valid comparison in this land class is between the 1.1 - 2.0 mile group with 17 sales and the 10.1 - 12.0 mile group with 12 sales. It may be noted that there was a thirty-eight percentage point decrease in the average price paid as the distance to the shopping center increased 10 miles. This represents an average decrease of about seventy cents per acre for each mile increase in distance.

Average Price Per Acre and Distance Traveled
Over Non All Weather Road to Important Shopping Center

The effect of distance traveled over dirt road to town is shown in Table 11.

The fair land group was represented by Table 11a with 266 sales, distributed mainly over the first four distance intervals, which cover the first 3 miles. Ninety-six percent of the sales were within this distance. The 3.1 and 4.0 and the 4.1 mile and over intervals have only four percent of the sales. The average sizes in the various distance intervals were faily close together and ranged from 93 to 121 acres.

Table 11. Selling Price Per Acre and Distance Traveled Over Non All Weather Road to Important Shopping Center

a Fair Land (Minerals transferred 50 percent and 100 percent; size groups 2, 3, and 5.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.5	112	11,898	103	333,319	28.01	100
0.6 - 1.0	70	7,369	105	168,965	22.90	81
1.1 - 2.0	52	5,203	100	122,605	23.50	82
2.1 - 3.0	21	1,969	93	50,365	25.50	91
3.1 - 4.0	6	720	120	10,500	14.50	51
over 4.1	5	605	121	12,250	20.20	72

b Good Soil (Minerals transferred 50 percent and 100 percent; all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.5	19	1,453	76	69,300	47.62	100
0.6 - 1.0	17	1,701	100	76,310	44.80	94
1.1 - 2.0	18	1,597	88	64,100	40.13	84
2.1 - 3.0	9	1,069	118	48,950	45.79	96
3.1 - 4.0	2	240	120	3,850	16.04	33
over 4.1	1	80	80	1,750	21.80	45

c Poor Soil (Minerals transferred 50 percent and 100 percent; all size groups.)

Distances - Miles -	No. of Sales	Acres	Average Size	Consideration - Dollars -	Average Per Acre	Index
under 0.5	21	2,208	105	44,920	20.34	100
0.6 - 1.0	12	1,166	97	21,650	18.56	91
1.1 - 2.0	21	2,294	109	38,370	16.72	82
2.1 - 3.0	3	400	133	8,550	21.37	105
3.1 - 4.0	3	474	158	5,250	11.07	54
over 4.1	3	120	40	750	6.20	30

The index of the average prices shows a decline of 19 percent between 0.0 - 0.5 miles and 0.6 - 1.0 miles traveled over dirt roads. The break between the first two distance intervals from under 0.5 mile to 0.6 - 1.0 mile was quite sharp. No further decrease is shown up to two miles. It is probable, however, that part of the average price for the first distance group was due to location directly on a good road, as all weather roads include both gravel and paved roads.

The average price of land in the 2.1 - 3.0 mile interval for some unexplainable reason went up again to an index number of 91, but decreased again in the last two distance intervals.

The general impression was that land owners did care about the proximity of an all weather road, as indicated by the decrease of nearly twenty percent in average price between the first class interval and the second and third class intervals. After that no definite relationship could be established, as the index showed wide differences in prices and only few sales were present in the last class intervals.

It appears that buyers discount land by from one to two dollars per acre for each additional mile or fraction they must travel over a dirt road to get to town.

The tables on the good and poor quality (Tables 11b and c) showed a similar decline in average price per acre, also mainly between the first and third distance interval. The downward trend in price also continued until the 2.0 mile limit was reached. In the last three intervals the price trend was very irregular, but only few sales were represented in those intervals.

Concluding, it could be said that distances traveled over non all weather roads to important shopping center for all soil quality groups began to influence the price after the first 0.5 mile. Between 0.5 and 3.0 miles the average prices were on about the same level and approximately 15 to 20 percent lower than the base price. Between 3.1 and 4.1 miles the land prices were about 50 percent lower than the base price, but fewness of sales makes this relationship unreliable.

Chapter VII

SUMMARY AND CONCLUSIONS

Summary

In this study an attempt was made to determine the relationships, if any, existing between land values in Payne County, Oklahoma, and the location of the land with respect to road type, distance to hard surface and other all weather roads, distances to various markets and the distance traveled over non all weather road to the various markets.

As location is not the only factor influencing land values, means had to be found to control to the greatest possible extent such factors as soil quality, mineral rights transferred with the land, size of transfer, and improvements on the land.

All usable sales of farms occurring in Payne County during the years 1941-45 were broken down into three soil quality groups: "good", "fair", and "poor" as classified by soil technicians. Within each group only those transactions were considered where 50 and 100 percent of the mineral rights were transferred with each sale.

Size of transfer was controlled only in the fair land group, where sales of tracts falling into the three most important size groups (30 - 69 acres, 70 - 99 acres, and 140 - 179 acres) were analyzed.

The scarcity of data in the good and poor land groups made it advisable not to control size of transfer in those groups.

