THE EFFECTS OF SUBURBANIZATION ON LAND USE IN A SELECTED SEGMENT OF THE LANSING RURAL-URBAN FRINGE

By

Elon Howard Moore, Jr.

A THESIS

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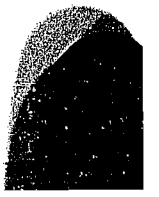

In recent years the suburban movement has affected the use of large acreages of agricultural land surrounding most cities. Near the city, land often has ripened into a higher use for residential and commercial sites. Further out this process has just begun.

The main purpose of this study is to appraise the impact of suburbanization on land use. An additional purpose is to determine its effect on land and house values and to discover the community problems created. A final purpose is to suggest means for improving the existing situation.

Two areas southeast of Lansing, Michigan, were studied by means of a block sample in which all farmers and rural residents were interviewed. Local officials also were contacted. Data on the two areas were analyzed and compared. In addition, comparisons were made with census data, and, where applicable, statistical tests were applied.

Those physical, geographic, and population characteristics presented provide the groundwork for a better understanding of the problems of the sample areas. The agriculture in this area is typical for south-central Michigan. The population was slightly older than that of surrounding counties and appeared fairly permanently settled. Most rural residents

had moved to their present location within the preceding ten years and worked in the Greater Lansing area. Nearly forty percent had never lived in the country previously.

A definite trend in farming was discovered, indicating that more crops and less livestock were being raised. This was caused, to a great extent, by part-time farmers who devoted most of their land to row crops and small grains. Furthermore, on many farms, beef was replacing other livestock. Future plans of the farmers indicated that these trends would continue. Also, an increase in suburbanization was indicated by the intention of several farmers to subdivide their land. In addition to many farms being operated at less than maximum efficiency, there was evidence that the soil on others was being "mined" prior to their sale for residential purposes.

Loss of agricultural land in the areas through idleness and through land going into rural residences was the equivalent of 13 farms of 160 acres each. Projecting this to the entire Lansing fringe, approximately 600 farms of this size possibly have gone out of production.

Housing of a higher value was generally located either near the main highway or one of the local communities. Building acreage values were higher in those regions near

these suburban influences, while rental values were higher in the area closest to Lansing. The first acres subdivided from a farm usually sold for a lower price than later ones.

The principal community problems created by this suburban movement were related to sanitation, transportation, roads, schools, land values, and taxes. Methods used to combat these problems included zoning, building codes, and deed restrictions. Although zoning was used by only one of the three townships studied, all three could have used more effective means of control.

A Lansing Metropolitan Planning Commission is proposed as a solution to the suburban problem.

Acknowledgments

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The cooperation of the farmers and rural residents interviewed was greatly appreciated, and their interest in the project has not gone unnoticed.

Particular recognition is deserved by my wife, Denise Francq Moore. Her great amount of help and moral encouragement has made it possible to complete this phase of the writer's formal education.

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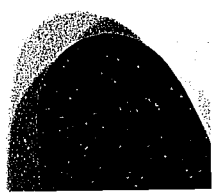

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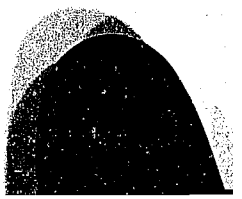

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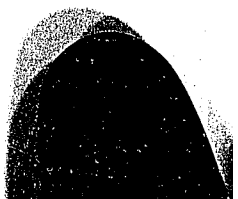

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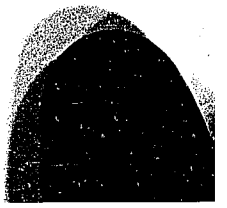
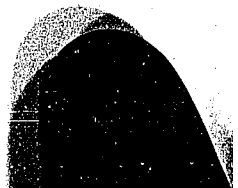


Chapter I

INTRODUCTION

The urban movement has had a considerable effect upon the utilization of agricultural lands that border most cities. This is especially true for the larger cities in the southern half of Michigan. This movement, which has been underway for the last two or three decades, has reversed an earlier population trend toward the city proper. Housing congestion, increased use of automobiles, and development of better highways and roads were the major causes of this reversal. Many former city dwellers have moved into organized suburban developments, but others have by-passed the planned housing areas in order to obtain a larger acreage. Many tended to acquire homesites along the highways first, but there were some who chose the open country.

Some of these suburban developments have taken over valuable farm land. In most cases, this type of development provides a higher use for the land. The situation may be different, however, where one or two isolated rural residences are found among productive farms. These parcels of land can detract from the efficiency of the original farms, and the extra land associated with each residence often is not employed in its highest and best use.



Not all rural residential sites are pieces of land taken from a parent farm. Some city workers have purchased complete farms and have attempted to operate the farm while maintaining urban employment. Also, there are a considerable number of farmers who have assumed a city job in addition to their farm duties. However, most individuals are unable to handle both jobs satisfactorily, and the result is often seen in a slackening of the efforts formerly directed towards the farm. There are some farms where the owner is interested only in occupying the house. In such a case, the entire land may go unworked. Usually, however, when land is attached to a homestead, it is either operated by the owner or members of his family on a part-time basis, or it is leased to other operators. Much of this land is not used as intensively for agricultural purposes as it could be, and some may not be used for agriculture at all.

The rural-urban fringe area around Michigan cities has caused serious land use problems and in many areas has produced a twilight zone with regard to the concept of the highest and best use, for much of this land could be used more effectively for agriculture than it is at present. This is particularly true in periods when great emphasis is placed upon the attainment of higher farm production. In addition to the lower efficiency of agricultural land use often found in the fringe

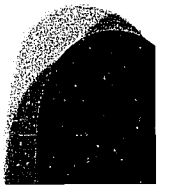
area, many times there is also a rather poor utilization of farm machinery and buildings. A rapid depreciation of farm buildings is one of the casualties of agricultural land which is ripening into a higher use, such as is found in a suburban development. Elimination of premature settlements on agricultural land would avoid this loss. Farm machinery values are not affected by suburban trends in the same way as building values; however, the use, or lack of use of such machinery, is a result of the whims of individual operators. Machinery is not always purchased with economic motives in mind. For example, many rural residents who own a field tractor have only a few acres of land. They have the tractor more for their own pleasure than for the work it can do for them.

Further results of such urban developments are increased tax rates and land values in some areas. These place a strain on the use of the land for agriculture long before it may be converted to a higher use. The older residents as well as the new are unhappy with the increased taxes, but land owners thinking of selling look with favor upon the advancing land values. The idea of subdividing the home farm tempts many of the more adventurous farmers with hopes of large gains. They often fail to think of the possibility that only the most desirable lots may be sold and that the end result might be a poorly shaped farm.

Local rural community life also suffers with the advent of suburbanization. "Blighted" areas and the familiar roadside slums often result. By the time these latter conditions have occurred, the citizens of the area begin to think that some type of remedial action is necessary. One of the first things to be demanded is increased local governmental services. Other governmental action which is frequently wanted includes local planning, rural and roadside zoning, building codes, subdivision regulations, and sanitary codes. Schools, roads, and telephone service are found to be inadequate and in need of improvement. All of this points to the rise of a great many problems in the rural-urban fringe area. This is a situation that many communities in Michigan are now facing. In years to come more areas will be concerned with similar problems. In addition, the present disturbed areas will have added difficulties as a result of still more urbanization.

Definition of Fringe Area

Several definitions of a rural urban fringe have been developed, some of which were for sociological studies and others for agricultural investigations. Neither of these phases can be divorced from the problems which face the occupants of a fringe area. Wehrwein described the rural-urban fringe as "the area of transition between well recognized



urban land uses and the area devoted to agriculture."[1] Blizzard and Anderson, in a sociological study, used the following definition:

> The rural-urban fringe is that area of mixed urban and rural land uses between the point where full city services cease to be available and the point where agricultural land uses predominate. It is assumed that such an area contains a population grouping and has evolved a social organization which are related to both rural and urban life, but have distinctive sociological features.[2]

For the purpose of this study, the rural-urban fringe movement is assumed to include that land beyond the last platted area adjacent to a city and to extend to that land which is devoted to full-time farming activities. Since the emphasis is on the effect of suburbanization upon land use, those incorporated areas which are found within the limits of the fringe of the central city are excluded from the regions to be studied. In most cases, this fringe will be a belt surrounding the entire city. However, certain topographical features, such as a large body of water or a steep land formation, may eliminate a section.

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[1]George S. Wehrwein, "The Rural-Urban Fringe," Economic Geography, Vol. 18, July, 1942, p. 217.

[2]Samuel W. Blizzard and William F. Anderson, II, Problems in Rural-Urban Fringe Research: Conceptualization and Delineation, Progress Report No. 89, The Pennsylvania State College Agricultural Experiment Station, State College, Pennsylvania, November, 1952, p. 11.

Purposes of the Study

The primary purpose of this study is to appraise the impact suburbanization has had on a selected area located in a rural-urban fringe which is still ripening for urban and suburban uses. Special emphasis is put on the effect of this movement upon land use practices and productivity in order to obtain a clearer picture of the changes that have occurred in the farming of the land. An inventory is to be made of present and past uses of the land and of the acreages of idle land that are suitable for productive agriculture. A second purpose is to estimate possible increases in agricultural production if idle or poorly used lands suitable for agriculture were efficiently used. A further aim of the study is to determine the effect the resultant property development has had on land and house values. The fourth purpose is to consider the more urgent community problems created by suburbanization and the reaction of the residents to them in order to gain a better idea of their attitudes toward the fringe movement. These reactions will also help to indicate the most urgently needed steps to guide in an orderly development of the area as the demand for a more intensive use develops. The role played by local government in the solution of problems associated with the development of the area also is to be investigated. A final purpose is

to analyze and appraise possible means for improving the existing situation as it involves both community institutions and the allocation and use of land resources. The objective is to suggest means that might lead to the retention of a higher proportion of the potentially productive farm lands in productive farm use until the time they are actually needed for residential, commercial, or other urban purposes.

Selection of the Sample Area

Preliminary thought and investigation for this study was started during the spring months of 1951. Background information regarding the impact of the suburbanization movement on land use and local community problems was obtained through census data, interviews with local officials and citizens, and by observation while driving on the Michigan highways and secondary roads. In looking for a specific area to study, it was felt that the region selected should be one which was beyond the last platted area surrounding a city. This would give an area which had started to develop towards a use other than farming, but one in which the land still was used primarily for agriculture. The highest and best use for this land may be agriculture for some time to come, but through a careful investigation, the impact of suburbanization on its use may become evident.

Census data did not prove as fruitful as originally hoped for two reasons. The first was that the effects of a suburban movement did not encompass an entire minor civil division in those areas deemed feasible to study. The full impact of the movement, then, would be lost in the averaging process that necessarily must take place in census data. However, certain trends could be discerned. The second reason results from the changing definitions used by the Census Bureau from one census year to the next. The definition of a farm in particular caused much difficulty, for in some cases, it was doubtful whether changes in a rural-urban fringe should be attributed to urbanization or to a different census definition.

Another factor considered important in selecting a sample area was that it should have fairly uniform and productive soils. For this factor the land classification maps produced by J. O. Veatch[3] were used. This eliminated many regions which otherwise would have been acceptable.

The next problem to be considered was the selection of a sample area that would furnish a locus for the study. Realizing that the suburban movement probably has different

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[3]J. O. Veatch, Agricultural Land Classification and Land Types of Michigan, Michigan Agricultural Experiment Station, Special Bulletin 231, East Lansing, Michigan, 1933.

Of the various sampling methods, the block sample appeared to be the most promising for showing land use practices and their changes in the fringe area. Because of its nature, the fringe may change over a distance of a few miles, and would thus present a very difficult problem in obtaining a representative sample by randomizing. This is especially true in a pilot study. The block sample, on the other hand, would give an opportunity to trace any differences that might occur in land use, land values, etc., at varying distances from the central city and main highways.

A limitation of the block sample when used in a study such as this is found in the temptation to generalize that all fringe areas are similar to the segment studied. This may be partially true, for different forces and factors can change the situation found in other segments. Therefore, it is important to be aware that there are individual differences when drawing conclusions for fringe areas as a whole. However, generalizing can be very worth-while, for it provides an opportunity to draw together what has been observed and to show how this may relate to problems facing other fringe areas.

After deciding on the type of sample, the area to be studied was then determined by comparing the possible regions with the established criteria. Williamston and Wheatfield Townships in Ingham County, of which Lansing is the principal

effects depending on the size of the city from which it emanates, the search for a sample area centered around Michigan cities having a population from 75,000 to 200,000. The study was designed as a pilot study of land use in a suburban area; therefore, a representative city was desired. There are five cities[4] that fall in this population range. Detroit, which is considerably larger, and many cities which are smaller furnish ample opportunity for follow-up studies. Further investigation of areas surrounding cities in the 75,000 to 200,000 population range may be advisable. Such studies would act as a test for the findings resulting from this study. Also, a more complete picture of the effects of suburbanization upon land use in Michigan would result if these various studies were made. For obvious reasons, a complete over-all view cannot be attempted in one study. The best that can be hoped for is to test the method of research employed in this investigation and to obtain a picture of land use in a segment of the rural-urban fringe around a city of the population range selected.

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[4]Dearborn (94,994), Flint (163,143) Grand Rapids (176,515), Lansing (92,129), Saginaw (92,918). 1950 United States Census of Population: General Characteristics, Michigan, United States Department of Commerce, Bureau of the Census, U. S. Government Printing Office, 1952.

city, met all qualifications, and because of their proximity to Michigan State College, were selected for intensive study. To take both townships would furnish more than enough cases for a satisfactory investigation, so the total area studied was limited to the northern part of Wheatfield Township and most of the southern part of Williamston Township.

This area is located about 12 miles east of Lansing with the city of Williamston located at its eastern limits. Running through this area, as well as through Lansing and Williamston, is U. S. Highway 16. A more detailed account of the characteristics of this sample region will be given in Chapter II.

Methodology

After the area was selected, two questionnaires were developed for use in the study. These questionnaires were pre-tested in another area and after suitable revision were adopted.[5] Actual field work was started in August, 1951, and continued into November, 1951. The southern part of the area was completed first. All occupants were interviewed with the exception of those who lived within the Williamston city limits and those who lived in a platted area directly

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[5]The questionnaires used will be found in the Appendix.

west of Williamston on U. S. Highway 16. The man who developed this subdivision was interviewed and its history obtained. With the completion of this area, a review was made of the material collected. It was felt that the study of another area closer to Lansing might add to the meaning of the analysis to be made. An area of approximately six sections in Meridian Township, lying directly west of Wheatfield Township, was selected. This area is located about eight miles east of Lansing. It is bounded on the north by both U. S. Highway 16 and by part of the village of Okemos, and has its southern boundary about two miles south of these. This region met the necessary requirements for an area to be selected, but it did not have as productive soils as did the original sample. Again, all occupants were interviewed with the exception of those living in one small platted area. The individual who had done the platting was interviewed and a detailed history of this subdivided acreage was obtained. In addition to the residents, three individuals who live on the east side of Van Atta Road, the eastern boundary of the area, were also contacted. There was a large number of residents on this side of the road, and the three contacted gave a good history of how their area had developed and subdivided in recent years.

The field work in Meridian Township was begun in July, 1952, and finished in August, 1952. The same questionnaires were employed as those used in the original sample area. However, before embarking on the field work, the questionnaires were reviewed to make sure they were applicable to this new region.

Of the two questionnaires used, one was for those occupants considered part-time or full-time farmers. The other was used when interviewing rural residents. The decision as to which questionnaire was suitable in each case was made at the time of the interview. The Residential Use Questionnaire was applied to those occupants whose greatest use of the land for agricultural purposes was a garden enterprise. Personal judgment was used where borderline cases arose, as, for example, when surplus produce from a garden was being sold, or where a son or daughter had a 4-H or F. F. A. project which was more extensive than a garden.

In those cases where the occupant had outside employment, where the receipts from the land were from more than surplus garden produce, and where a conscious effort was being made to add to the income through agricultural purposes, the Farm Use Questionnaire was selected. This usually included those occupants who received well over $100 per year from agricultural pursuits. The definition of a farm

used in this study agrees fairly well with that used by the Bureau of the Census.[6] Full-time farmers were those occupants in the area who used farming as their major source of income and who did not work regularly at other employment. If a man had a job which regularly took him away from his farm for most of a season, he was considered a part-time farmer. However, this would not include a farmer who took on an odd job only once or twice a year. If an individual owned an acreage which otherwise was large enough to be classified as a farm, but the land was not utilized for agricultural purposes, he was then classified as a rural resident.

An effort was made to interview every resident of the areas studied and to account for as much of the total acreage as possible. There were a few instances in which information was not obtained. Refusal to cooperate was the principal reason for not acquiring information and failure to make contact was a second. In one case, the man was on an assignment in a foreign country for a year and in another, no contact

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[6]The 1950 Census of Agriculture gives the definition for farms as "places of 3 or more acres...if the value of agricultural products in 1949, exclusive of home gardens, amounted to $150.00 or more. The agricultural products could have been either for home use or for sale. Places of less than 3 acres were counted as farms only if the value of sales of agricultural products in 1949 amounted to $150.00 or more." United States Census of Agriculture: Michigan, United States Department of Commerce, Bureau of the Census, United States Government Printing Office, Washington D. C., 1952.

had been made after at least twenty attempts to make an appointment. Eight refusals were received in all. Three of these were in the Williamston area and five around Okemos.[7] This represents a two percent refusal rate in the former area and a seven percent rate in the latter. No definite reason can be given for the higher rate of refusals in the Okemos region; however, the most logical explanation seems to be that this area is closer to Lansing and may have been subjected to many more surveys and magazine salesmen. Refusals were received in about equal proportion from the full-time farmers, part-time farmers, and rural residents.

The total sample included 224 interviews. Of these, 154 were from the Williamston region and 70 were from the Okemos area. The number of full-time farmers, part-time farmers, and rural residents is shown, along with their percentage distribution, in Table 1. Recalling that a block sample was used in both areas, the differences found are not too surprising. The larger percentage of rural residents in the Okemos area and the larger percentage of full-time farmers in the Williamston area are a result of the location

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[7]Hereafter in this study, reference to the Williamston area will signify that part of the investigation made in Wheatfield and Williamston Townships. References made to the Okemos area will include that part of the study made in Meridian Township.

Table 1

Size and Distribution of Sample Used in Suburban Land Use Study, Ingham County, Michigan, 1951 and 1952

Type of Resident	Williamston Area		Okemos Area	
	Number	Percent	Number	Percent
Full-Time Farmer	44	28.6	12	17.1
Part-Time Farmer	25	16.2	12	17.1
Rural Resident	85	55.2	46	65.8
Total	154	100.0	70	100.0

of the two areas in relation to the city of Lansing. The number of part-time farmers was similar for both regions.

Review of Literature

Very little has been written on the effect of land use on a rural-urban fringe movement. However, there have been several sociological and farm management studies which treated many of the problems of this fringe movement. A brief review of the literature on this subject will be presented in this section.

Farm Management and Land Economics

Two early farm management studies, one in Kentucky and one in Indiana, dealt with urban influences on farms. The

Kentucky study made by Arnold and Montgomery[8] employed the survey method and took records in 1913 and 1915 near Louisville. Their interest was in showing the differences in land values, prices of farm products, farm expenses, and farm incomes on commercial farms which were found at varying distances from the city. Robertson,[9] in the Indiana study, compared 60 farms near Chicago with 65 farms of similar soil and climatic conditions at a further distance from this city. He was interested in the changes that occurred between 1920 and 1930 in farm values, income, expenses, and prices.

Rural residents also received early attention in regard to the cost of living in rural areas. The value of rural homesteads to laborers in southern cotton mills was the object of a study by Funk[10] of the U. S. Department of Agriculture in 1918. In 1924 Cornell University published a study by Noble[11] on the living costs of rural non-farm workers.

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[8]J. H. Arnold and F. Montgomery, Influence of a City on Farming, United States Department of Agriculture Bulletin 678, United States Government Printing Office, Washington D. C., 1918.

[9]Lynn Robertson, Changes in Farming in Lake and Potter Counties Indiana, as a Result of Nearness to Industrial Cities, Purdue Agricultural Experiment Station Bulletin 365, Lafayette, Indiana, 1932.

[10]W. C. Funk, Value of a Small Plot of Ground to a Laboring Man, United States Department of Agriculture Bulletin 602, United States Government Printing Office, Washington D. C., 1918.

[11]C. V. Noble, The Cost of Living in a Small Factory Town, Cornell Agricultural Experiment Station Bulletin 431, Ithaca, N. Y., 1924.

Several studies on part-time farming were made during the depression years of the 1930's. One of the earliest studies was started before the 1929 "crash" by Rozman.[12] In the spring of that year, all of the rural homes in one Massachusetts town were surveyed to determine to what extent families combined off-farm work with rural residence and farming activities. This led to a further study of the nature of part-time farming in two Massachusetts urban areas. This publication estimated that half of the State's farms were operated on a part-time basis.

Further studies on part-time farmers during the depression years were made in Maryland, California, and New York. The California study, which was undertaken by Adams and Wann,[13] was designed to show the income possibilities of part-time farming as compared to existing conditions. The Maryland report, under the direction of Walker and DeVault,[14] was set up to determine the possibilities of providing a family an adequate standard of living. It compared its findings on

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[12]David Rozman, Part-Time Farming in Massachusetts, Massachusetts Agricultural Experiment Station Bulletin 266, Amhurst, Massachusetts, 1930.

[13]R. L. Adams and J. L. Wann, Part-Time Farming for Income, California Agricultural Experiment Station Bulletin 581, Berkely, California, 1937.

[14]W. P. Walker and S. H. DeVault, Part-Time and Small Scale Farming in Maryland, Maryland Agricultural Experiment Station Bulletin 357, College Park, Maryland, 1933.

part-time farms with those on full-time farms. Hood,[15] in the New York study, compared, among other things, the living cost of the part-time farmer with those of urban dwellers. An additional study by Robertson,[16] published in 1934, attempted to assess the economic significance of the growth of non-farming rural homes. It centered attention on the rural residents and the degree of competition they created for regular farmers, the local market they created, their effect on public relief and school costs, and their tax contribution.

Eight states in the middle 1930's published bulletins on the extent and characteristics of part-time farming.[17] These bulletins were the result of a federal program which surveyed existing part-time farms. The main objective of these bulletins was to help relocate stranded or unemployed populations. For the most part, these studies did not attempt

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[15]Kenneth Hood, An Economic Study of Part-Time Farming in the Elmira and Albany Areas of New York, 1932 and 1933, Cornell Agricultural Experiment Station Bulletin 647, Ithaca, New York, 1936.

[16]Lynn Robertson, The Economic Significance of the Non-Farming Rural Population in Northwestern Indiana, Purdue Agricultural Experiment Station Bulletin 388, Lafayette, Indiana, 1934.

[17]The eight states are Ohio, Connecticut, Oregon, Washington, Iowa, Kentucky, Delaware, and Indiana. For further details, see: Salter, Leonard A., Jr., Land Economics, The University of Minnesota Press, Minneapolis, Minnesota, 1948, p. 154.

to analyze underlying conditions or to resolve the problems created. Several of these states carried on further part-time farm studies of their own. Salter and Diehl,[18] in the August, 1940 Journal of Farm Economics, reported their conclusions from a careful analysis of twenty-four part-time farming studies. They concluded that too many of these reports gave average figures which had been subsorted by uniform factors instead of grouping the data by dominant motivations, patterns of behavior, sets of economic relationships, or outstanding problems. In another farm management study on part-time farming which was undertaken by Salter and Darling[19] in the middle 1930's, an entire valley was surveyed. They took into consideration farms, part-time farms, factories, and schools. Urban dwellers in the valley cities were also contacted with respect to their interest in becoming part-time farmers.

The appearance of fringe problems was recognized by Salter[20]

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[18]Leonard A. Salter, Jr. and L. F. Diehl, "Part-Time Farming Research," Journal of Farm Economics, Vol. 22, No. 3, August, 1940, pp. 581-600.

[19]L. A. Salter, Jr. and H. D. Darling, Part-Time Farming in Connecticut--A Socio-Economic Study of the Lower Naugatuck Valley, Storrs Agricultural Experiment Station Bulletin 204, Storrs, Connecticut, 1935.

[20]Leonard A. Salter, Jr., "Land Classification Along the Rural-Urban Fringe," Proceedings of the First National Conference on Land Classification, Missouri Agricultural Experiment Station Bulletin 421, Columbia, Missouri, 1940, pp. 12-19.

and Wehrwein[21] at a conference on land classification in 1940. Salter discussed land classification in the rural-urban fringe and some of its problems, and Wehrwein referred to the rural-urban fringe in a paper concerning land classification for rural zoning.

A report on the process of industrialization and related land utilization problems in a Virginia County was made by Gibson and Bell[22] in 1944. A land classification approach was used, but emphasis was placed on the processes of change in land utilization. They pointed out the need for "an exhaustive research program of the land use in the rural-urban fringe area of the county."

Another study was made around Philadelphia, Pennsylvania in the early 1940's by Diehl.[23] He considered the landed economy as a whole and the process of change that took place in the fringe region.

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[21]George S. Wehrwein, "Land Classification for Rural Zoning," Proceedings of the First National Conference on Land Classification, Missouri Agricultural Experiment Station Bulletin No. 421, Columbia, Missouri, 1940, pp. 135-143.

[22]W. L. Gibson, Jr. and S. Bell, Jr., Land Utilization in Henry County, Virginia Agricultural Experiment Station Technical Bulletin 93, Blacksburg, Virginia, 1944.

[23]L. F. Diehl, "Problems of Suburbia," Land Policy Review, Vol. 4, No. 8, August, 1941.

Sociology

Farm management and land use studies are only one aspect of the approach to the problems found in a rural-urban fringe. The sociological phase has drawn the interest of many researchers, for it concerns people and their adjustment to living conditions, to opportunities for social participation, to social competition and conflict, to choices of land use, and to other types of human interaction.

The movement of population into a fringe area was described in 1947 by Rodehaver[24] as coming from the inhabitants of the congested city and from rural areas. An article by Whitney[25] published in 1948, showed agreement to this by stating that the major part of the gain in rural non-farm population was associated with urban growth and redistribution. In addition, the 1950 Census reported, "It appears that nearly half of the population increase of the entire country took place in the outlying parts of the 168 standard metropolitan areas."[26]

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[24]Myles W. Rodehaver, "Fringe Settlement in a Two Directional Movement," Rural Sociology, Vol. 12, March, 1947, pp. 49-57.

[25]Vincent H. Whitney, "Rural-Urban People," American Journal of Sociology, Vol. 54, July, 1948, pp. 48-54.

[26]Population of Standard Metropolitan Areas: April 1, 1950, U. S. Department of Commerce, Bureau of the Census, 1950 Census of Population, Preliminary Counts, Series PC-3, Number 3, Nov. 5, 1950, p. 1.

Several sociology studies, some of which date back before World War I, are concerned with the urban relations of farm people. A recent study in this group was made around the Lansing, Michigan area by Thaden[27] just prior to World War II. It depicted, in addition to social and trade relationships, differences in farming characteristics at varying distances from the city of Lansing.

A very extensive study of the process of change as non-agricultural activities move into a farming area was undertaken by a group of Connecticut sociologists[28] in the middle 1930's. They treated the land utilization processes, but their main stress was on the sociological factors, such as membership in group activities. Another piece of research was conducted by Koos and Brunner[29] at the end of World War II in the Webster, New York area. It concerned the phenomena found in a fringe area, but like the studies made in Connecticut, the area included more than would normally be found in the rural-urban fringe.

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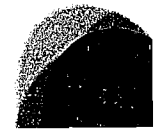
[27]J. F. Thaden, The Lansing Region and Its Tributary Town-Country Communities, Michigan Agricultural Experiment Station Special Bulletin 302, Lansing, Michigan, 1940.

[28]N. L. Whetten and E. C. Devereux, Jr., Studies of Suburbanization in Connecticut, 1. Windsor, Storrs Agricultural Experiment Station Bulletin 212, Storrs, Connecticut, 1936. Also see Bulletins 226 and 230.

[29]E. L. Koos and E. de S. Brunner, Suburbanization in Webster, New York, The University of Rochester's Studies of Metropolitan Rochester, No. 1, Rochester, New York, 1945.



A study of the area around Eugene, Oregon, which was published by Faust[30] in 1942, considered some of the sociological aspects of the fringe. This work selected a typical region within a larger area which was felt to be a part of the rural-urban fringe.

The social problems in land use planning were discussed by Firey[31] in a 1945 study made of the country-city fringe around Flint, Michigan. He recognized the distinctive elements of problems such as a population of varied social characteristics and of unknown social relations, and that such problems would have to be met in ways that are peculiarly suited to them. In 1949, Kimball[32] published a study that used an anthropological approach toward the fringe. He was interested in the effects of the rapid non-farm increase in population upon the social organization of the traditional farm community, the effects upon the village community, and the new kinds of social groupings created by this migration.

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[30]Lloyd M. Faust, "The Eugene, Oregon, Rural-Urban Fringe," Journal of Land and Public Utility Economics, Vol. 18, February, 1942, pp. 12-19.

[31]Walter Firey, Social Aspects to Land Use Planning in the Country-City Fringe: The Case of Flint, Michigan, Michigan Agricultural Experiment Station, Section of Sociology and Anthropology, Special Bulletin No. 339, East Lansing, Michigan, 1946.

[32]Solon T. Kimball, The New Social Frontier--The Fringe, Michigan Agricultural Experiment Station, Section of Sociology and Anthropology, Special Bulletin No. 360, East Lansing, Michigan, 1949.

Each of the last two men selected what they felt were typical areas of the rural-urban fringe.

Several articles and studies have been partly or entirely devoted to the delineation of the rural-urban fringe. Myers and Beegle[33] in a 1947 article, developed a delineation method which depended on one factor--concentration of Non-Village Rural Non-Farm population. Townships with a population of 50 percent or more Non-Village Rural Non-Farm were considered as fringe areas. Those having between 25 and 50 percent were called partial fringe areas.

A 1952 report by Blizzard and Anderson[34] reviewed many of the rural-urban fringe studies, especially those in sociology, and presented the various methods of delineation used in them. A detailed description of the method of delineation used in their own study on the Williamsport, Pennsylvania, rural-urban fringe was also given.

The break in density of single-family dwelling units, which was usually rather definite, was used by Martin[35] to

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[33]Richard R. Myers and J. Allen Beegle, "Delineation and Analysis of the Rural-Urban Fringe," Applied Anthropology, Vol. 6, Spring, 1947, pp. 14-22.

[34]Samuel W. Blizzard and William F. Anderson, II, Problems in Rural-Urban Fringe Research: Conceptualization and Delineation, Progress Report No. 89, The Pennsylvania State College Agricultural Experiment Station, State College, Pennsylvania, November, 1952.

[35]Walter T. Martin, The Rural-Urban Fringe: A Study of Adjustment Patterns in a Marginal Area, Unpublished Doctoral Dissertation, University of Washington, Seattle, Washington, 1949.

indicate the outer fringe boundary of his Eugene-Springfield, Oregon, study which was made in 1949. He also considered natural barriers which restricted settlement, and areas of tapering density were checked by special field observation.

Most of the foregoing studies were devoted mainly to a description of the situation found in a rural-urban fringe, a particular aspect of it, or the changes caused by it. Very little attempt was made at solving the problems created by the suburban movement.

Chapter II

CHARACTERISTICS OF SAMPLE AREA

The areas chosen for particular study were very briefly described in Chapter I. In order to lay the groundwork for a better understanding of the impact of suburbanization upon land use, property development, and community problems in these areas, a more detailed account of their characteristics will now be given. Geographic information will be considered first, followed by background population data. The final portion of the chapter will deal with the settlement pattern that has occurred over the years with particular reference to the recent suburban movement.

Physical and Geographic

The general location of the sample areas is in the north central part of Ingham County (Figure 1). The six sections which comprise the Okemos area are all found in Meridian Township. The region around Williamston includes an area of five and one-fourth sections in Williamston Township and nine full sections in Wheatfield Township. Actually, there are ten sections in Wheatfield Township, but two of them bordering the town of Williamston are only half size.

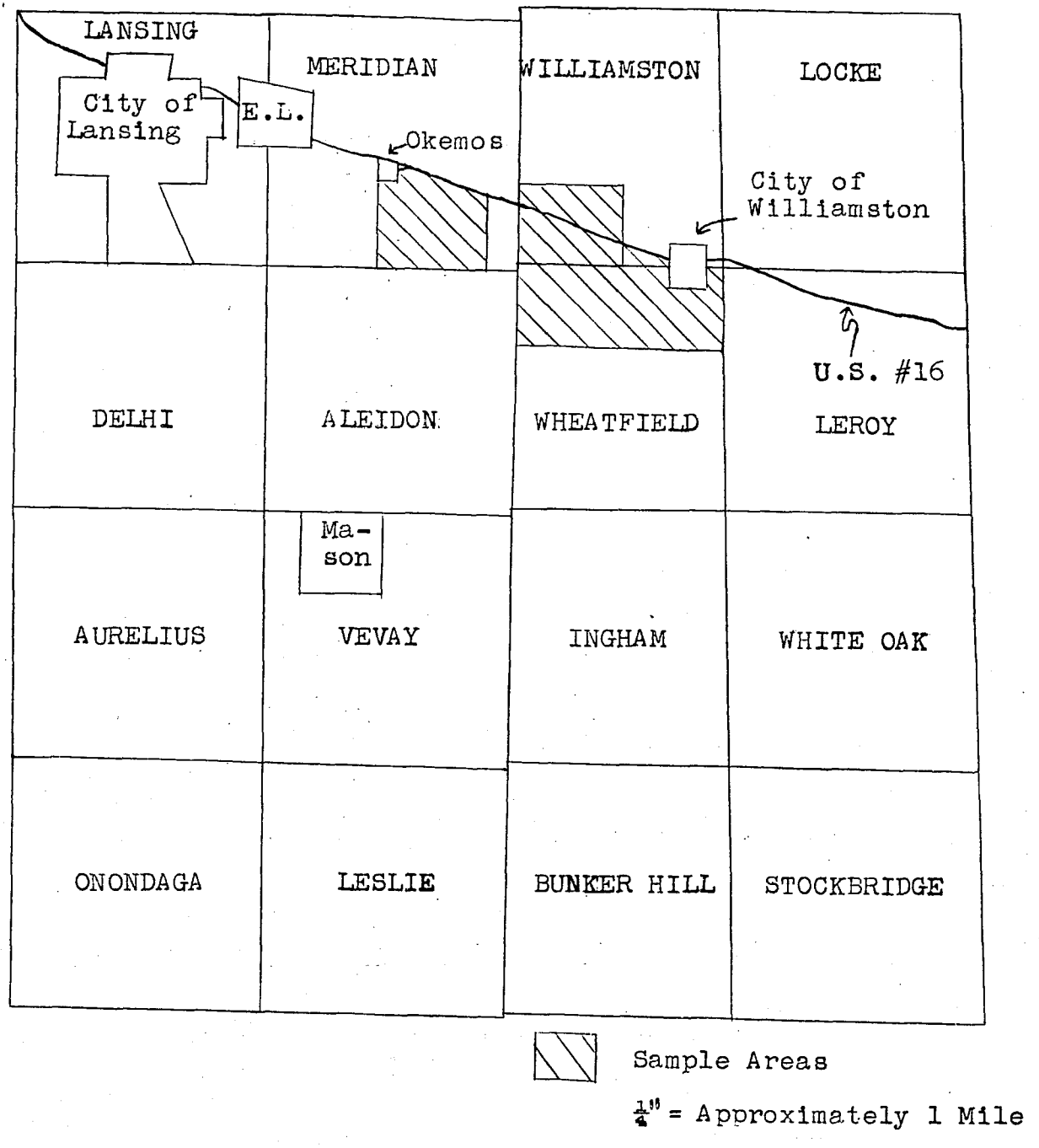

Figure 1

Location of Sample Areas in Suburban Land Use Study, Ingham County, Michigan, 1951 and 1952.

U. S. Highway 16 either borders or runs through both areas and is the route by which most of the residents travel to the major market centers. Lansing, a city of 92,000 population, is only a few minutes drive for the residents, and Detroit, with a population of 1,850,000, is approximately seventy miles to the southeast. The Lansing Metropolitan Area has a population of 172,000 and the Detroit Metropolitan Area has one of slightly over 3,000,000. A majority of non-farm workers have employment in the Greater Lansing Area, and their major purchases are made there. The farm population makes its major personal purchases in Lansing; however, the produce from the farms has a more varied outlet. The local elevators in Okemos, Williamston, and in other bordering communities handle a large portion of the grain marketed and of the feed sold to farmers. Lansing and Detroit receive much of the milk and livestock that is shipped from this area.

The village of Okemos, with a population of about 500, furnishes its surrounding residents with only a small selection of stores and goods from which to choose; consequently, people from this region have their buying habits closely connected with Lansing and East Lansing. The distance from around Okemos to these shopping centers is less than ten miles.

Williamston, on the other hand, is a city of 2,000 population and is located thirteen miles southeast of Lansing.

It has a much larger selection of stores than Okemos and furnishes many of the needs of its surrounding population. Those people with working ties in Williamston make a majority of their purchases in that city. Those who regularly have business or work in Lansing naturally channel a greater proportion of their purchases toward the Lansing area.

The soils and topography of the region are, for the most part, typical of Type of Farming Area V--Dairy and General Farming[1]-- in which it is included, but the soil is generally a little more productive. Veatch[2] has classified all the soil in the sample area as either first or second class. All except about 15 percent of the soils of Ingham County fall in these two classes. Hill describes the soils in Area V as "mostly sandy, silt loams and loams of medium to high fertility. There are also some light colored sands and sandy loams of medium to low fertility. The land surface ranges from level to rolling, to hilly."

The topography of the land in the Williamston area was observed to be flatter than that around Okemos. Whereas the

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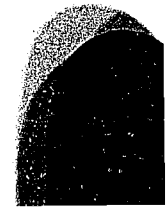
[1]E. B. Hill, Types of Farming in Michigan, Michigan Agricultural Experiment Station, Special Bulletin 206, East Lansing, Michigan, June, 1939, p. 74.

[2]J. O. Veatch, Agricultural Land Classification and Land Types of Michigan, Michigan Agricultural Experiment Station, Special Bulletin 231, East Lansing, Michigan, 1933.

Williamston area had considerably more level ground, the Okemos region had nearly three times as much land which was considered to be rolling. Also, as mentioned in Chapter I, the Williamston region generally had slightly better soil than that found around Okemos.

The major livestock enterprise in Type of Farming Area V is dairy, with most of the milk being sold as fluid milk. Sheep, poultry, and hogs are of about equal importance as far as income is concerned. Wheat is the major cash crop. Beans and sugar beets have been declining while beef enterprises have been gaining in importance in recent years.

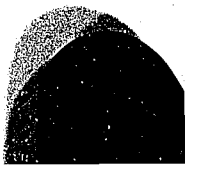
Most of the roads located in the sample areas are hard surfaced. The principal road is U. S. Highway 16, which is the main artery the residents of the area travel when going to Lansing or Detroit. Of a total of 180 miles of roads in the two areas, there were 123½ miles of concrete or "black-top" and 57½ miles of gravel. The ratio of gravel roads to "black-top" was nearly the same for both areas. However, considering the two townships in the Williamston area separately, it was found that the roads included in Williamston Township had nearly 90 percent "black-top" or concrete construction, whereas in Wheatfield Township only about 54 percent of the roads were so constructed.