The improvement factor which also might affect land prices, was studied more extensively in order to decide whether to attempt to control it before undertaking the final analysis of land prices as affected by

location. This particular factor had not previously been studied in Oklahoma and it was deemed advisable to determine whether improvements influence land prices and if so, to what extent.

The value of improvements on farms located on different types of roads as well as land at varying distances to nearest important shopping center and of different soil qualities was analyzed. In this analysis, all available sales were used, regardless of land quality, mineral rights conveyed, and size of sales. The resulting figures show that the average values of improvements per acre for land on gravel and paved roads were respectively 4 and 18 percent higher than average values of improvements for land on dirt roads.

It was estimated that improvements account for approximately 6 percent of the difference in price between land located on dirt and gravel roads and for approximately 8 percent of the difference in prices of land on dirt and paved roads.

With respect to distances to the nearest important shopping center an inverse relationship was found between this location factor and improvements. It seemed that value of improvements decreased beginning with the 1.1 - 2.0 miles interval as distances to town increased. The only exception was the 6.1 - 8.0 mile interval.

For the different land qualities some marked differences in improvement values per acre were found. On good land, improvement values per acre were about 71 percent higher than on poor land. On fair land the improvement values were about 13 percent higher than on poor quality farms. However, it was also found that improvements account for only approximately 5 percent of the difference in price between poor and fair

land and only about 13 percent of the difference in price between poor and good land.

Although in general the various indicated relationships were found to be direct, it was felt that the controlling of the improvement factor in the main analysis of land prices as affected by location, would not give more reliable results since the difference expressed in dollar values which were caused by improvements of the land sold, were relatively small.

Due to the paucity of data in the good and poor land group, the main analysis was based on the fair soil group and the two other land quality groups were used as supporting data only. Moreover, studying the land quality groups separately, the difference in value of improvements between the different land quality groups, as indicated previously, is minimized.

Because of lack of data, it was not possible to extend control over factors such as farm site, topography and other possible unknown influences. However, it is believed that these influences are not large enough to affect the results of this analysis much and that they will largely cancel out in a sizeable number of sales. While it is recognized that the influence of the preceding factors has not been completely eliminated, the following findings based on this study probably indicate fairly well the value buyers place on the proximity to roads and markets.

Road Type

The farms located on gravel roads sold for approximately 8 percent more per acre than those located on dirt roads, while land on paved roads

was about 48 percent higher per acre than tracts on dirt roads. However, it may be that about 8 percent of the difference in price between land on dirt and paved road can be attributed to higher improvement values.

There was no noticeable relationship between average prices per acre of good quality land and road type. For the poor land an increase of 17 percent of the price of land on gravel roads over land on dirt roads was found.

The general impression was that as the productivity of land decreases, somewhat more significance is attached to locations with respect to road type.

Distance to Hard Surface Road

In the analysis of distance to paved roads, it was found that the price of land located between 0.3 and 0.8 miles from a hard surface road decreased 23 percent and prices of land located between 0.9 and 5.0 miles from such a road had an average decrease of 34 percent over prices of land under 0.3 miles pavement.

For good and poor soil quality there was also a downward trend in prices noticeable as distances from pavement increased.

Distance to an All Weather Road

The price paid for farms more than 0.5 miles from an all weather road in general indicated that land owners were conscious of some disadvantages in location. On the average 16 percent less was paid for land between 0.6 - 2.0 miles from an all weather road than for land under 0.5 miles from this same type of road.

No relationship between price and distance to all weather road existed in the good land group. For poor land, prices decreased 10 percent for distances of 0.5 - 2.0 miles to all weather roads as compared to prices of land which was located under 0.5 miles from this type of road.

Distance to Nearest Market

The per acre price paid for land 1.1 - 2.0 miles from rural market was about 12 percent less than that paid for farms within 1.0 mile. Between the distances of 2.1 - 7.0 miles the average price decrease was only 8 percent while the 7.1 - 10.0 mile interval showed a 19 percent decline in price.

For good and poor land no definite relationships could be discovered, although there were some variations in the price data.

Distances Traveled over Non All Weather Road to Nearest Market

Farms so located as to require between 1.1 and 3.0 miles of travel on a dirt road to reach market sold on the average for 10 percent less per acre than land where under 1.0 mile of travel on a dirt road was required to reach a market.

The analysis of the prices in the good land group indicated a relative indifference as far as distances traveled over dirt roads were concerned.

For poor land a 6 percent decrease in average price for the 1.1 - 3.0 mile distance group from the price in the "under 1 mile" interval was

found.

It is evident that in Payne County, distances traveled on dirt roads in general affect the average price per acre to a limited extent only, as most dirt roads are improved and are passable practically the year round.

Distance to Important Shopping Center

Generally, a direct relationship existed between average land price per acre and distance to important shopping center until a distance of 15 miles was reached. Land prices decreased on the average at a rate of $1.10 per acre per mile between 1.5 and 11.0 miles.

The per acre price decrease within the entire 15.0 miles range tends to be concentrated in land that is located between 2.1 and 8.0 miles from town. The decrease is 30 percent from the base price. The average price per acre of land between 8.1 and 15.0 miles is about 50 percent lower than the base price.