Recent consolidation movements have taken place in the school districts of both areas, and most of the children were enrolled in these schools. This was true of all the high school students. However, there were a few rural schools still operating to which the residents of the areas sent their children. One of these rural schools was found in the Okemos area and three in the Williamston area.

There were a variety of services offered to the people living in these areas. Nearly everyone had a telephone, but many had to be content with locally owned companies where the service was sometimes poor. Many of the customers had to share their line with eight and more families. Natural gas service was available to those who lived on U. S. Highway 16. Electricity was available to anyone desiring it, and most houses were wired. Some of the other services which the population enjoyed included milk deliveries, dry cleaning and bakery routes, local deliveries from town, and even diaper service.

Bus service existed to the extent that the Greyhound Bus Company, which ran several times a day on U. S. Highway 16 between Detroit and Lansing, would pick up passengers if stopped. Shortway Bus Company service was available to those residents in the Okemos area who lived on Mason Road. These buses were on regular routes between Toledo, Ohio, and



Lansing and traveled by way of the town of Mason. The Lansing Suburban Line had a regularly scheduled route which went as far as Okemos, and school buses were in operation for all students who attended either the Okemos or Williamston conslidated school systems.

Population

Some of the more meaningful and useful data on the characteristics of the population living in the sample areas will be presented in this section. It will give a general picture of the type of people who have moved out into this fringe area.

Age

On the whole, the rural residents were a younger group than the full-time or part-time farmers (Table 2). Almost half of the rural residents in the Williamston area were under 40 years of age, whereas only 36 percent of the full-time farmers and 24 percent of the part-time farmers, respectively, were in this age group. The part-time farmers had the greatest number in the 40-59 age group and the full-time farmers had by far the most individuals in the group 60 and over. This points to a considerable number of farms that either will be turned over to younger men or parceled into smaller acreages within a relatively few years. The

Table 2

Percentage Distribution of Heads of Household by Age in Williamston and Okemos Areas, Ingham County, and 28 Southern Counties of Michigan[a]

Type of Resident	No. of Cases	Age of Operator					Total Percent
		20-29	30-39	40-49	50-59	60 and Above	
Williamston							
Full-Time Farmer	44	20.5	15.9	4.5	15.9	43.2	100.0
Part-Time Farmer	25	4.0	20.0	40.0	28.0	8.0	100.0
Rural Resident	85	23.5	25.9	23.5	9.4	17.7	100.0
Total	154	19.5	22.0	20.8	14.3	23.4	100.0
Okemos							
Full-Time Farmer	11	-	-	18.2	27.3	54.5	100.0
Part-Time Farmer	12	8.3	8.3	41.7	16.7	25.0	100.0
Rural Resident	46	10.9	26.1	23.9	23.9	15.2	100.0
Total	69	8.7	18.8	26.1	23.2	23.2	100.0
Ingham County[b]	57,199	33.1	20.7	17.4	13.9	14.9	100.0
28 Southern Counties[b]	1,710,634	24.6	23.1	19.9	16.6	15.8	100.0

[a]Data are for 1951 in the Williamston area, for 1952 in the Okemos area, and for 1950 in Ingham County and the 28 southern counties of Michigan.

[b]Source: 1950 United States Census of Population: General Characteristics, Michigan, United States Department of Commerce, Bureau of Census, United States Government

same relationship between types of residents generally holds true for the Okemos area, but the population in general was older. The age of the head of the household was the only adult for which this information was obtained.

A comparison of the figures in Table 2 shows that the population in the sample areas was older than that of Ingham County or that of the 28 southern counties of Michigan. Ingham County had a much larger percentage of heads of household in the 20-29 year age group than did the sample areas or the southern counties, but in all other age groups, the percentage was smaller. The large number of men college students in East Lansing caused the Ingham County figure in the youngest age group shown to be high; however, a comparison of the sample areas with the southern Michigan counties still revealed the older population in the Williamston and Okemos areas. This suggests that there is a tendency for the younger men either to migrate to or to remain in the city. As they become older, there appears to be a tendency for some of them to return to the rural areas.

Only a few of the people interviewed were not married. Nine percent of the full-time farmers and about four percent of the rural residents were yet single. Twelve percent of the part-time farmers in the Williamston area were unmarried as compared with none in the Okemos area. There was no

evident reason for this difference. All of those who were single were over 30 except for one youth of 18, who had been classified as the operator of his parents' farm because of the poor health of his father.

Children

Information available on the families included only the number of children living at home. Only eight families were found to have five or more children living with the parents. Approximately half of the residents reported having either one, two, or three children, and about 40 percent had none. Where children were found, they were fairly evenly divided between the families having one, two, and three children; however, almost 30 percent of the Williamston rural residents had two children. Very few full-time farmers had more than one child around the home. This can be accounted for by the older age grouping of this class, for most of their children had been reared and were now out on their own.

A total of 300 children were living in the areas, an average of slightly over two for each of the 134 families having children. A classification of the ages of these children shows that Williamston, in particular, will have an urgent need for high school expansion in a very few years (Table 3). Both areas have already enlarged the grade school capacity of their consolidated districts in order to handle

Table 3

Percentage Distribution of Children of the Residents by Age in Williamston and Okemos Areas, and Ingham County, Michigan[a]

Type of Resident	No. of Children	Age of Child: Pre-School 0-5	Elementary 6-13	High School 14-17	College 18+	Total Percent
Williamston						
Full-Time Farmer	50	40.0	34.0	8.0	18.0	100.0
Part-Time Farmer	25	32.0	48.0	8.0	12.0	100.0
Rural Resident	116	52.6	30.2	11.2	6.0	100.0
Total	191	46.6	33.5	9.9	9.9	100.0
Okemos						
Full-Time Farmer	14	-	14.3	28.6	57.1	100.0
Part-Time Farmer	17	23.5	52.9	11.8	11.8	100.0
Rural Resident	78	32.1	42.3	17.9	7.7	100.0
Total	109	26.6	40.4	18.3	14.7	100.0
Ingham County[b]	58,981	37.3	35.0	15.3	12.4	100.0

[a]Data are for 1951 in the Williamston area, for 1952 in the Okemos area, and for 1950 in Ingham County.

[b]Source: 1950 United States Census of Population: General Characteristics, Michigan, United States Department of Commerce, Bureau of Census, United States Government Printing Office, 1952.

the large numbers of elementary school children presently enrolled and pre-school children soon to enroll. The fact that the larger group for Williamston is in the pre-school age while for Okemos it is in the elementary school age is a result of the older population which was found, over-all, in the Okemos area.

It is realized that the groupings in Table 3 are not uniform but are made by school classifications. It must be considered, then, that when allowance is made for the fewer number of years in the high school age group, a less striking difference appears. In okemos, the effect of the present population of the sample area on future school enrollment will not be great. In Williamston, on the other hand, there will occur a marked increase when the pre-school children are of high school age. In any discussion of schools in an area undergoing a suburban trend, it must be remembered that the situation is not static. New residents are continually moving in and bringing with them more children of all ages. More will be said on the school problem in Chapter V.

Occupation

The occupations of the residents were classified according to the Alphabetic Index of Occupations and Industries[3]

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[3] Alphabetic Index of Occupations and Industries, Sixteenth Census of the United States: 1940, United States Department of Commerce, Bureau of the Census, United States Government Printing Office, Washington D. C., 1940.

published by the Bureau of the Census (Table 4). The major occupation of all full-time farmers was farming and they were left out of Table 4 for this reason. In the case of the part-time farmer, the major occupation in addition to farming was recorded. There was not a great deal of difference between the areas studied and Ingham County when the percentages of the different occupations were compared. Okemos had a larger percentage of professional workers, but this can be partly explained by the proximity of this area to Michigan State College. Most of the eleven professional people in the Okemos sample were college professors. There were not as many service workers in either area, proportionately, as were found in Ingham County. However, since the service workers' employment was very closely connected with the town or city with which they were connected, there may be a tendency for them to live within the city for which they worked. Most cities require their protective service workers to live within the city limits.

In the areas studied, there were no outstanding differences in occupational pursuits between part-time farmers and rural residents. However, a much larger percentage of the rural residents in the Williamston area were professional workers than were the part-time farmers. The reverse was the case in the Okemos sample. A possible explanation is that professiona

Table 4

Percentage Distribution of Off-Farm Occupation of Part-Time Farmers and Rural Residents in Williamston and Okemos Areas, and Ingham County, Michigan[a]

Class of Occupation	Williamston			Okemos			Ingham County[b]
	Part-Time Farmer	Rural Resident	Total	Part-Time Farmer	Rural Resident	Total	
No. of Cases	25	85	110	12	46	58	43,522
Professional	4.0	14.1	11.8	25.0	17.4	19.0	12.6
Proprietors, Managers and Officials	12.0	7.0	8.2	8.3	13.0	12.1	8.7
Clerical and Sales	20.0	16.5	17.3	16.7	10.9	12.1	16.3
Craftsmen and Foremen	16.0	16.5	16.3	16.7	21.8	20.7	20.7
Operatives[c]	36.0	24.7	27.3	33.3	26.1	27.6	27.5
Services[d]	-	2.4	1.8	-	4.3	3.4	8.4
Laborers[e]	12.0	10.6	10.9	-	4.3	3.4	5.8
Retired and Widows	-	8.2	6.4	-	2.2	1.7	-[f]
Total Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0

[a]Data are for 1951 in the Williamston area, for 1952 in the Okemos area, and for 1950 in Ingham County.

[b]Source: 1950 United States Census of Population: General Characteristics, Michigan, United States Department of Commerce, Bureau of Census, United States Government Printing Office, 1952.

[c]Includes those workers engaged in work on the order of the production line in a factory.

[d]Includes domestic and protective service workers.

[e]Includes both farm and city laborers.

[f]The number of retired and widowed individuals was not obtained for Ingham County.

workers, when undertaking part-time farming, desire to be reasonably close to their offices. A larger sample might throw more light on this difference.

Approximately 70 percent of the people interviewed declared that they had no other major source of income in addition to their primary employment. A second source of income was considered major if it added over 10 percent to the family income. Interest on investments was given by slightly over 10 percent of the residents as a secondary income. An additional source of income was gained by nearly 10 percent more families through the wife working. These were mainly wives of rural residents, for the farmers' wives were probably employed more fully around the farm enterprise. "On the Farm Training" under the G.I. Bill of Rights was given by nine percent of the full-time farmers in the Williamston area as an additional major source of income.

Permanency of Job

There was no indication of high mobility among the residents interviewed. Over 75 percent of them considered their present employment as permanent. Most of the rest felt that they were semi-permanently established. By this was meant that they would not be changing jobs in the next year, but might within the next five years. The reason most often given by the full-time farmers and rural residents

for being only semi-permanently employed was that they were nearing retirement or that their health was failing. The part-time farmers who planned a different job within a few years were mostly going into farming on a full scale. They had the second job at present in order to increase their capital. In this way they felt that in the future they could operate the farm properly. One part-time farmer who planned to go into farming permanently within a few years claimed that a person could not run a farm and work eight hours a day in a factory and do each justice. He felt that one became too tired to do both, and the farm in particular would suffer. One of his reasons for going into farming full-time was to correct this situation.

Only a very few individuals were planning to change their jobs within the next year. These people were usually employed in production lines or construction work. However, one-fourth of the full-time farmers in the Okemos area were planning to go out of farming within a year. Two were selling and one was quitting because of his health. The older age of the full-time farmers and the movement of greater numbers of residents into this region were contributing factors.

Distance from Work

In connection with the permanency of occupation, the distance the workers lived from their place of employment

was obtained. Approximately 60 percent of those who worked away from home had employment in the Lansing area. This was a distance of from six to sixteen miles from the Williamston area and from four to eleven miles from the Okemos area. The Lansing area was considered to begin with East Lansing.

In the Williamston area, there were five individuals who regularly traveled over 50 miles to work, some as far as Detroit. This represented nearly five percent of the part-time farmers and rural residents. There were an additional 10 percent of the workers who had jobs to which they drove varying distances. Nearly one-fifth of the residents traveled only a few miles to work. Most of these were employed either in the city of Williamston or village of Okemos, depending upon the area in which they lived. No particular difference was found between part-time farmers and rural residents as to the distance they lived from their work.

Years Lived at Present Location

Eighty-five percent of the rural residents in the Williamston area had moved to their present location in the preceding ten years, and over 75 percent of them had come within the previous five years (Table 5). Nearly the same picture was found in the Okemos region, but, in general, the residents had been established longer here. There was an earlier migration of rural residents into the area around

Table 5

Percentage Distribution of Residents by Number of Years Lived at Their Present Location in Williamston and Okemos Areas, Michigan[a]

Type of Resident	No. of Cases	0-4	5-9	10-14	15-19	20-24	25 and Over	Total Percent
Williamston								
Full-Time Farmer	44	25.0	13.6	6.8	4.6	13.6	36.4	100.0
Part-Time Farmer	25	52.0	16.0	8.0	8.0	4.0	12.0	100.0
Rural Resident	85	76.5	9.4	5.9	3.5	1.2	3.5	100.0
Total	154	57.8	11.7	6.5	4.5	5.2	14.3	100.0
Okemos								
Full-Time Farmer	11	9.1	9.1	18.2	9.1	9.1	45.4	100.0
Part-Time Farmer	12	33.3	25.0	-	25.0	-	16.7	100.0
Rural Resident	46	41.3	28.2	15.2	10.9	2.2	2.2	100.0
Total	69	34.8	24.7	13.0	13.0	2.9	11.6	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

Okemos which took place in the 1930's. This can be seen by the fact that 26 percent of their total number moved to that locality from 10 to 19 years prior to 1952. These figures did not account for residents who had moved out of the area. Those who took their place enlarged the totals of the more recent inhabitants of the region.

In the same way as was observed in the age of the residents, part-time farmers had been established longer than the rural residents, and the full-time farmers longer than the part-time farmers. There was a large percentage of full-time farmers in both areas who had lived in their present location over 25 years. Though many of the part-time farmers had been established over 10 years, the majority had moved to their farms since 1941.

No particular occupation group appeared to move into the fringe area first. However, there was an indication that the proprietor, manager, and official category had been established slightly longer than the others, but the numbers involved were small and the differences not enough to be considered significant.

Renting was most prevalent in the younger age groups. In both areas, approximately 70 percent of the rural residents who rented were under 40 years of age, and only a very few were over 50. The full-time farmers around Williamston who

rented were also found in the young age groups. There were no full-time farmers in Okemos under 40; so all of those who rented were in the older age groups. No part-time farmers in either area rented any land.

Farm Background

An attempt was made to get the degree of farm background of the residents in the area. A large percentage of the full-time farmers had always lived in the country, as would be expected. In the Williamston area, there were about 16 percent of the farmers who had not had contact with rural living until they had reached adulthood. Over twice this percentage of their wives had not had any farm experience until after they were married. The Okemos farm couples had similar backgrounds to those described for Williamston.

More of the part-time farmers had less farm experience than was the case with full-time farmers. Nearly one-quarter of them had had no experience on a farm before they started their part-time farming activities. Another 20 percent received their experience as children, but had left the farm for city work. About one-half of them had always lived on a farm. Only about 25 percent of their wives had always been on a farm, and an additional one-third of them were married before they went onto a farm.

Over 80 percent of the rural residents either had no rural experience or only had it during their youth (Table 6). Especially interesting is the fact that one-half of this number, or nearly 40 percent of them, had never lived in the country before. This indicates that the suburban movement is being fed by more than just those persons with previous experience on a farm. A comparison of the women with the men shows that a slightly larger percentage of the women had no prior rural living experience, while a larger percentage of the men had had farm experience when children. This comparison

Table 6

Percentage Distribution of Rural Residents by Stage of Life When They Received Their Rural Living Experience, Williamston and Okemos Areas, Michigan[a]

Sex of Resident	No. of Cases	Period of Life				Total Percent
		None	Youth	Adult	Always	
Williamston						
Men	85	36.5	50.6	2.3	10.6	100.0
Women	84	41.7	47.6	2.4	8.3	100.0
Total	169	39.0	49.1	2.4	9.5	100.0
Okemos						
Men	43	32.5	53.5	7.0	7.0	100.0
Women	45	40.0	40.0	8.9	11.1	100.0
Total	88	36.4	46.6	7.9	9.1	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

indicates that there is a greater tendency for a family to return to rural living when the husband has had the rural background than when the wife has had it.

In Table 6, it will be noted that the totals for men and women do not always equal the same as those for rural residents in previous tables. This discrepancy can be explained by the single men and women found in the two areas.

Income

All residents were asked to indicate the range within which their last year's income fell. Several residents did not answer this question. Included in those not answering were nine full-time farmers, six part-time farmers, and seventeen rural residents. In order to compare income data in the two areas, it must be assumed that those who did not give income figures were from the same population as those who did. This may result in some distortion of the actual situation.

Approximately the same percentage of individuals from both areas studied and Ingham County were found in each income group (Table 7). However, the Okemos area appeared to have a slightly higher percentage in the top ranges. A much higher percentage of the full-time farmers was found in the lowest classifications. Only the net income from the farm was obtained, and for many farmers with a relatively

Table 7

Percentage Distribution of Residents by Income Classes in Williamston and Okemos Areas, and Ingham County, Michigan[a]

Type of Resident	No. of Cases	Thousands of Dollars						Total Percent
		Below 2	2-3	3-4	4-5	5-6	Over 6	
Williamston								
Full-Time Farmer	36	38.9	16.7	22.2	13.9	2.8	5.5	100.0
Part-Time Farmer	23	8.7	8.7	21.7	26.1	4.4	30.4	100.0
Rural Resident	76	18.4	9.2	25.0	19.7	6.6	21.1	100.0
Total	135	22.2	11.1	23.7	19.3	5.2	18.5	100.0
Okemos								
Full-Time Farmer	10	30.0	30.0	-	20.0	-	20.0	100.0
Part-Time Farmer	8	-	-	37.5	25.0	-	37.5	100.0
Rural Resident	38	10.5	5.3	23.7	21.0	15.8	23.7	100.0
Total	56	12.5	9.0	21.4	21.4	10.7	25.0	100.0
Ingham County[b]	42,475	14.5	14.7	24.1	17.0	11.9	17.8	100.0

[a]For farmers, the figure is the net income from the farm. For workers, it is the income received before taxes. Income reported is for 1950 in the Williamston area, for 1951 in the Okemos area, and for 1949 in Ingham County.

[b]Source: 1950 United States Census of Population: General Characteristics, Michigan, United States Department of Commerce, Bureau of Census, United States Government Printing Office, 1952.

small farm business, this income was small. The part-time farmers were more heavily represented in the larger income figures, which can partly be explained by their second source of income. The median income for Ingham County in 1949 as obtained from census data was slightly under $4,000.00. From the figures given by the residents, it was also slightly under $4,000.00 for the Williamston area and a little over $4,000.00 for the Okemos area.

A comparison of the income received with the occupation groups showed a higher percentage of individuals from the professional, managers, and proprietor groups in the higher income brackets. Also, as the type of work became less specialized, there was a tendency for the income received to fall in the lower income figures.

Most of the part-time farmers received only a small proportion of their income from their farming activities. In the Okemos area, 83 percent earned less than one-fifth of their income from the farm, and the remaining number received only a slightly higher percentage than this. Nearly 60 percent of the Williamston part-time farmers also earned less than one-fifth of their total income from the farm, but 24 percent of them also claimed to have made over 80 percent of their earnings from farm operations. However, most of this latter group reported their income in the lower brackets.

Except for a few who were connected with "On the Farm Training" of the G. I. Bill of Rights, the full-time farmers received over 80 percent of their income from their farm.

Several residents reported income from the rent of land, but this usually amounted to less than 10 percent of their total income. Only three persons indicated that the rent from land produced over one-half of their income, and two of these were retired.

Settlement Pattern

The land in Ingham County was settled slightly later than the areas west, east, or south of it because of its low wet swamps and dense forests. The first settlements appeared at Stockbridge and Onåndaga in 1834, and within a few years, several other small villages had their beginning. It was in this period that settlers first came into the region that comprises the sample area. The pattern of settlement developed from the southeast as a result of the Ann Arbor to Kalamazoo road and from the northwest because of the Saginaw to Ionia road, both of which existed at that time. The earliest agriculture was centered on lands which could most easily be cleared and planted.

It is not the aim of this study to determine the pattern of development of the area to a precise degree. Some indication of the movement of population into the sample areas can be

gained by observing closely Figures 2 and 3. These figures, provided by the occupants, show the age of the houses. The actual age of the house may be a few years more or less than that shown, but the over-all picture is assumed to be fairly accurate. Every figure represents one house. The three colors shown represent the type of resident living in the house. Black is used for rural residents, blue for part-time farmers, and red for full-time farmers.

The houses occupied by full-time and part-time farmers indicate, in most cases, the settlement of farmers in past decades. Some of the original houses have been destroyed, but a fairly uniform pattern of development can be seen. Nearly all of the rural residents living in older houses are residing in former farm houses. One exception to this is a cluster of three houses located in the center of the western boundary of the Williamston area. These places are the remains of the small community of Meridian which became extinct with the advent of good roads and fast transportation.

Williamston Area

It is evident that most of the rural residents have settled recently in the two areas, particularly in the Williamston region. The northwest corner and the triangular region south of U. S. Highway 16 at the western boundary of the Williamston area show a highly concentrated grouping of

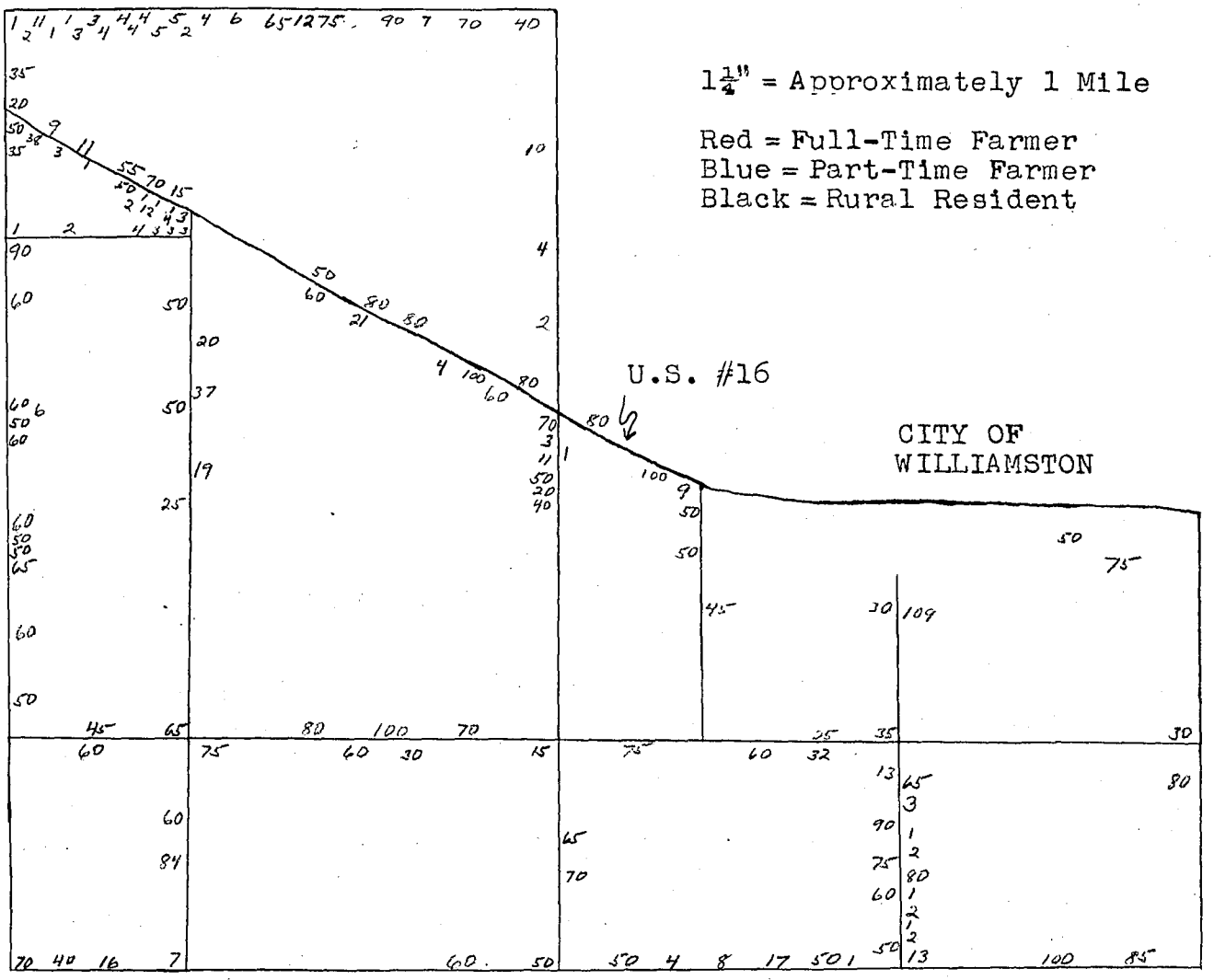


Figure 2

Age of House as Given by Residents in Williamston Area, Michigan, 1951.

Author's figure

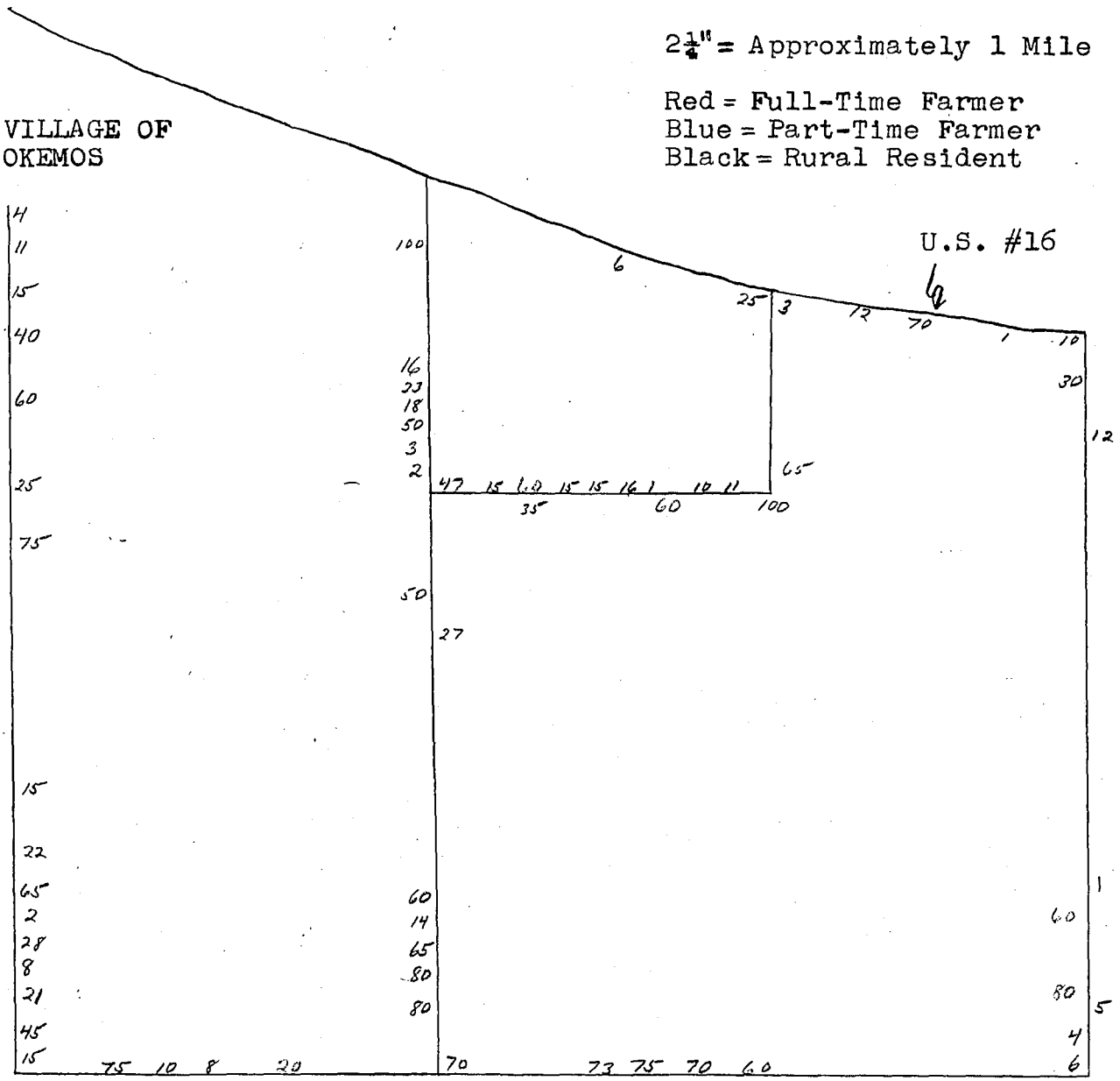


Figure 3

Age of House as Given by Residents in Okemos Area, Michigan, 1952.

new houses for a rural area. Most of these houses are well constructed. They are located closer to Lansing than other parts of the area and are found either on or very close to good roads. South of the city of Williamston and toward the southern limit of the area is a development of another cluster of new residences. This latter group has been influenced both by proximity to Williamston and a good "black-top" road. The beginnings of other scattered gatherings of new houses can also be seen. Two-thirds of the rural residents were located within a mile either of the highway or the city of Williamston, but less than 50 percent of the farmers were in this radius.

Most of the clusters of houses in the Williamston area have resulted from a parceling of the land. In some cases, it has been a small acreage or two which was taken off from a parent farm. In those locations where many homes were found, the acreages have come from the major portion of a farm. The residents of the northwest corner of the area are an example of this practice. Most of them live on either five or two and one-half acre lots which extend from the road to the Red Cedar River which flows along the back of their places. The common complaint heard from these residents was that the land had been allowed to wear out in the years preceding subdivision. Several mentioned that the land had grown only one crop, usually wheat, for many years in a row.

The most restricted subdivision in the Williamston area was located near its western boundary. It had been broken into seven to ten acre lots with the exception of two five acre lots. The restrictions placed in the deeds stated that there could be no further subdividing of these lots, and that all out-buildings must conform with the style of the house. A second house could be built, but must stay within the family. All houses must be of a certain minimum size. There were no crop restrictions, but, as one resident said, 50 chickens and a riding horse were about the limit of livestock that could be kept. About 25 restrictions in all were incorporated in the deeds of this subdivision.

An interview with the Township Supervisor of Williamston Township in June, 1953, revealed that large suburban acreages in the above subdivision were not selling very rapidly. Because of this, a reported extra $40,000 was being added to the investment in the subdivision. The size of each lot was going to be reduced to an acre or less, and "black-top" roads and drinage were to be installed. However, the restrictions were to remain as before. This action had been taken at such a recent date that its affect upon the sale of lots could not be determined.

Okemos Area

There is no evidence of a rapid recent trend of population into the Okemos area as was the case for Williamston. On the other hand, rural residents were more evenly distributed through this area. Although it is closer to Lansing, the first wave of the post-war suburban movement went beyond its boundaries. However, there is evidence of considerable more development in the following years. Many platted subdivisions are very near and several new homes have been either built or started in the area since the field work on this study was completed. As was mentioned earlier in this chapter, there was a movement into the Okemos region during the depression years. This can be verified by examining Figure 3.

It is not shown in Figure 3, but about 20 recently constructed homes were located on the east side of the road which marks the eastern limits of the Okemos area. Although this was out of the sample area, three of these residents were contacted in order to see if there was any reason for the concentration of housing on that side of the road. The majority of the 20 were located within a half mile of U. S. Highway 16, and were on land that had been part of a 103 acre farm which went into the hands of the Federal Land Bank during the 1930's. It was reported that the land had been "mined" with no attempt to replace the nutrients removed. A realty

company bought it prior to World War II and started to subdivide it into one and one and one-half acre lots. Two acreages of from 12 to 14 acres each were sold, and the remaining land was parcelled, but never recorded. The outbreak of the war stopped efforts to complete the subdivision, and it had not been pushed in recent years. This was partly due to the fact that the promoter of this project had aged and lost much of his interest in it. There was also a 55 acre place with two houses on it in this group of residences. From reports, it was also eventually to be subdivided as the owners become older and the suburban movement closer.

Also not shown in Figure 3 was a small subdivision located on U. S. Highway 16. About 10 houses of above average value and of recent construction were in this development. They were located on lots of slightly more than one acre in size, and only two lots in the subdivision remained unsold. A minimum money value was set on the type of house to be built, and it had to conform with the other houses in the subdivision. Chickens running loose, riding horses, and other large livestock could not be kept. The man who developed this acreage had recently purchased a large farm to the south of it, but had no definite plans for it. However, he said he might put it into homesites or possibly a golf course.

Size of Acreage

One to three acres was the most common sized acreage occupied by the rural residents (Table 8). Still, over 30 percent owned or rented at least five acres of land. Of those who owned over 10 acres, eight in the Okemos area were over 50 years of age. This comprised nearly half of the rural residents of that age group. However, only five of the 15 Williamston residents with 10 or more acres were over 50 years old.

Table 8

Acres of Land Owned or Rented by Rural Residents in Williamston and Okemos Areas, Michigan[a]

Acres	Williamston		Okemos	
	Number	Percent	Number	Percent
10 and above	15	17.6	11	23.9
5.0--9.9	11	12.9	7	15.2
4.0--4.9	1	1.2	--	-
3.0--3.9	2	2.4	1	2.2
2.0--2.9	17	20.0	9	19.6
1.0--1.9	14	16.5	11	23.9
Under 1.0	7	8.2	1	2.2
Renting only house	18	21.2	6	13.0
Total	85	100.0	46	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

A comparison of the number of acres owned by the rural residents with the years they had lived on their place did not show much difference between the various acreage sizes. It was interesting to note, though, that of the five Williamston residents who owned over 50 acres of land, three of them had lived on their place over 25 years. A fourth had lived over 15 years in his present location.

All of the part-time farms found in the Okemos area and 70 percent of those around Williamston were less than 80 acres in size. All but one of the remaining part-time farms in the Williamston area were found to be from 80 to 159 acres in size.

A fairly even distribution of full-time farmers on farms up to about 320 acres was found, but there was a somewhat higher percentage in the Williamston area of those who had farms of less than 80 acres (Table 9). In general, the younger farmers operated the larger acreages. Most of the farmers between ages 30 and 49 were operating farms of over 160 acres, while those over 60 generally had farms under this size.

About one in five of the full-time farmers and rural residents were renting all of the land on which they lived. However, none of the part-time farmers were renting their farms.

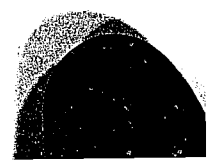


Table 9

Acres of Land Operated by Full-Time Farmers in Williamston and Okemos Areas, Michigan[a]

Acres	Williamston		Okemos	
	Number	Percent	Number	Percent
240 and above	10	22.7	3	25.0
160--239	8	18.2	2	16.7
80--159	8	18.2	4	33.3
0--79	18	40.9	3	25.0
Total	44	100.0	12	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

An attempt was made to determine how many of the places in the two areas had idle land at the time of their most recent purchase. Only slightly over 10 percent of the full-time farmers had moved to farms that had been idle the season prior to their moving. This was also true for the part-time farmers in the Williamston region. However, 42 percent of the Okemos part-time farmers claimed to have moved onto idle land. In addition, over one-half of the rural residents in both areas moved to idle land. This indicates that a sizeable acreage of productive land, especially in the Okemos area, had been out of production for at least one year prior to the occupancy of the new residents.

Reasons for Moving

Several reasons were given as to why the farmers in the areas had sold their land. The ones most often offered were old age, poor health, and the large amounts of money that could be gained by selling. Another reason given was large debts, but this was mentioned less frequently. A farmer from Williamston stated his reasons for selling as threefold: he was getting old, his boys had left home, and there was a mortgage on the farm.

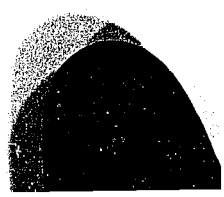
The farmers who had not sold were asked to give their reason or reasons for remaining. Most either replied that they liked it where they were or that no gain would be made by moving. The cost of a comparable farm would probably equal the price of their present place. A few answered that they would sell if they could get the "right price". Many realized the problem of being taxed on capital gains if they sold and also that the value of money was now less than when they originally purchased their land. One part-time farmer, who was in a very advantageous location, stated that he intended to sell some building lots in later years but not too many at one time. He commented on the expense and work connected with subdividing.

The rural residents also gave their reasons for living in the country. A large percentage of them said a "liking of the country" brought them into rural areas. Two other

common replies were concerned with the freedom and space found in the rural area and the good location for bringing up children. Several mentioned a dislike for the city and cheaper living in the country as causes for moving from the city. A place to retire, a place close to work, health, and the only place available, were other reasons given less frequently. This can be summarized by the comment of one of the Williamston rural residents:

> Our original reason for moving into the country was because we did not want our kids to be playing in the city streets. We are now testing it out to see whether we would like to buy a farm and live on it. We would lease the land out. It would be a nice place to retire to as well as a good place during a depression.

Some of the residents had a special type of location in mind when looking for a place to settle, and certain sections of the sample areas happened to suit their desires. River frontage was the goal of one fairly wealthy family. They had spent ten years looking for what they wanted before finding it. Another wealthy couple wanted a home in the country that still had the advantages of a city. They had found it near Okemos. The wealthier individuals appeared to be the ones most interested and the choosiest in selecting a particular type of location.



Chapter III

LAND USE

Many large acreages in a rural-urban fringe either have begun to undergo a change towards a higher use or are nearing this stage. The agricultural use of much of the land still in production has been altered by the new type of occupants. Still other land is used in much the same way as it was before urban pressure began. The aim of this chapter is to examine the use to which the land in the sample areas was put. This will include both livestock and crop enterprises as well as an indication of the idle and near idle land found in the areas. Past and proposed changes in land use will also be discussed.

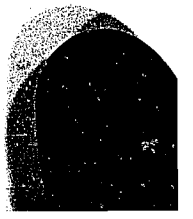
The total acreage included in the sample amounted to 11,549 acres, of which 8,534 acres were in the Williamston area and 3,015 acres in the Okemos region. Nearly 60 percent of this land in the Williamston area was owned by full-time farmers as compared to 35 percent around Okemos. Part-time farmers in each area owned an additional 25 percent of the total acreage. This leaves 40 percent of the land in the Okemos sample and 13 percent in the Williamston area owned or rented by rural residents. Although the

concentration of rural residents was not as dense in the Okemos region, more of the land was devoted to residential use and less to farming. This is a clear example of the effect of the suburban movement upon land use. It should also be mentioned that the Okemos rural residents comprised a larger percentage of the total population in that area than in the area around Williamston.

Disposition of the Land

The size of the farms and the rural resident acreages in the Williamston and Okemos areas is presented in Tables 8 and 9. This section will be concerned with the way and extent this land has been utilized. Most of the farms had the majority of their land divided between cropland and pasture. Usually, only a relatively small percentage of the total acreage was found in wood or idle land.