For good and poor land in general prices also decreased moderately when distances to town increased.

Distance Traveled over Non All Weather Road to Important Shopping Center

Land owners attached importance to the proximity of an all weather road, as indicated by the decrease of nearly 20 percent in average prices between the "under 0.5" distance interval and the 0.6 - 2.0 mile distance groups.

A similar decline could be noticed for the good and poor land groups, although the decrease more gradually followed the increasing distances up to 2.0 miles and amounting to about 15 percent.

On the average, a discount of $1.00 to $2.00 per acre of land with each mile of increased distance traveled over dirt road to town could be noticed.

Conclusions

1. On the average, people pay more for land on paved roads than for land on gravel roads; more for land on gravel than for land on dirt roads. The corresponding increases were 40 percent and 8 percent, taking the price per acre of land on dirt roads as the base.

2. More is paid for land lying near a hard surface and an all weather road than for land farther away. On the average, land between 0.9 and 5.0 miles from pavement was valued at 34 percent less per acre than land under 0.3 miles from a paved road.

For land located between 0.6 and 2.0 miles from an all weather road the decrease in price was 16 percent over the base as represented by the average price for land under 0.5 miles from this type of road.

3. Increasing distances to rural and urban market caused land prices to decrease up to 10.0 and 15.0 miles respectively. The average decrease per mile per acre of price of land with respect to rural market was about 2 percent and with respect to an urban market about 4 percent. In some instances, however, the rate of decrease in average prices was irregular.

4. Greater distances traveled over non all weather roads to markets also affect land prices unfavorably. With respect to distances traveled over dirt roads to a rural market the average decrease of land price per mile per acre was 5 percent up to 3.0 miles. Where an urban market was involved, the average decrease was about 4 percent up to 3.0 miles. Some variations in the pattern of decreasing average prices could be noticed.

5. Improvement values, while somewhat higher on better located farms, accounted for only a small proportion of the total difference in selling price between farms located on the several types of roads and at varying distances from market.

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A P P E N D I X

Appendix Table 2

Average Price Per Acre and Size of Transactions by Land Qualities

(Minerals Conveyed 50 Percent and 100 Percent)

a Good Land Quality

Size Acres	No. of Sales	Acres	Consideration - Dollars -	Average Per Acre
under 30	2	40	4,000	100.00
30 - 69	18	803	40,350	50.23
70 - 49	25	1,978	95,550	48.13
100 - 139	4	469	19,450	41.40
140 - 179	15	2,370	88,160	37.19
180 - 219	0	0	0	0
220 - 259	2	480	16,750	34.08

b Fair Land Quality

Size Acres	No. of Sales	Acres	Consideration - Dollars -	Average Per Acre
under 30	8	148	4,500	30.40
30 - 69	56	2,319	54,065	25.47
70 - 99	102	8,147	206,474	25.53
100 - 139	18	2,056	43,960	21.38
140 - 179	108	17,298	432,465	24.36
180 - 219	4	820	20,450	24.09
220 - 259	2	480	13,250	27.60
260 - 379	2	640	15,000	23.40

c Poor Land Quality

Size Acres	No. of Sales	Acres	Consideration - Dollars -	Average Per Acre
under 30	1	11	250	22.72
30 - 69	19	862	15,450	17.90
70 - 99	13	1,035	23,635	22.83
100 - 139	2	212	3,500	16.50
140 - 179	27	4,304	73,205	17.00
180 - 219	1	238	3,450	14.49

Appendix Table 3

Average Price Per Acre and Assessed

Values of Improvements by Land Qualities

(Minerals Transferred 50 Percentage and 100 Percentage Size Groups 2, 3, and 5.)

a Good Quality Land

Improvements - Dollars -	No. of Sales	Acres	Consideration - Dollars -	Average Per Acre
under 100	19	527	68,050	44.56
101 - 200	13	1,160	41,850	36.07
201 - 300	14	1,213	50,810	41.88
301 - 500	9	873	45,150	51.72
501 - 750	3	378	18,200	48.14
over 751	0	0	0	0

b Fair Quality Land

Improvements - Dollars -	No. of Sales	Acres	Consideration - Dollars -	Average Per Acre
under 100	126	10,588	23,515	22.50
101 - 200	43	5,281	111,700	21.15
201 - 300	55	6,517	177,000	27.15
301 - 500	34	4,372	141,750	32.42
501 - 750	4	444	13,156	29.61
over 751	4	560	19,250	34,37

c Poor Quality Land

Improvements - Dollars -	No. of Sales	Acres	Consideration - Dollars -	Average Per Acre
under 100	24	2,040	26.795	13.13
101 - 200	16	1,753	36,970	24.08
201 - 300	11	1,448	30,600	21.13
301 - 500	6	760	11,725	15.40
501 - 750	1	160	3,200	20.00
over 750	1	40	3,000	75.00

TYPIST PAGE

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The content and form have been checked and approved by the author and thesis adviser. "Instructions for Typing and Arranging the Thesis" are available in the Graduate School office. Changes or corrections in the thesis are not made by the Graduate School office or by any committee. The copies are sent to the bindery just as they are approved by the author and faculty adviser.

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