Land was considered in cropland if crops were being grown on it for the years in question. Also, fallow land, if for only one year, was considered as cropland. Pasture land, whether it was a wooded area or not, was classified as pasture if it was used for the grazing of cattle. Idle land was land not being used for a productive purpose.



Cropland and Pasture

There was very little difference evident between the various sized farms and the percentage of their land devoted to cropland and pasture. In addition, within an individual area, the proximity of the farms to developing suburban construction showed no appreciable effect on the amount of land in these major divisions of use. In these situations, then, there did not appear to be much change in this phase of farming operations caused by the suburban movement.

Although there was not a significant difference between full-time farmers and part-time farmers as to the percentage of their acres devoted to cropland and to pasture, both percentages are recorded in Tables 10 and 11 to show the differences that did appear. There was, however, a higher percentage of part-time farmers around Williamston with a larger part of their farm in cropland than was the case for full-time farmers. The part-time farmers also tended to have less of their operating acreage in pasture than did the full-time farmers. The Okemos area did not show as large a difference between types of farms as that found around Williamston, although less pasture was found on the greater number of part-time farms.

A comparison between Williamston and Okemos shows a tendency towards more cropland and less pasture in the Okemos

Table 10

Percentage Distribution of Farms Showing Percent of Acres Operated in Cropland in Williamston and Okemos Areas, Michigan, 1951

Type of Farm	No. of Farms	Percent of Acres Operated in Cropland						Total Percent
		None	0-20	21-40	41-60	61-80	81-100	
Williamston								
Full-Time Farm	44	2.3	-	2.3	40.9	34.1	20.4	100.0
Part-Time Farm	25	8.0	-	-	12.0	36.0	44.0	100.0
Okemos								
Full-Time Farm	12	-	-	8.4	33.3	16.7	41.6	100.0
Part-Time Farm	12	-	-	8.4	33.3	25.0	33.3	100.0

Table 11

Percentage Distribution of Farms Showing Percent of Acres Operated in Pasture in Williamston and Okemos Areas, Michigan, 1951

Type of Farm	No. of Farms	Percent of Acres Operated in Pasture						Total Percent
		None	0-20	21-40	41-60	61-80	81-100	
Williamston								
Full-Time Farm	44	6.8	31.8	31.8	25.0	2.3	2.3	100.0
Part-Time Farm	25	36.0	16.0	36.0	8.0	-	4.0	100.0
Okemos								
Full-Time Farm	12	33.3	16.7	41.7	-	8.3	-	100.0
Part-Time Farm	12	58.3	25.0	-	16.7	-	-	100.0

area. This appears to be a development caused by the rural-urban fringe movement, for this latter area has come under its influence more than has the Williamston area.

Woodland and Idle Land

Less than one-half of the Williamston farmers reported having woodland, and usually less than 20 percent of a farm was devoted to this use. On the other hand, nearly 75 percent of the Okemos farms had some woodland, with there being a significant difference[1] between the amount found on part-time farms and on full-time farms. Fifty percent of the former had over one-fifth of their farms in woods, while only 17 percent of the latter had this much. The more rolling topography in the Okemos area accounts for much of the difference between the two areas. Less interest in utilizing all of their farm probably is the reason for the greater amount of woodland on the Okemos part-time farms.

Fewer than one-third of the Williamston farms reported idle land. Of these, only nine farms were over ten percent idle. Two were full-time farms of 80 and 120 acres respectively, with over one-third of each farm being idle. One of these contained poor land and the second had been

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[1]Where there is a significant difference at the 5 percent level as tested by analysis of variance, it will be reported as being significantly different. A difference at the 1 percent level will be reported as being highly significant.

sold recently. Seven were part-time farms, two of which were over 30 percent idle. However, both of these were less than 10 acres in size. The Okemos area farms were found to have slightly more idle land than those around Williamston. Three of the 12 full-time farms were between 21 and 30 percent idle in 1951. Two of these were operated by elderly individuals and the third by a retired man owning only a small acreage. Also, four of the part-time farms were reported to be over 30 percent idle, three of which were around 100 acres in size. There was some poor soil in this idle land, but much of it could have been utilized.

Considering the total acreage in farms surveyed, only about three percent of the land in the Williamston area in both types of farms was idle. In the Okemos region, seven percent of the land owned by full-time farmers and 34 percent of that owned by part-time farmers was idle. This big difference was a result, as mentioned above, of several of the farms containing much idle land. Less productive land in the Okemos region than around Williamston was also a factor.

More idle land was found to be owned by the Okemos rural residents than by the Williamston rural residents. Forty-five percent of the land of the former and only 26 percent of that of the latter was idle. This does not imply that the rest of the land owned by these residents was in crop

or pasture. Only about six to seven percent of it went for these purposes.

Land included in a homestead was not considered to be idle. In the case of the farm residents, this took up only a small percentage of the total acreage. However, the homestead of the rural residents in the Williamston and Okemos areas comprised 19 and 32 percent of their total land, respectively. The larger percentage for Okemos may be partly explained by the manner in which the residents were scattered.

Totaling all land that was surveyed, 29 percent in the Okemos area and slightly less than six percent in the Williamston area was idle land. In addition to this, two acreages, totaling 170 acres, within the Williamston sample, and one acreage of 100 acres in the Okemos sample were lying idle. Contact was not made with the owners of these acreages. These two acreages would raise the percentage of unused land by about two percent in each area. Some idle land was probably in those acreages where the owners refused to cooperate, but it will have to be assumed that they had about the same proportion of idle land as those who did cooperate.

Much of the Okemos land is ripening from an agricultural use into a residential use and the result is a larger amount of idle land than was found in the Williamston area. This

latter area is also experiencing the suburban movement, but it is at the outer edge of the development.

Rented and Leased Land

None of the part-time farmers rented additional land beyond that which they already owned. However, approximately 25 percent of the full-time farmers rented land. Half of these rented all of their farm land. Only two rural residents from each area rented more than two acres, and these totaled only 48 acres.

There were 2,100 acres of land rented by farmers in the Williamston region, representing 30 percent of the acres operated, and 1,088 acres rented in the Okemos area which represented 55 percent of the total acreage operated. Four farms in the former and three farms in the latter area account for most of the total. These farmers rented all the additional land they could reasonably acquire and handle. Three of them rented nearly all of the land they operated and owned only a very few additional acres. They rented complete farms and also worked individual fields for another farmer or rural resident. The high price of wheat and corn for the past few years was given as a major reason for their interest in renting so much land. Most of the other farmers who rented additional land had farms of their own of less than 160 acres. Usually about one-half of this rented acreage was found within the sample areas.

The Williamston percentage of idle land was only four percent higher than that for Ingham County. It would appear, then, that the suburban movement caused a much greater amount of renting in the Okemos area, but only slightly affected the Williamston area in this manner.

Land was leased out to farmers by all types of residents found in the two regions. This included eight full-time farmers, most of whom were either aging individuals or persons in poor health. Proportionately, more part-time farmers were found to lease their land--i.e., approximately one-third of them did this. The percentage of the farm leased out varied widely among both part-time and full-time farmers. The rural residents in the Williamston sample let out 51 percent of their land while in Okemos the amount was only 18 percent. Much of this difference is explained by the higher amount of idle land found in the Okemos region. The total amount of land leased in both areas was 1,329 acres in Williamston and 439 acres in Okemos.

There were usually good possibilities to rent idle fields, especially if they were not small and could be reached without too much difficulty. The interest in renting land appeared to come from a wider source in the Williamston area than in the Okemos area. The former area is flanked by a larger number of full-scale farms, and there is a greater possibility

for interested farmers to be within a practical distance in order to utilize extra ground. One Williamston farmer told of farmers coming from as far as 12 miles away looking for land to rent. He felt that any idle land he had could be rented very easily. This was fairly typical of farmers in this area having sizeable fields to be rented. Large fields could be rented easily around Okemos also, but, as mentioned, there was not as great an interest evidenced in them. Several rural residents told of the lack of farmers' interest in fields if they were under five acres. As the suburban movement breaks more farms in these areas into small fields, the residents will find it harder to rent their land.

A criticism of renters of land in general was heard many times in discussions with farmers in the two sample areas. They indicated that many renters fail to put any commercial fertilizer or manure into the land. One farm that had been leased out for years was cited as no longer able to produce good crops because of this disregard of plant nutrient replacement. Part of this fault may be a result of the rental agreements made by the farmers with the tenants.

Several rental arrangements were found to be used, but no one arrangement was predominant. Land used for wheat was

often leased on a 50-50 basis. Where more than one crop was to be grown on rented land, the rental agreement was usually a one-third--two-thirds agreement, the land owner furnishing the land and receiving one-third of the crops produced. The renter furnished everything else and received two-thirds of the crops produced. There were times, though, when the land owner furnished one-third of some of the expenses. Cash rentals were also found which ranged from four to nine dollars an acre.

The full-time and part-time farmers were asked whether they felt that the suburban movement had had any effect on the amount of tenancy in their neighborhood. Most of them agreed that the movement had little effect. In the Williamston area, the few who indicated otherwise were fairly evenly divided between responses of it causing more tenancy and that of it causing less tenancy. On the other hand most of the Okemos farmers, who felt there was an effect, thought that there was a smaller amount of renting taking place. This opinion, however, did not agree with the land use data collected. The difference lies in the concept of tenancy and renting. Much more land was being rented in the Okemos area than in the Williamston area, but it was primarily being rented by farmers who wanted to work additional land beyond that which they owned.

Crops Grown

A four year rotation was followed by most of the full-time farmers, with corn, oats, wheat, and hay the major crops grown. A few grew only one or two crops each year, but these were either farming on a small scale or were aged and could not follow a regular farm routine. Only five per-cent of the total cropland was devoted to such minor crops as soybeans, sugar beets, navy beans, rye, and barley.

The majority of part-time farmers did not follow a regular four-year rotation. Usually one or two crops each year were all that were grown on over half of these farms. Those who grew only one crop had very small farms in all cases but one, and he had let most of his cropland go idle.

Information on crop acreages was obtained for the crop years 1950 and 1951 in the Williamston area and 1951 and 1952 in the Okemos region. The farmers were usually unable to furnish accurate enough information beyond the two crop years prior to the time of the interview; therefore, only 1951 was common to both areas. The percentage of cropland in the major crops grown in 1951 for the farms in the Williamston area is given in Table 12 and for farms in the Okemos area in Table 13.

The majority of full-time farmers planted between 10 and 29 percent of their cropland in each of the major crops.

Table 12

Percentage Distribution of Farms Showing Percent of Cropland in Major Crops Grown in Williamston Area, Michigan, 1951

Type of Farm	No. of Farms	Percent of Cropland							Total Percent
		None	0-9	10-19	20-29	30-39	40-49	50 and over	
Full-Time Farm									
Wheat	42	19.0	9.5	31.1	21.4	7.1	4.8	7.1	100.0
Oats	42	16.6	2.4	31.0	38.1	9.5	-	2.4	100.0
Corn	42	11.9	4.8	11.9	40.5	19.0	9.5	2.4	100.0
Hay	42	14.3	-	16.7	33.3	9.5	14.3	11.9	100.0
Part-Time Farm									
Wheat	22	36.3	-	9.1	9.1	18.2	-	27.3	100.0
Oats	22	40.9	-	22.7	18.2	9.1	-	9.1	100.0
Corn	22	40.9	-	13.7	4.5	18.2	4.5	18.2	100.0
Hay	22	36.3	-	9.1	18.2	27.3	-	9.1	100.0

Table 13

Percentage Distribution of Farms Showing Percent of Cropland in Major Crops Grown in Okemos Area, Michigan, 1951

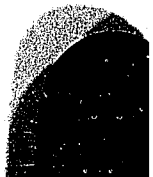
Type of Farm	No. of Farms	Percent of Cropland							Total Percent
		None	0-9	10-19	20-29	30-39	40-49	50 and over	
Full-Time Farm									
Wheat	10	10.0	-	40.0	30.0	10.0	10.0	-	100.0
Oats	10	-	-	40.0	60.0	-	-	-	100.0
Corn	10	-	-	30.0	60.0	10.0	-	-	100.0
Hay	10	-	-	20.0	20.0	10.0	30.0	20.0	100.0
Part-Time Farm									
Wheat	11	45.4	-	-	27.3	9.1	-	18.2	100.0
Oats	11	54.5	-	9.1	-	18.2	-	18.2	100.0
Corn	11	63.6	-	-	18.2	9.1	-	9.1	100.0
Hay	11	36.3	-	9.1	27.3	9.1	-	18.2	100.0

Those farmers who did not follow a three or four-year crop rotation were mainly responsible for those farms shown as having over 40 percent of the cropland in one crop. The farms with less than 10 percent crop acreage in one crop usually planted either a fifth crop or had fallow land on the farm for that year. The percentage of cropland devoted to each crop was similar on all sized farms except those that were very small. However, less than four crops were usually grown on such farms.

The large number of part-time farmers who either had no land or had over 50 percent of their cropland devoted to an individual crop points up the statement made earlier that over one-half of them grew only one or two crops each year. Those who followed a more regular rotation had between 10 and 40 percent of their cropland in at least three of the major crops.

Land that was in minor crops on a farm accounted for less than 20 percent of the cropland in nearly all cases for the full-time farmers. Minor crops were more important in the program of the part-time farmer, but again, this was caused by the fewer types of crops grown each year.

Several tests of significance were made on the amount of cropland found in specified crops. In 1951, in the Williamston area, there was a significantly greater amount of hay than



oats grown on full-time farms. Comparisons between all other combinations of the major crops did not prove significant. The one test that proved significant was very probably a result of the rotation cycle on the farms studied and possibly a weather factor. Data were also obtained on crops grown in 1950 in the Williamston area. It was found that the corn acreage grown was significantly greater than the wheat and oat acreages for full-time farmers. For part-time farmers, the corn acreage was significantly larger than the oat acreage, and a highly significant difference was found between the corn and wheat acreage. All other comparisons proved to be not significant. Because of the acreage allotments on wheat in 1950, the farmers probably shifted some of the land that normally would have gone into wheat to corn production. This would explain the significantly larger acreage of corn that was found. However, this does not explain the lack of significance evident in 1951 unless the crop rotation cycle decreased the corn acreage while increasing the acreages devoted to other crops. There was some indication that this took place.

A comparison was also made of the percentage of cropland on each farm that was planted in the four major crops between the two years of records. Only one crop showed any significant difference. The wheat acreage per farm for part-time farmers

in the Williamston area was significantly higher in 1951 than it was in 1950. The major reason for this was probably the higher support price on wheat in effect in 1951. Some may think that the removal of acreage allotments in 1951 was the cause. However, this is improbable, because at the time farmers were making their decisions on wheat acreages for the 1951 harvest year, all indications pointed toward the belief that allotments would be in effect. Actually, the Korean emergency brought about the removal of the acreage allotments on wheat before harvest time. However, this was too late for farmers to take advantage of its removal in order to plant larger acreages of wheat that might qualify for price support. As it turned out, anyone who exceeded the allotment placed on his wheat acreage could still come under the price support set for wheat. The plan for 1951 allowed a farmer to plant up to five acres of wheat and still receive price support benefits, even though he did not have an assigned allotment. This was not the case for the 1950 crop. However, no part-time farmer had less than five acres of wheat planted in either of these years.

Several tests of significance were run for the Okemos area acreages. The percentage of cropland in hay in 1951 for full-time farmers was significantly greater than that in either wheat, oats, or corn. The same reasons probably

apply here as did in the Williamston area. Other tests for part-time farmers, between part-time and full-time farmers, and between 1951 and 1952 were not significant.

Rural residents also reported a few acres of crops grown. Those in the Williamston area had a total of 59 acres of land in crops, and those in the Okemos area had 36 acres. This was an average of less than one acre per resident. Most of this was in wheat, grass, or corn, but not all of it was harvested. Many residents grew a crop on their land to keep the weeds down.

The over-all picture of land devoted to different crops was similar to the situation in Ingham County. The average farm in 1949[2] in that county had 84.9 acres of cropland and 18.1, 19.4, 17.8, and 19.7 acres of corn, wheat, oats, and hay, respectively. Each of these crops equaled between 20 and 23 percent of the average cropland acreage for Ingham County farms. There was also no great difference between the two areas as to the amount of emphasis placed upon one crop over another. Therefore, the suburban movement did not affect the proportion of each crop grown on most full-time farms.

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[2] 1950 United States Census of Agriculture: Michigan, United States Department of Commerce, Bureau of the Census, United States Government Printing Office, Washington D. C., 1952.

Gardens

Approximately 75 percent of the rural residents had a garden, but very often these were small. Estimates of the size of the gardens were not obtained, although some indication of their value was given by the residents. Sixty percent of those having gardens said that the worth would be either "minor" or under 50 dollars. Only a few residents considered their garden to be worth over $100.00.

Several residents commented that if they figured their time worth very much, the garden enterprise would end up as a deficit. They considered its value to lie in the recreation and relaxation that they got from working in it and in the advantages of eating garden-fresh produce. Some remarked that they were unable to find time to take care of a garden. One resident had a suggestion for those who thought it necessary to own mechanical garden equipment. He recommended planting the rows wider apart and then hiring a farm neighbor to cultivate them with his farm machinery. The main objection to this is the possible adverse reaction of the neighboring farmers.

Crop Yields

The yields of the major crops grown in the areas were higher than those recorded in the 1950 Census for Ingham

County for both years of records. It is realized, however, that the comparison was made between different crop years and that the soil in the sample areas was slightly better than the average for Ingham County. Since the yields reported for the two crop years were not too different for each crop within each area and between the two areas, only the 1951 data for the Williamston region will be shown (Table 14).

The total number of farms included in each section of this table does not equal the totals shown in other tables because not all farmers knew what their yields had been. Then, too, not every farmer had grown all four crops. There was no significant difference between the yields obtained by part-time and full-time farmers for any of the crops shown. However, it was considered best to include both.

Most farmers in the Williamston area harvested a wheat yield for 1951 of between 20 and 39 bushels per acre. Yields of 31 to 60 bushels were most common for oats, of 61-100 bushels for corn, and of around two tons for hay. A larger percentage of the part-time farmers appeared to have per acre yields in the lowest range than did the full-time farmers. This may be partly explained by the more limited time the part-time farmer has to work on his farm. For this reason, he may not always be able to plant or harvest a crop at the most advantageous time. For those who had to depend on

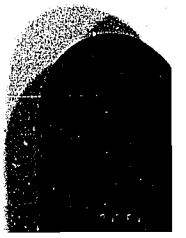

Table 14

Percentage Distribution of Farms Showing Yields of Major Crops in Williamston Area, Michigan, 1951

Crop	No. of Farms	Type of Unit					Total Percent
		Bushels					
Wheat		10-19	20-29	30-39	40-49		
Full-Time Farmer	30	6.7	33.3	50.0	10.0		100.0
Part-Time Farmer	14	21.4	21.4	35.8	21.4		100.0
		Bushels					
Oats		16-30	31-45	46-60	61-75	76 and Above	
Full-Time Farmer	32	12.5	37.5	40.6	3.1	6.3	100.0
Part-Time Farmer	12	33.3	25.0	41.7	-	-	100.0
		Bushels					
Corn		21-40	41-60	61-80	81-100	101 and Above	
Full-Time Farmer	22	-	27.3	13.6	45.5	13.6	100.0
Part-Time Farmer	8	12.5	-	37.5	37.5	12.5	100.0
		Tons					
Hay		1.0-1.49	1.5-1.99	2.0-2.49	2.5-2.99	3.0 and Above	
Full-Time Farmer	32	9.4	12.5	53.1	21.9	3.1	100.0
Part-Time Farmer	8	12.5	25.0	50.0	12.5	-	100.0

neighbors to do some of their farm operations, the above reason also held true. Less thorough farm practices may be another factor, but there was not much evidence to substantiate this. It may be that if poorer farm practices are being followed by the part-time farmers, later years will find more of their yields falling below those of the full-time farmers.

As was true for the Williamston area in 1950 and 1951, comparisons of yields for the major crops in the Okemos area between the two types of farmers did not prove significant for either 1951 or 1952.

The Weed Problem

All farmers were asked whether they considered the suburban movement to have had any effect on the amount of weeds on their farm. Approximately 55 percent of the Williamston farmers said that their weed problem was no worse than usual. Another 35 percent remarked that in their opinion there were more weeds, but most of them would not blame the suburban movement directly. None said that there were less weeds. In the Okemos area, slightly over half of the farmers indicated that more weeds were on their place than had been the case in earlier years.

Those who elaborated on their reply had a variety of reasons to offer. Many mentioned that a lack of adequate care of the land would cause an increased weed problem. Full-time as well as part-time farmers in the area were indicated as being guilty in this. Several related how the roadsides had been allowed to grow up to brush and weeds. They thought farmers had more pride in past years in a clean fence row along the road. One farmer said that people with small acreages let the back of their places go unworked, and that maybe that was from where the weeds came. It was noticed that wild carrot was very prevalent along the roadsides and on most farms in the sample areas.

It may be too early for the increased amount of idle land to have caused a serious weed problem. Possibly it never will, even if left unchecked. However, it appears that as some fields continue to remain idle and others become idle, weeds will be more in evidence, since idle fields usually offer an excellent seed bed for weeds of all kinds.

Livestock

Livestock provided an important phase of farm operation for most farmers. Dairying was the largest livestock enterprise, and the raising of hogs and beef were found to be

next in importance (Table 15). In the livestock program of the part-time farmers, dairying and hogs were not as important proportionately as they were for the full-time farmer. However, beef was more important. Dairying and hogs require more daily attention and labor than do beef animals, and for this reason, many part-time farmers raised the latter. Beef furnished an outlet for the roughage on the farm and yet did not make it necessary for the part-time farmer to spend many of his limited hours with them. From observations made during the study, beef appeared to be gaining in importance and popularity both with the part-time farmers and full-time farmers, while dairy animals were decreasing in prominence.

The number of animal units[3] per farm varied to a considerable degree. Over one-half of the full-time farmers and all of the part-time farmers had less than 20 units on their farms (Table 16). Most of the latter group had less than 10. A highly significant difference was found between

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[3]An "animal unit" is a method by which different kinds of animals are converted into a common denominator on a basis of the relative amounts of feed consumed by the different classes of livestock. One "animal unit" is roughly the equivalent of: one steer, one cow, one horse, or one mule; two heifers or two colts; four calves less than 12 months old; seven sheep; 14 lambs; three sows, five mature hogs, or 10 pigs of 100 pounds; 100 hens. See G. F. Warren, Farm Management, Macmillan and Co., New York, 1916, p. 210.

Table 15

Total Number of Each Type of Animal and Its Proportion of the Total "Animal Units"[a] in Williamston and Okemos Areas, Michigan, 1951

Animal	Williamston				Okemos			
	Full-Time Farmer		Part-Time Farmer		Full-Time Farmer		Part-Time Farmer	
	No.	Percent of A.U.	No.	Percent of A.U.	No.	Percent of A.U.	No.	Percent of A.U.
Dairy Cows	367	37.2	26	20.8	124	55.0	10	27.2
Dairy Young Stock	336	12.6	35	10.3	110	18.3	4	4.1
Beef	127	12.9	34	27.1	20	8.9	12	32.7
Beef Young Stock	55	2.1	-	-	-	-	12	12.3
Chickens	5515	5.6	755	6.0	220	1.0	245	6.7
Sows	136	4.6	-	-	13	1.9	2	1.8
Pigs	994	15.1	68	8.1	137	9.1	7	2.9
Sheep	456	6.5	76	8.5	-	-	-	-
Lambs	387	2.8	61	3.4	-	-	-	-
Others[b]		0.6		15.8		5.8		12.3
Total		100.0		100.0		100.0		100.0

[a] An "animal unit" is a method by which different kinds of animals are converted into a common denominator on a basis of the relative amounts of feed consumed by the different classes of livestock. One "animal unit" is roughly the equivalent of: one steer, one cow, one horse, or one mule; two heifers or two colts; four calves less than 12 months old; seven sheep; 14 lambs; three sows, five mature hogs, or 10 pigs of 100 pounds; 100 hens. See G. F. Warren, Farm Management, New York, Macmillan and Co., 1916, p. 210.

[b] This includes horses, goats, bulls, ducks, rabbits, etc. No number of animals is given because of the wide variety of types.

Table 16

Percentage Distribution of Farms by "Animal Units"[a] in Williamston and Okemos Areas, Michigan, 1951

Type of Farm	No. of Farms	Animal Units 0-9	10-19	20-29	30-39	40 and Above	Total Percent
Williamston							
Full-Time Farm	44	34.1	34.1	9.1	4.5	18.2	100.0
Part-Time Farm[b]	25	84.0	16.0	-	-	-	100.0
Okemos							
Full-Time Farm	12	33.3	16.7	25.0	-	25.0	100.0
Part-Time Farm[b]	12	91.7	8.3	-	-	-	100.00

[a]An "animal unit" is a method by which different kinds of animals are converted into a common denominator on a basis of the relative amounts of feed consumed by the different classes of livestock. One "animal unit" is roughly the equivalent of: one steer, one cow, one horse, or one mule; two heifers or two colts; four calves less than 12 months old; seven sheep; 14 lambs; three sows, five mature hogs, or 10 pig of 100 pounds; 100 hens. See G. F. Warren, Farm Management, New York, Macmillan and Co., 1916, p. 210.

[b]A significance of difference at the one percent level was found between full-time farmers and part-time farmers as to the number of "animal units" kept on their farms.

the number of animal units kept on full-time farms and part-time farms for both areas.

Usually, a positive relationship was observed between the size of the farm and the animal units on it. None of

the farms above 240 acres had less than 10 animal units, and the majority of them had over 40. Most of the farms under 80 acres had less than 10 animal units. When the part-time farmer group was broken down further, it was observed that 60 percent of those in the Williamston area and 75 percent of those in the Okemos area had less than five units on their farms.

The rural residents in 1951 had a total of 29.3 animal units in the Williamston area and 10.2 units in the Okemos region. Chickens, pigs, horses, cows, and calves were the animals most often found. Three riding horses were kept by rural residents in each area. Six cows were reported in the Okemos area, but none in Williamston.

A comparison of the two sample areas with Ingham County indicated that livestock numbers were larger for the farms in the Williamston area and smaller for those in the Okemos area in relation to Ingham County. Again, as was the case for crops grown, the comparison was made using different years, but it can be assumed that there would not be any great changes in the livestock practices of farmers in Ingham County as a whole from the 1950 census year to 1951. The average number of livestock found in the Williamston area was much higher when only full-time farms were used for comparison purposes, and was still slightly higher when

the part-time farms were included. Therefore, it appears as though the suburban movement has not affected the total livestock program in the Williamston area to any great extent.

The smaller number of livestock found in the Okemos area is a further indication that the suburban movement has brought about a reduction of livestock numbers in this area. A principal cause for this lower number is the greater amount of part-time farms, proportionately, in the Okemos area as compared to the Williamston region.

Livestock products sold were similar to the average figures for Ingham County, also. The average number of pounds of milk sold per cow in 1949 in Ingham County was 8,070. Fifty percent of the farmers in the areas studied sold milk which ranged above 7,500 pounds per cow. The average number of eggs sold per hen was around 11 dozen in Ingham County. It was slightly lower than this in the sample areas.

Livestock data on the farms in the two areas were examined for changes that took place in total numbers of animals and animal units between the two years of records. For the Williamston area, the change in animal units for both part-time and full-time farmers was very similar. Slightly over 40 percent had increased while about 25 percent had decreased this phase of their farm operations. Another 15 percent were

not able to furnish information for the first year for which data had been collected. Three part-time farmers indicated having no livestock in either year. A good explanation was not offered for the large number who had shown increases; yet, the better agricultural price situation in 1951 over 1950 may be a determining factor.

A slightly different situation was found in the Okemos area. One-half of the full-time farmers had less, and only one-sixth had more livestock in 1952 than they had in 1951. The part-time farmers showed, on the other hand, 33 percent with more animal units and eight percent with less. However, those with more units had only a small increase in numbers of animals. Slightly over 25 percent of the farmers had no livestock in either year. This was a decidedly larger number than was found for Williamston.

A comparison of changes that took place in the total numbers of separate types of animals over the two years revealed a few major differences. Dairy numbers for part-time farmers in the Williamston area were down considerably and beef and chicken numbers were up. The biggest change for Williamston full-time farmers was a large increase in beef young stock. In the Okemos area, a decrease in pigs on the full-time farms and a decrease in beef animals on part-time farms provided the major changes.

Most Profitable Enterprise

Every farmer was asked what enterprise he felt was the most profitable for his farm. Some mentioned more than one enterprise in answer to this question. In most cases, the farmers were currently growing the crops they named as most profitable. Wheat was mentioned by approximately 40 percent of both full-time and part-time farmers. The high price that had prevailed for wheat in the past few years probably influenced this selection. Not much difference was found between the percentage of the two types of farmers in either area who named wheat, but the percentage of farmers stating this preference was slightly higher in Okemos than in Williamston.

Corn was the crop next in importance, but less than half as many chose it as chose wheat. A rotation in general with no specific crop mentioned was named by several of the full-time farmers. The part-time farmers, in general, tended to stress corn and wheat a little more heavily than did the full-time farmers. This suggests that a further development of the suburban movement will find still more of the part-time farms devoted to the small grain and row crops.

It was interesting to note that more farmers in the Williamston than in the Okemos area named livestock as the most profitable farming enterprise. Dairying was given by

45 percent of the full-time farmers around Williamston, hogs by 18 percent, and chickens by 11 percent. Beef and sheep were also mentioned. Nearly 26 percent of the part-time farmers in this area also named dairying as the most profitable, but only a small number mentioned other livestock enterprises.

In the Okemos area, on the other hand, only 13 percent of the full-time farmers mentioned dairying, which was the only livestock enterprise noted. Eight percent of the part-time farmers named beef, and again this was the only enterprise mentioned. From these, it appears that the Okemos farmers were not as oriented toward livestock production as were the Williamston farmers. They raised fewer livestock per farm and indicated livestock less often as the most profitable enterprise.

In connection with the most profitable enterprise, approximately 75 percent of the full-time farmers felt that their major source of income came from livestock (Table 17). The crops they raised were fed through the livestock enterprises to bring in most of the farm income. On the other hand, the part-time farmers placed more emphasis on crops for their income from the farm. Many of the variances found between the two types of farmers in the areas studied relate to this difference in farming operations.

Table 17

Percentage Distribution of Farmers' Answers to Their Major Dependence for Income Between Crops and Livestock, Williamston and Okemos Areas, Michigan[a]

Type of Farmer	No. of Farms	Livestock	Crops	Livestock and Crops Equally Important	Total Percent
Williamston					
Full-Time Farmer	44	77.3	18.2	4.5	100.0
Part-Time Farmer	25	36.0	56.0	8.0	100.0
Okemos					
Full-Time Farmer	11	72.7	27.3	-	100.0
Part-Time Farmer	12	25.0	75.0	-	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

The suburban movement has resulted in a considerable decrease in livestock numbers as evidenced by the situation found on part-time farms. Changes over the two years of records revealed a slight increase in numbers in the Williamston area but a decrease in the Okemos area. Although the comparison is for different years, livestock prices were higher in the second year for the Okemos area than they were for the second year in the Williamston region. This suggests still further

decreases in future years. The Williamston area will probably experience the same thing, but it will not happen until the suburban movement has included more of this area. There also was an indication of beef replacing some of the other livestock enterprises in these areas.

Comparison to Ingham County

The average number of acres operated per full-time farmer in the sample areas was higher than that operated by the average farmer in Ingham County. It averaged slightly over 160 acres in each of the two sample areas and 115 acres in Ingham County. On the other hand, part-time farmers operated an average of 60 acres per farm in the Williamston area and 36 acres per farm in the Okemos area. It should be pointed out, though, that the Ingham County figure included both full-time and part-time farmers. Therefore, since the part-time farmers usually operated smaller acreages and since they were included in the census computation of farm data, the difference between the size of farms operated by the full-time farmers in the sample areas and the full-time farmers in Ingham County was not as great as it appears.

In comparing data on the townships of Williamston, Wheatfield, and Meridian for census years 1940, 1945, and 1950, it was observed that Meridian Township had shown the

greatest change in acreages in farm land and number of farms found. The number of farms reported in 1940 was 260, but in 1950 this had dropped to 144. Acres in farms, in the meantime, had dropped from 18,082 to 11,538. Some of this change can be attributed to the suburban movement, but some must also be charged to the large acreages of land which Michigan State College purchased in Meridian Township in this decade. The latter was not included in this study.

Williamston Township showed a decrease in farms from 179 to 164 over this 10 year period. Its total acreage in farms, however, rose from 17,152 acres to 18,136 acres. No obvious reason can be offered to explain this increased acreage.[4] Wheatfield Township had 130 farms in 1940 and 129 in 1950, but the total acreage reported in farms decreased from 18,568 to 16,841 acres.

From the preceding figures, it is evident that the average acres per farm in these three townships had changed slightly over the ten year period. In Meridian Township, they had gone up from 70 to 80 acres. They had risen in Williamston Township to about 110 acres but had fallen from 143 to 130 acres per farm in Wheatfield Township. Cropland remained

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[4]A comparison of aerial photographic maps taken of Williamston Township in 1938 and again in 1950 did not reveal that much clearing of wooded areas had occurred. This suggests that the increased acreage has resulted from changed methods in collecting census data.

approximately the same except in Meridian Township. Here, it dropped over 35 percent in total acreage and nearly 33 percent in average acres per farm.

Crop production changes between 1944 and 1949 occurred mainly in Meridian Township. All the major crops were raised on a smaller average acreage in this township. The other major change involved the harvesting of more corn and less wheat in both Wheatfield and Williamston Townships in 1949 as compared to that harvested in 1944. The added emphasis on wheat in 1944 was probably a major cause for this difference.

A comparison of livestock numbers reveals nearly the same situation in Ingham County that was found for the sample areas. They have decreased in Williamston and Wheatfield Townships, but usually by only about 20 percent. However, in Meridian Township, they have decreased between 40 and 50 percent.

These figures suggest that the sample regions selected in this study are similar to the surrounding areas. As was found in the Okemos area, Meridian Township was strongly affected by the suburban movement. Also, Wheatfield and Williamston Townships show some definite signs of being affected by this movement, much in the same way as did the Williamston sample area.

Farm Equipment Owned

In general, most full-time farmers and a sizeable percentage of the part-time farmers owned the basic equipment which was necessary to operate their farms (Table 18). In addition, about one-half of the full-time farmers also owned a combine and a corn planter. Usually, it was the farmers with the large acreages who owned the more specialized types of machinery.

Several farmers in the two areas did not own a tractor. This included seven full-time farmers, three of whom operated their farms with horses and four older persons who leased out most of their farmland. In each area, there was also one part-time farmer who owned a garden tractor instead of a larger field tractor. Of the remaining part-time farmers who did not own a tractor, most operated only small acreages. They either hired their farming done or borrowed equipment to do it themselves.

Census data for Ingham County showed that 78.2 percent of the farmers in that county had tractors in 1950, 28.8 percent had combines, 9.8 percent had corn pickers, and 6.6 percent had balers. This was fairly similar to the farms in the two areas studied if part-time and full-time farms are grouped together. However, the Williamston region had a slightly higher percentage of farmers who owned these types of equipment.

Table 18

Number of Farms Having Specified Farm Equipment in Williamston and Okemos Areas, Michigan[a]

Equipment	Williamston				Okemos			
	Full-Time Farmer		Part-Time Farmer		Full-Time Farmer		Part-Time Farmer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Tractor	40	90.9	20	80.0	9	75.0	7	58.3
Plow	42	95.4	20	80.0	10	83.3	8	66.7
Harrow	41	93.2	17	68.0	9	75.0	7	58.3
Mower	41	93.2	15	60.0	9	75.0	8	66.7
Rake	40	90.9	16	64.0	9	75.0	4	33.3
Disk	38	86.4	16	64.0	10	83.3	7	58.3
Spreader	39	88.6	12	48.0	9	75.0	4	33.3
Combine	23	52.3	6	24.0	7	58.3	2	16.7
Corn Planter	26	59.1	5	20.0	4	33.3	3	25.0
Corn Picker	16	36.4	-	-	2	16.7	1	8.3
Baler	12	27.3	1	4.0	2	16.7	1	8.3
Field Chopper	8	18.2	1	4.0	1	8.3	-	-

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

A relatively small percentage of rural residents had farm equipment in their possession. All-purpose field tractors were owned by 10 percent of the Williamston rural

Table 19

Residents Who Had Specialized Farm Buildings on Their Place in Williamston and Okemos Areas, Michigan[a]

Building	Williamston						Okemos					
	Full-Time Farmer		Part-Time Farmer		Rural Resident		Full-Time Farmer		Part-Time Farmer		Rural Resident	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Barn	43	97.7	21	84.0	12	14.1	12	100.0	11	91.7	9	19.6
Tool Shed	28	63.6	13	52.0	9	10.6	7	58.3	5	41.7	9	19.6
Chicken House	37	84.1	19	76.0	19	22.4	9	75.0	8	66.7	13	28.3
Hog House	23	52.3	5	20.0	2	2.4	4	33.3	-	-	-	-
Granary	39	88.6	15	60.0	6	7.1	9	75.0	10	83.3	3	6.5
Corn Crib	33	75.0	11	44.0	4	4.7	8	66.7	5	41.7	2	4.3

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

residents and by 17 percent of those in the Okemos area. In addition, 17 and 22 percent, respectively, owned garden tractors. Most of these residents also had a plow and harrow to go with their tractor. Only a very few owned the more specialized machinery. Almost twice as many rural residents in the Okemos area owned the more general types of equipment. This may be explained by the generally larger acreages owned by those living around Okemos.

The machinery was not always owned with economic motives in mind. However, it did help ease the gardening and small farming operations undertaken, since most residents having power equipment maintained a large garden. Also, some kept machinery because of their interest in mechanical things.

Buildings

Major barnyard buildings were found on most farms in the sample areas (Table 19). A few of the larger farms had two buildings of the more common types. Those rural residents owning farm buildings were usually living on the homestead of a farm that had been split for suburban purposes. A chicken house was the farm building most often constructed by a rural resident if no buildings were located on his acreage.

Part-time farmers generally owned about as many buildings as the full-time farmers. However, they were usually smaller and very often were not used as efficiently. The smaller number of livestock kept by these farmers was a major factor in such situations.

On one-half of those farms under 200 acres which had a granary, it was combined with the barn. However, on all those farms over 200 acres having one, it was separate. Hog houses were also more frequently found on the larger farms. This was also true for other buildings which were not commonly found on all farms.

With the exception of 20 percent of the barns in the Okemos area, very few buildings were idle on farms operated by full-time farmers. A few more of the buildings owned by part-time farmers, percentage-wise, were idle. The barn was the building most often idle, with 33 percent of them idle in the Okemos area. Also, only a small percentage of the rural residents indicated they had idle buildings; however, they had very few buildings comparatively.

The total number of buildings not in use in both areas was 19 barns, 6 tool sheds, 20 chicken houses, 6 granaries, and 8 corn cribs. It appeared, then, that up to the time this survey was made, the suburban movement had not caused many buildings to go idle. Some of those in use, on the

other hand, were not being utilized to their fullest extent. No indication of the number of farm buildings that had been torn down in those areas where rural residents had settled was obtained. Undoubtedly, as this suburban movement consumes more farms, there will be more buildings destroyed and made idle.

Nearly 75 percent of all buildings were considered to be in either good or fair condition. Most idle buildings, however, were found to be in either fair or poor condition. This partly explains why they were idle. Others had deteriorated a great deal because they were idle and had not received any special upkeep.

Farm Program Changes

The farmers were asked what farm program changes they had made over the past five years. Their answers were checked with the cropping and livestock programs they followed. Of the full-time farmers, 80 percent indicated that there had been no change in their cropping program. They were continuing a general farm cropping system of the type followed in Ingham County and the southern counties of Michigan. "Into more cash crops" was the reply given by most of the remaining full-time farmers.

A smaller percentage of part-time farmers reported that they had not changed their cropping program. This group amounted to 60 percent of the total, one-half of which followed a general rotation system while the other half was divided between those who followed a two crop and those who followed a one crop system of farming. Approximately 25 percent of the part-time farmers had been in farming only a very few years, and thus were unable to indicate any change in their practices. Three part-time farmers did state they had moved more into cash crops.

From these replies, it did not appear that a large change in cropping practices had taken place. There was an indication of a movement toward cash crops, particularly by the part-time farmers. However, the high farm prices that prevailed for cash crops probably had some effect on this situation. The suburban movement was also a factor as was evidenced by the many part-time farms that were located in the areas studied. This generally agrees with the data presented in an earlier section of this chapter.

Changes in the livestock program also were indicated, but the Williamston and Okemos areas were not as similar in their responses to this phase of their farm operations. The same livestock plan had been followed by 68 percent of the Williamston full-time farmers, but only 33 percent of this

group from Okemos had not altered their program. The remaining percentage in each area was divided about equally between those with more livestock than they previously had and those with less livestock.

Only about 50 percent of the part-time farmers in each area were following the same livestock operations, often including very small numbers of livestock. Another 25 percent were relatively new to their farms. Most of the remainder were moving out of livestock; however, two indicated they were going into more beef production. These intentions bear out the livestock data presented earlier in this chapter. There was a tendency for a movement toward less livestock by some farmers, and there was an indication of a few going more heavily into beef production.

During several of the interviews with the farmers, comments were made stating that they felt there was a difference between the manner in which the full-time farmers and part-time farmers conserved their land. They thought that the former were more interested in conservation than the latter. Others commented on the fewer numbers of livestock on farms and the "mining of soil" that seemed to be taking place. One farmer observed: "A lot are farming awfully hard. They feel they have to. The area will someday be platted and they are taking all they can get off it, now."

From the observations of many of the rural residents on the condition of the soil on their places, it would appear very likely that this situation was actually taking place on those farms where it was certain that platting or subdivision would take place within a few years. On the other hand, the comment was heard that this movement was not changing the farmers' decisions toward conservation. This was the opinion of most farmers when they were specifically asked the question, "What effect has the suburban movement had on the conservation of land by farmers in this area?" The explanation for this apparently contradictory information may be that the movement does not affect the conservation habits of a farmer until he is sure that he is going to subdivide. In the case of the farmers interviewed, not many had reached this decision.

In connection with this last subject, the farmers' views on how land was being used by the other farmers in the area were asked. In the Williamston region, 75 percent either had no opinion or considered that there was no change because of the suburban movement. The remaining percentage was fairly evenly divided between comments on better practices and poorer practices being followed. The Okemos area farmers considered the situation in a slightly different light. Nearly 35 percent of them felt that poorer farming was being done by their neighbors. The majority of those who gave this opinion were full-time farmers.

A Williamston farmer living on U. S. Highway 16 commented on this apparent change in farming practices as follows:

> In the last 10 years within a mile and one-half, there have been 10 herds of cattle disbanded on 10 farms of which I know. You might say that no livestock is being kept around here. Land is going downhill because of small farms and no livestock.

There were others who mentioned the fewer cows and hogs on farms in their surrounding area. Several mentioned that more corn and wheat were being grown because of the higher prices received for them in the recent years preceding this study. It was interesting to note the higher percentage of Okemos farmers who felt that farming practices were not as good in their area as compared to the smaller percentage from Williamston. This is probably a further indication of the suburban movement, since the Okemos region has been more enveloped by this movement than has the Williamston area.

Plans for Future Use

In addition to land use changes that resulted over the five years preceding the study, the farmers and residents were asked to comment on any plans they had for the future use of their land. Many individuals felt it would remain the same but there were also some different uses suggested.

The future plans of the part-time farmers in both areas were very similar; however, some differences were noted for

the full-time farmers. Two-thirds of the full-time farmers around Williamston and only one-third around Okemos planned to follow the same program of land use. All of these farmers were using a rotation system on their farm. Subdivision or sale of the farm was suggested by nine percent from Williamston and 25 percent from Okemos. A few farmers mentioned that if some one would offer them the "right" price, they might be willing to sell. "Into more crop land" was the answer given by about 15 percent of the farmers in each area. Two full-time farmers from Okemos, representing 17 percent of the total, planned to rent their land in the future. One Williamston farmer, who had already subdivided part of his farm, indicated that he would grow cash crops for two more years and then complete the subdivision of his place. All of these last mentioned cases suggest that the suburban movement has directly affected their future plans. The larger percentage in the Okemos area further indicates that this area is more under the influence of the suburban movement than is the Williamston area.

Forty percent of the part-time farmers from both areas said they would continue the present use of their land. One-half of these were growing only one crop a year on their farm, usually a cash crop. The other half was following a rotation system. A livestock enterprise was the preference

of nearly 25 percent of this group, with beef being mentioned by all but one farmer. They felt beef, with the smaller amount of work involved, was the more sensible enterprise when farming was a secondary job. More crops were suggested by approximately 20 percent of the part-time farmers. Cash crops, then, were the plan of the majority of this group for the future use of their land. Since most of these farmers are recent products of the suburban movement, it would not be expected that they would be planning further subdivision of their land. It should be noted that a large number of them are planning cash crops or a beef enterprise for future years.

Rural residents usually did not have very big plans for the use of their land. The plans of the majority were limited to gardens and small fruit. Three residents from each area, representing five percent of the total, indicated they would probably sell or subdivide.

In addition to increased land values, some of the decisions to subdivide a farm or to sell it as a unit had probably been influenced by the many inquiries of passing motorists and real estate agents as to whether the place was for sale. Most farmers felt that more pressure was placed on them to sell than was the case in earlier years. One, who lived on U. S. Highway 16, stated that about once

a week someone came along offering to buy his land. However, he said most inquiries about land did not concern agricultural purposes. Several mentioned that if you let it be known even casually that you were thinking of selling part or all of your farm, you would get considerable interest in it from outsiders. Real estate agents had been very active in trying to get listings on farms and building acreages, with the latter most in demand.

The reaction of the rural residents toward what the optimum use of the land around them should be was obtained during the course of the interview. The responses were fairly evenly divided between having the land withheld for farming and having it go into building acreages. It appeared that many of those who felt the land should remain in agricultural production considered themselves special cases. The land they took out of production was all right, but they thought it should not be subdivided further. The general feeling was that the areas closest to East Lansing, Okemos, and Williamston as well as along U. S. Highway 16 would eventually be broken into building acreages, but those areas further back would probably remain in agricultural use for many years to come.

Several residents mentioned subdivisions which had been only partially sold. Some direction in selling the unsold

lots before further splitting of acreages took place was suggested by these residents as a possible approach to this problem. Another problem they pointed out was that the front lots were the first part of the farm to be sold, and the back acres either remained idle or only partially farmed for many years. They were aware that getting roads into the back of a farm can be an expensive process. At this point in the course of the interview, many were quick to point out that the personal choice of the rural resident desiring to move out, as well as the farmers wanting to sell, would determine the direction and the extent of the suburban movement.

An observation which appeared to be significant was offered by an Okemos resident. He reasoned that in an area where the suburban movement had started, the poorer soil would attract the poorer type of housing because the farmers who owned good soil would not be tempted to sell "at the drop of a hat." Some blighted areas along roadsides tend to bear out this observation. The poorer soil is not as high priced as the good soil and will be the first the farmer will want to sell because of its lower productive capacity. It will also be the first the individual interested in cheap land on which to live will want to buy.

The high rate of taxes in the suburban area was offered by many residents as a reason why, in future years, many

farmers in the areas studied would go out of farming. They felt the tax expense was so high for the farmers that they could not afford to farm. The best way out, then, was to sell. High land values which eventually would mean high assessed values were also mentioned as a factor making the land too valuable to farm.

Summary

The agricultural use of the land in the Williamston and Okemos areas has been presented in this chapter. Some of the more major items have been compared with the use of land in Ingham County, in which both areas were found. The final part of the chapter was devoted to changes in land use that have taken place and these proposed for the future. The largest change, in addition to the suburban movement itself, was the trend away from livestock by the farmers.

Considerable land has gone into residential use, and, thus, for the most part, out of agricultural production. This is generally regarded as a higher use for the land. Of that land in the control of rural residents, 35 percent had been leased out and was still in production. Another six percent was in cropland maintained by the rural residents. By subtracting land in gardens, leased out, and in cropland, about 1,200 acres still remained out of production of the

2,273 owned by rural residents. Some of this, it must be remembered, was in houses and yards. Adding to this 1,200 acres another 533 acres of idle land on part-time and full-time farms and 270 acres of unsurveyed idle land, there was a total of 2,033 acres in the two areas not in agricultural production. This was the equivalent of nearly 13 farms of 160 acres each, or 17 percent of the total area studied.

This chapter also presented figures for the buildings and equipment located in the areas. Those which were idle or only partially used could be assumed to equip fairly adequately the hypothetical 13 farms mentioned above. It can then be said that up to the time of the study, the effect of the suburban movement has been to take out of agricultural production an acreage equal to thirteen 160 acre farms, including buildings and equipment, from a total acreage surveyed of 12,000 acres.

The suburban movement cannot be stopped under normal conditions; therefore, should the time come when the agricultural land in a developing fringe area is necessary for agricultural production purposes, one goal should be to find a way to direct the suburban trend to the least productive soils. However, if this time should come, the productive agricultural lands may be of a high enough use that they can compete more favorably with some of the residential uses.

More will be said regarding a possible solution to the land use problems created by the suburban movement in the final chapter of this thesis.

A Williamston rural resident expressed the situation as it existed in 1951 very well. His statement was: "I am not worried about farms going out of production. Technological advancements are taking care of this loss of production even when considering the increased population of the country." The question is, how long will this situation remain? The year may come when further loss of cropland will be very serious.

Chapter IV

PROPERTY DEVELOPMENT AND VALUE

The movement of population into the sample areas was briefly described in Chapter II. This chapter will present a description of the type of housing found in the sample areas, and the values placed upon the houses by their occupants. Land and tax values in the areas also will be discussed. The purpose will be to show as much as possible the effect the suburban movement has had upon the different types of property and house values as well as upon the tax conditions within the region studied.

Type of Housing

The houses observed were classified into the following seven categories according to their general style of architecture:[1] 1) bungalow, Cape Cod and English cottage; 2) ranch; 3) contemporary; 4) traditional farm; 5) one-story farm; 6) garage, basement, or shack; and 7) miscellaneous. Bungalow, Cape Cod, and English cottage houses were grouped together

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[1]The classification used is somewhat arbitrary and may not be acceptable to some architects, but it seemed workable for the purposes of this thesis.

because they generally fell within the same limits of size and value, and this simplified the analysis. Separating these three types would have made the number of cases in each cell too small to be of value.

Ranch style houses included those one-story western type houses with an extensive floor plan. Included in the contemporary type of house were those homes of recent construction which did not follow any traditional style. Many homes of the owners' own design fell into this category. The traditional farm classification refers to one and one-half and two story frame and brick farm houses. Usually the houses in the one-story farm category were of more recent construction than those of the traditional farm group. This group included, among others, the tenant type of house. The garage, basement, and shack type of homes are self-explanatory. The occupants of these houses, in most cases, were either in the process of building another home or were planning to start construction of one soon. The miscellaneous group consisted of all those houses which could not be classified in the other six categories, namely, colonial, modern, and French Provincial. The number of homes in each category is presented in Table 20.

Most of the full-time and a majority of the part-time farmers were housed in farm style homes. The homes of the

Table 20

Percentage Distribution of Houses by Style in Williamston and Okemos Areas, Michigan[a]

Type of Resident	No. of Houses	Style of House: Bungalow Cape Cod English Cottage	Ranch	Contemporary	Traditional Farm	One-story Farm	Garage Basement Shack	Miscellaneous[b]	Total Percent
Williamston									
Full-Time Farmer	44	6.8	-	-	61.4	31.8	-	-	100.0
Part-Time Farmer	25	20.0	4.0	16.0	48.0	8.0	-	4.0	100.0
Rural Resident	83	14.5	8.4	30.1	16.9	12.1	8.4	9.6	100.0
Okemos									
Full-Time Farmer	11	-	-	-	81.8	18.2	-	-	100.0
Part-Time Farmer	12	33.4	-	-	50.0	8.3	-	8.3	100.0
Rural Resident	46	37.0	6.5	8.7	19.6	8.7	13.0	6.5	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

[b]Includes colonial, modern, and French provincial types of houses.

rural residents included the greatest variety of styles. Nearly 50 percent of this group resided either in the bungalow, Cape Cod, and English cottage group, or in a contemporary type of house. Farm styles accounted for the style of home of the majority of the remaining rural residents. None of the part-time and full-time farmers lived in a garage, basement, or shack since they usually moved onto land on which permanent housing was available.

A comparison of the construction of the houses did not show any significant relationships between the different styles. Frame construction was found as the principal method used in all types. Brick homes accounted for about eleven percent and cinder block construction for approximately eight percent of the cases.

The age of the houses was presented in Figures 1 and 2 in Chapter II. A classification of these figures would show that over 60 percent of all the houses of the part-time and full-time farmers were over 50 years old. On the other hand, the same percentage of rural resident houses had been built less than 20 years. Most of those in the Williamston area were under 10 years of age. From these percentages and from the age distribution of the various styles of homes, it is apparent that nearly all houses over 30 years old were of traditional and one-story farm styles. The more recently

constructed houses were more varied in style. All houses of cinder block construction were among the newer homes, principally because of the recent interest in this type of building material.

The condition of the majority of all houses was considered to be either good or fair. However, a larger percentage of the rural resident houses were found to be in better condition than those occupied by the farm population. The newer homes owned by the rural residents largely explains this difference.

The median sized house, which also was most often the modal size, was eight rooms for full-time farmers, seven rooms for part-time farmers, and six rooms for rural residents. The smaller urban families moving into the suburban area and the emphasis on smaller houses in the recent decade have brought about this decrease in the number of rooms. The farm styled houses, which usually were the largest, were rarely under five rooms in size.

An inventory was made of modern household facilities found in the homes included in the study (Table 21). A majority of all homes had running water, a bath, and an inside toilet. Electricity was found in all but two of the houses. Usually it was the older houses that lacked a bath and toilet. Their owners had brought water into the house, but had not provided the other conveniences.

Table 21

Percentage of Homes Having Specified Facilities in Williamston and Okemos Areas, Michigan[a]

Type of Resident	No. of Cases	Facilities			
		Water	Electricity	Bath	Inside Toilet
Williamston					
Full-Time Farmer	44	97.7	100.0	70.5	68.2
Part-Time Farmer	25	100.0	100.0	92.0	88.0
Rural Resident	83	91.6	98.8	71.1	71.1
Okemos					
Full-Time Farmer	11	72.7	100.0	63.6	63.6
Part-Time Farmer	12	100.0	100.0	83.3	83.3
Rural Resident	46	84.8	97.8	73.9	73.9

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

Full-time and part-time farmers were found to have garages more often than did the rural residents. Less than 50 percent of the latter and over 60 percent of the former had a shelter for their automobile. The condition of the garage was usually very similar to that of the house to which it corresponded.

Value of House

All persons interviewed were asked to place both a possible sale and rental value on their house. For purposes of comparison at a later date, they were told to assume that a large sized lot was included with the house. The aim of this question was to discover if there were any effects of the suburban movement on house values.

Sale Value

Only about three out of every five persons in the sample area gave an estimate of the sale value of their house. Of those who gave a figure, approximately 60 percent considered their homes to be worth less than $10,000. One-half of the remaining number valued their house between $10,000 and $14,999 (Table 22).

A classification of the sale value by the style of house showed the types of homes to vary in several instances. The ranch type and those in the miscellaneous category were almost all valued above $15,000. These were newer homes and of very good construction. Approximately 70 percent of the farm type houses were given a possible sale price of under $10,000, and about one-quarter of these were valued under $5,000. The shack and basement type homes were all valued under $5,000. About half of the remaining styles

Table 22

Percentage Distribution of the Residents' Estimate of the Sale Value of Their Homes in Williamston and Okemos Areas, Michigan[a]

Type of Resident	No. of Homes With Value Estimates	Value of Home in Dollars: 0 to 4,999	5,000 to 9,999	10,000 to 14,999	15,000 to 19,999	20,000 to 24,999	25,000 and Above	Total Percent
Williamston								
Full-Time Farmer	27	14.8	51.9	25.9	-	3.7	3.7	100.0
Part-Time Farmer	18	16.7	55.6	-	11.1	5.5	11.1	100.0
Rural Resident	45	24.4	11.1	15.6	31.1	8.9	8.9	100.0
Okemos								
Full-Time Farmer	5	20.0	20.0	20.0	20.0	20.0	-	100.0
Part-Time Farmer	7	14.4	42.8	42.8	-	-	-	100.0
Rural Resident	29	20.7	41.4	13.8	6.9	3.4	13.8	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

were given a sale value of between $5,000 and $14,999, and another 40 percent of them between $15,000 and $24,999.

The value of the house was also classified according to the distance the house was from U. S. Highway 16 and from the city of Williamston or the village of Okemos. It had been observed that suburban developments usually followed or were closely associated with such factors. Thus, it was wondered whether the distance from the highway or city would have any effect upon the value of a house. A slightly larger number of homes of higher value were within a mile of the highway or town than were those found in the second or third mile distant. The same relationship was observed between those in the second mile as compared to those three and four miles away. Most of these differences can be attributed to the larger number of rural residents who have built their new homes relatively close to the highway, to Williamston, or to Okemos.

By taking an individual style of house, contemporary for example, the same relationship mentioned above was observed to a limited extent. This would suggest that those interested in building more expensive houses usually settled closer to the main highway or to a center of population. However, some of this difference may be attributed to the proximity to suburban developments and urban activities.

The farm styled houses did not bear out this relationship. This would suggest either that the suburban movement did not affect the value of the houses which were built before the development began, or that it had affected all the values to approximately the same degree.

A relationship also was observed between the value of a house and its age, condition, and facilities available. The many new rural resident homes valued above $15,000 made these relationships evident. Nearly 60 percent of the houses under 10 years of age fell into this range of values, while almost all of those over 15 years were under it. Seventy-five percent of those rated in excellent condition, 15 percent of those rated good, eight percent of those rated fair, and none of those rated poor were valued at over $15,000. When considering the facilities available, 55 percent of those houses with electricity, running water, a bath, and an inside toilet were valued above $10,000, and practically none were given this valuation if the house did not have an inside toilet and bath.

Many residents were of the opinion that the new homes being constructed, especially those that were valued above $15,000, were increasing the value of the other homes surrounding them. The method used in this study did not make it possible to verify this observation, but there was

some evidence to support it. Also, it was observed that houses of approximately the same value often were built in the same neighborhood.

Rental Value

The residents were not as familiar with rental values as they were with sale values for houses in rural areas, but about the same percentage who gave sale estimates also gave what they considered would be the rental rates for their houses. Figures on an actual rent paid were not obtained in all cases, but when given, they were the same as the occupants' estimates of the rental value of their homes. Also, where a house was being rented within a certain locality, this appeared to influence the rental estimates of many of the other residents who lived nearby. Several mentioned they had very little on which to base their answer, but they thought their house would rent for "about the same as (or x amount more than) the rented house down the road."

Over 50 percent of the houses were estimated to rent between $40 and $79 per month (Table 23). A higher percentage of rural resident houses than farm houses were estimated to rent above $80 per month. This difference can be traced to the more recently constructed houses in which most of the rural residents lived.

Table 23

Percentage Distribution of the Residents' Estimate of the Rental Value of Their Homes in Williamston and Okemos Areas, Michigan[a]

Type of Resident	No. of Homes	Rental Value in Dollars							Total Percent
		0-19	20-39	40-59	60-79	80-99	100-119	120 and Above	
Williamston									
Full-Time Farmer	28	3.6	17.9	53.5	17.9	-	7.1	-	100.0
Part-Time Farmer	15	-	20.0	53.3	26.7	-	-	-	100.0
Rural Resident	47	4.3	17.0	27.7	19.1	10.6	12.8	8.5	100.0
Okemos									
Full-Time Farmer	4	-	-	25.0	25.0	-	50.0	-	100.0
Part-Time Farmer	6	-	16.7	16.7	49.9	-	16.7	-	100.0
Rural Resident	26	-	23.1	34.6	19.2	11.5	7.7	3.9	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

Again, as was observed for sale values, a relationship was found between the estimated rental value of the houses and their location, their age, their condition, and the facilities found in them. Rental values were also influenced by the many new and modern styled homes that were in the areas. Nearly 30 percent of those houses either within a mile of U. S. Highway 16 or the nearby city of Williamston or village of Okemos were given a rental value of over $80 per month. In the Williamston area, only a few of the houses located from one to two miles away from either U. S. 16 or Williamston and none beyond two miles distant were estimated to rent as high as $80 per month. However, approximately 25 percent of the houses in the Okemos region located more than a mile from the village or from the highway were given rental values of over $80 per month. The proximity of this area to Lansing may be the explanation for the larger percentage of houses with a higher estimated rent. In most cases, houses in a zone more than two miles from urban influence or the highway were given rental values of under $60 per month.

Most houses less than 15 years old were estimated by their occupants to rent for over $60 per month. Those less than 10 years old usually rented for over $80 per month. The older houses, or those over 50 years of age, were

estimated at a lower rental value, usually under $60 per month. Generally, the older houses near Okemos were given higher rental values than were those near Williamston.

No great difference was noted in the estimated rental values for houses judged either in excellent or in good condition. Approximately 30 percent of these were given rental rates of above $80 per month. However, 85 percent of the homes judged fair or poor were given a rental value of less than $60 per month. Only one home of this group in the Williamston area, representing three percent of the total, was given a rental value over $60 per month. However, in the Okemos area, 33 percent of the houses classified as in fair or poor condition were estimated to rent for over $60 per month.

All but seven percent of the houses without an inside toilet or bath were estimated to rent for less than $60 per month, while nearly 26 percent of the houses with these facilities as well as running water and electricity were estimated to rent for over $80 per month. The Okemos and Williamston areas were very similar in their percentage distribution of houses with these facilities.

It may be seen that there was a tendency to estimate a higher rental value for a house in the Okemos area than for one of comparable value in the Williamston area. As

suggested earlier, the difference in distance from Lansing may be a primary cause for this discrepancy.

Value of Land

All individuals were asked to estimate what they considered to be the value of their land for farming purposes, building acreages, and residential sites. The value per acre was desired for the question on building acreages since most farmers who had sold acreages had sold them in at least one acre plots. Thus, a valuation for a smaller unit than an acre was deemed unnecessary. For residential site values, the individual was asked to give the estimated price of his place if he were to sell it to someone who wanted it solely for residential purposes. Three large acreages of this type were found in the two areas studied.

Farm Value

Except in a very few instances, rural residents did not own land that could be classified as farm land, so almost all the replies concerning the farm value of the land came from part-time and full-time farmers. However, not all of these estimated a farm valuation. Most land for farming was given a value between $100 and $249 per acre (Table 24). A small difference was noted between the responses of the

Table 24

Percentage Distribution of the Farmers' Estimate of the Per Acre Value of Their Farms for Agricultural Purposes, in Williamston and Oekmos Areas, Michigan[a]

Type of Resident	No. of Farms	Value in Dollars: 100 to 149	150 to 199	200 to 249	250 to 299	300 to 349	350 and Above	Total Percent
Williamston								
Full-Time Farmer	32	25.0	28.1	31.2	-	9.4	6.3	100.0
Part-Time Farmer	17	17.6	17.6	35.3	11.8	5.9	11.8	100.0
Okemos								
Full-Time Farmer	7	28.6	42.8	14.3	-	-	14.3	100.0
Part-Time Farmer	8	50.0	12.5	12.5	12.5	-	12.5	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

part-time and full-time farmers. On the average, the part-time farmers valued their land about 20 percent higher than did the full-time farmers. However, when tested, this difference did not prove significant. A slight difference was also noted between the farm values in the Williamston and Okemos areas. However, the lower value placed upon a higher percentage of the Okemos farms may be due to the greater amount of poor soil found in this area. In general,

land of equal productivity has a higher value the closer it is to a center of population.

A comparison of the estimated farm value with the size of the farm revealed a tendency for the operators of the smaller sized farms to consider their land worth slightly more per acre than those who operated larger acreages. This difference was not significant, however. In general, smaller farms tend to be valued higher than larger farms within a particular area, and this region is probably no exception. Also, the operators of the small farms may have let the value of their houses influence their estimates, for on a small farm the house represents a much larger percentage of the total investment than it does on a large farm. In both areas the location of the farm had no noticeable effect on the estimated agricultural value placed upon the land by its operator.

The average value per acre for farm land, including buildings, as reported in the 1950 Census for Ingham County was $113. This figure is nearly $100 lower than the average figure for the sample areas. The suburban movement has undoubtedly been a determining factor for this difference in value. Another factor is the time difference in data. The Michigan index of land values was up 10 to 20 percent in 1951-1952 over the index for 1949. Also, the farmers have probably allowed the larger prices being received for

building acreages to influence the estimated value of their land for farming purposes. A fourth factor may be the tendency for farmers to undervalue their farms for census purposes.

Building Acreage Value

A wide range of answers was received in connection with the estimated values of land for building acreage purposes (Table 25). The part-time farmers and rural residents generally gave a higher value than the full-time farmers. Many of the former had had fairly recent experiences in buying land in the two areas and knew what the selling price of a small acreage was. Many of the full-time farmers, on the other hand, were not cognizant of such land values. Also, they were not accustomed to having farm land, which many of them still considered as the best and only use of their farm, sell for as high a price as did many of the small acreages. Fifty percent of the full-time farmers gave estimated values of between $200 and $399 per acre, whereas over half of the part-time farmers and rural residents gave a figure of at least $600 per acre.

A classification of the estimates for building acreage values by their location revealed that 50 percent of those within a mile of either U. S. Highway 16 or one of the towns were valued at $600 or more. Less than 25 percent of those

Table 25

Percentage Distribution of the Residents' Estimate of the Per Acre Value of Their Farms and Residences for Building Acreages in Williamston and Okemos Areas, Michigan[a]

Type of Resident	No. of Farms	Value in Dollars: 100 to 199	200 to 299	300 to 399	400 to 499	500 to 599	600 to 699	700 and Above	Total Percent
Williamston									
Full-Time Farmer	23	-	47.8	8.7	17.4	17.4	-	8.7	100.0
Part-Time Farmer	12	8.3	8.3	8.3	8.3	8.3	8.3	50.0	100.0
Rural Resident	20	-	5.0	5.0	15.0	20.0	10.0	45.0	100.0
Okemos									
Full-Time Farmer	4	-	25.0	25.0	-	25.0	25.0	-	100.0
Part-Time Farmer	4	-	-	25.0	50.0	25.0	-	-	100.0
Rural Resident	23	-	-	4.3	26.1	4.3	13.1	52.2	100.0

[a]Data are for 1951 in the Williamston area and for 1952 in the Okemos area.

further away from these points were estimated to be worth this much.

A review of the actual sales figures for building acreages, as provided by the residents in the areas, showed

that since 1945, per acre prices approximately had doubled. This held true when these figures were further broken down by a consideration of the location of the acreages in the two areas.

Figures 4 and 5, which show the building acreage values as estimated by those interviewed around Williamston and Okemos, give a pictorial account of the discussion contained in this section. Those figures given in red represent full-time farmers; those in blue, part-time farmers; and those in black, rural residents. It should be pointed out again that not all persons interviewed gave an estimate on building acreage values. Therefore, the figures shown do not represent the total number contacted.

An examination of Figure 4 shows that rural residents and part-time farmers, in particular, placed a much higher value on those building acreages found either on or north of U. S. Highway 16 than were found for the other parts of this area. This coincided with the location of the largest percentage of rural residents who had settled in the Williamsto area. The lowest values were found in the southwest corner of the area, which is the farthest distant from the highway and is the part inhabited by the largest percentage of full-time farmers. From this it may be seen that the location of the highway, especially this far from Lansing had an effect on the value of building acreages.

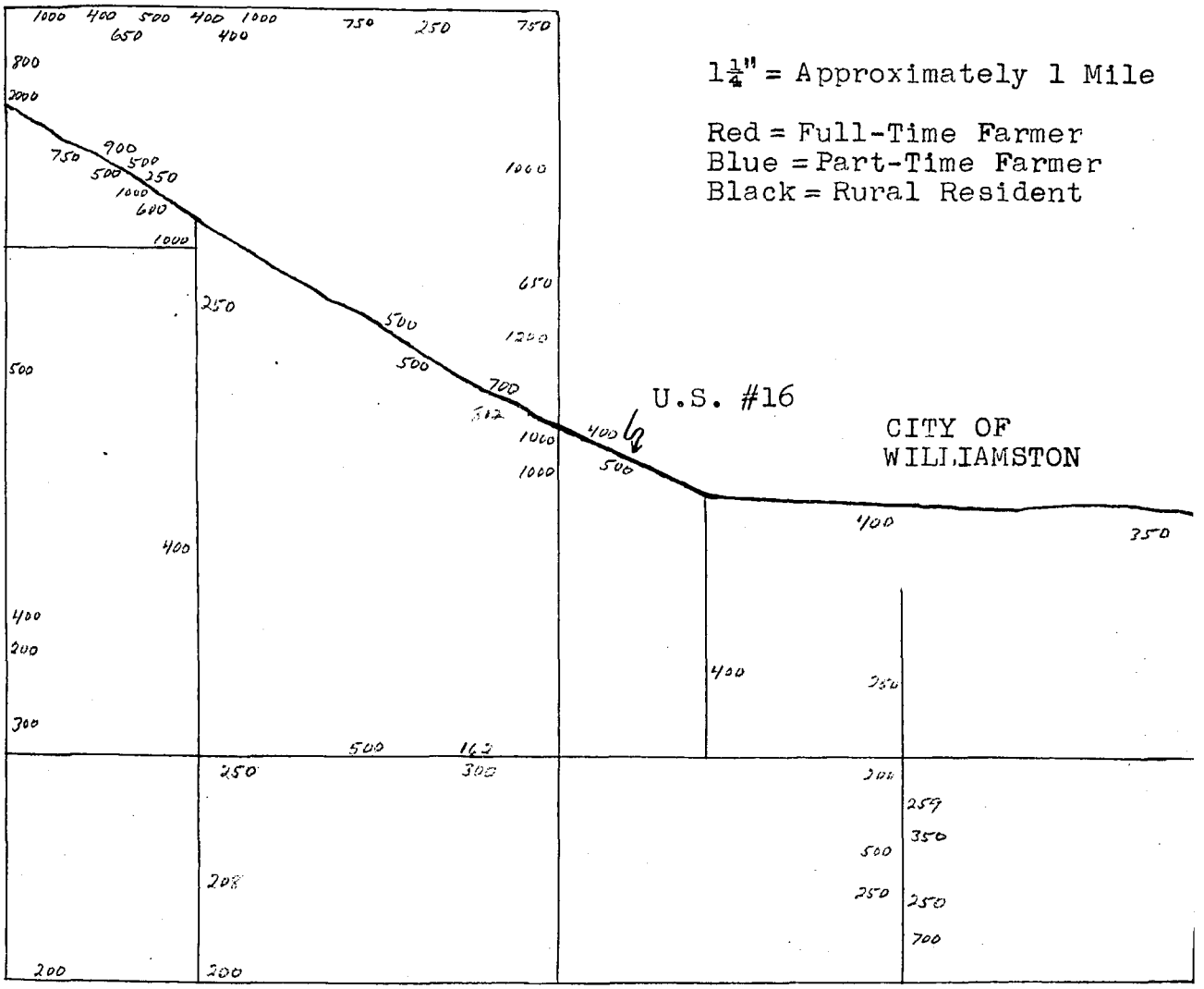

Figure 4

Per Acre Value for Building Acreages as Estimated by the Occupants Living in the Williamston Area, Michigan, 1951.

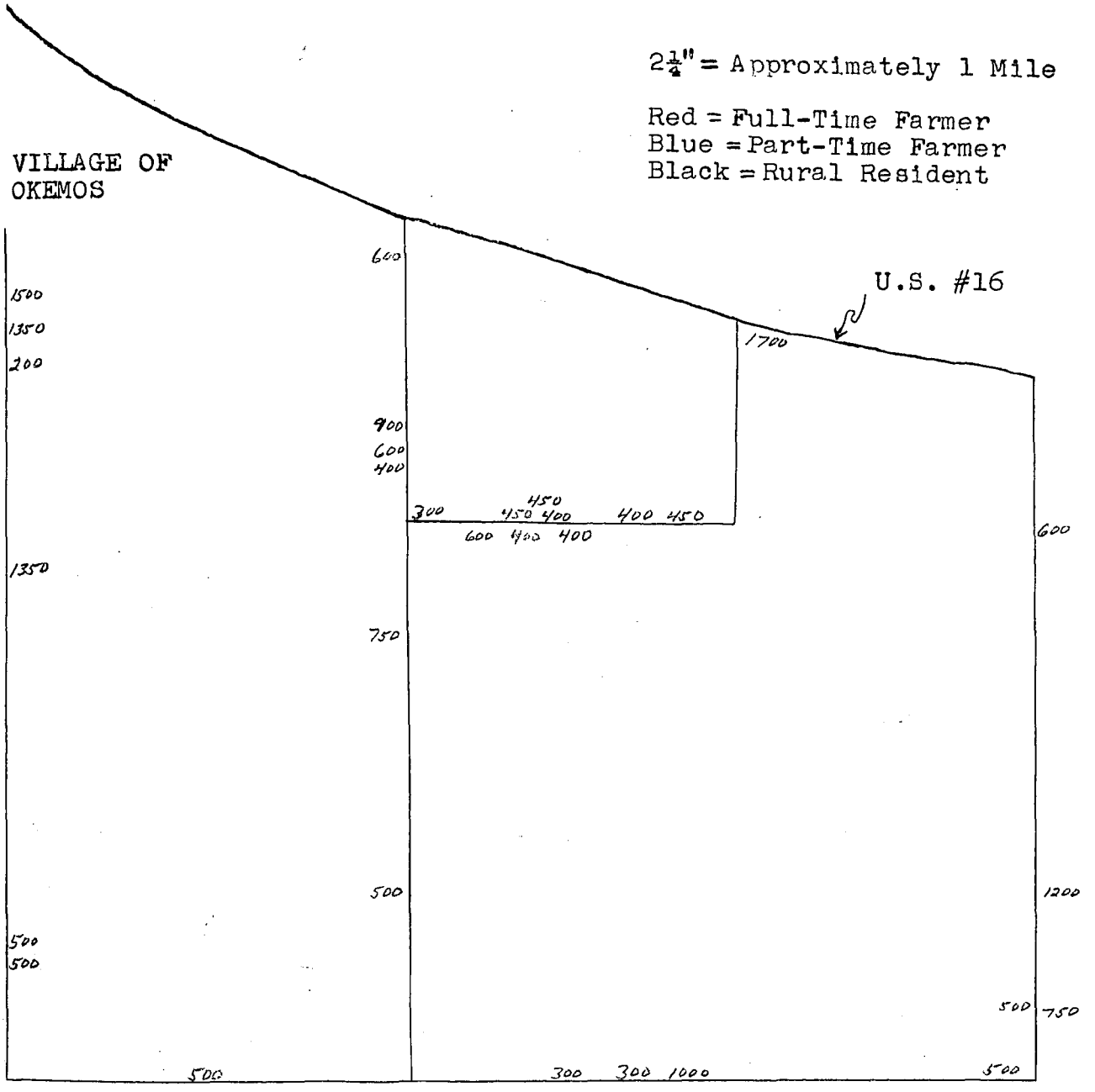

Figure 5

Per Acre Value for Building Acreages as Estimated by the Occupants Living in the Okemos Area, Michigan, 1952.

Figure 5 does not bring out the differences in building acreage values in the Okemos area that were observed for the Williamston area. The closer location to Lansing was probably a factor for this more uniform appearance of value estimates.

Several residents mentioned that there would be a difference between the value of a lot on the front and one on the back of a farm. For example, a farmer near the city of Williamston on U. S. Highway 16, who was just starting to break up his farm into building acreages, was asking between $500 and $600 per acre for frontage acres and between $350 and $400 for those further back on his farm. The front lots usually were considered the most desirable, and thus were given the higher value.

Two examples may be cited of prices actually received for acreages sold in recent years. One such acreage was in the Williamston area, where the first lot sold for $275 in 1947. The lots sold in 1951 went for $475. The average size in both cases was about one-half acre. The second example occurred in the Okemos area, where building sites sold for an average of $1,300 per acre. These were improved lots, usually one acre in size.

The experience of one rural resident, however, suggested that not all farmers are willing to sell some of their land.

This man offered $1,500 per acre for some choice lots on some of the farms around Williamston and was unable to find a seller. However, he was looking for a particular type of setting and not every farmer was contacted.

The suburban movement caused another type of problem for an Okemos farmer. This farmer was thinking of quitting farming and had sold all of his livestock, but was uncertain about the process of subdividing. He noticed how some subdivisions sell fast and how others move very slowly. Before getting all of his farm tied up in such an adventure, he wants to know that he will realize a good return on his investment. He once had a chance to sell part of an acre but did not. He claimed that if one sells a few small pieces of a farm in such a fashion, the assessed valuation will go up and an odd shaped farm will result. In line with this last farmer's remark on the differences in the way subdivisions sell, a comment was made by a rural resident from Williamston. He said, "It needs more than land to sell land for subdivisions." A type of promotional activity is important also.

Residential Value

A large majority of rural residents stated that the per acre residential value of their place was over $800. This high valuation resulted from the small acreages owned by

most of them. Those who did not value their land for residential purposes this high were usually the ones with larger acreages. The part-time and full-time farmers gave a residential value that was generally under $400. Here the larger acreages operated account for the lower valuation per acre.

A sorting of the estimated residential value by the location of the residence did not show anything significant in the Okemos area. However, a smaller percentage of places over two miles from either the highway or the city of Williamston were in the range of values over $800 than was true for those within the two mile zone. The large percentage of farms in the former zone accounted for most of this difference.

The total estimated residential value of each farm and residence is indicated for the two areas in Figure 6 and 7. Although every occupant did not reply, there are enough figures to give a picture of these values. The majority of the rural residents from Williamston lived on property which they valued between $15,000 and $25,000. Those around Okemos usually gave a lower value; although a much wider range in valuations was found in this area. Part-time farmers valued their places for this purpose at about the same amount as rural residents. On the other hand, full-time

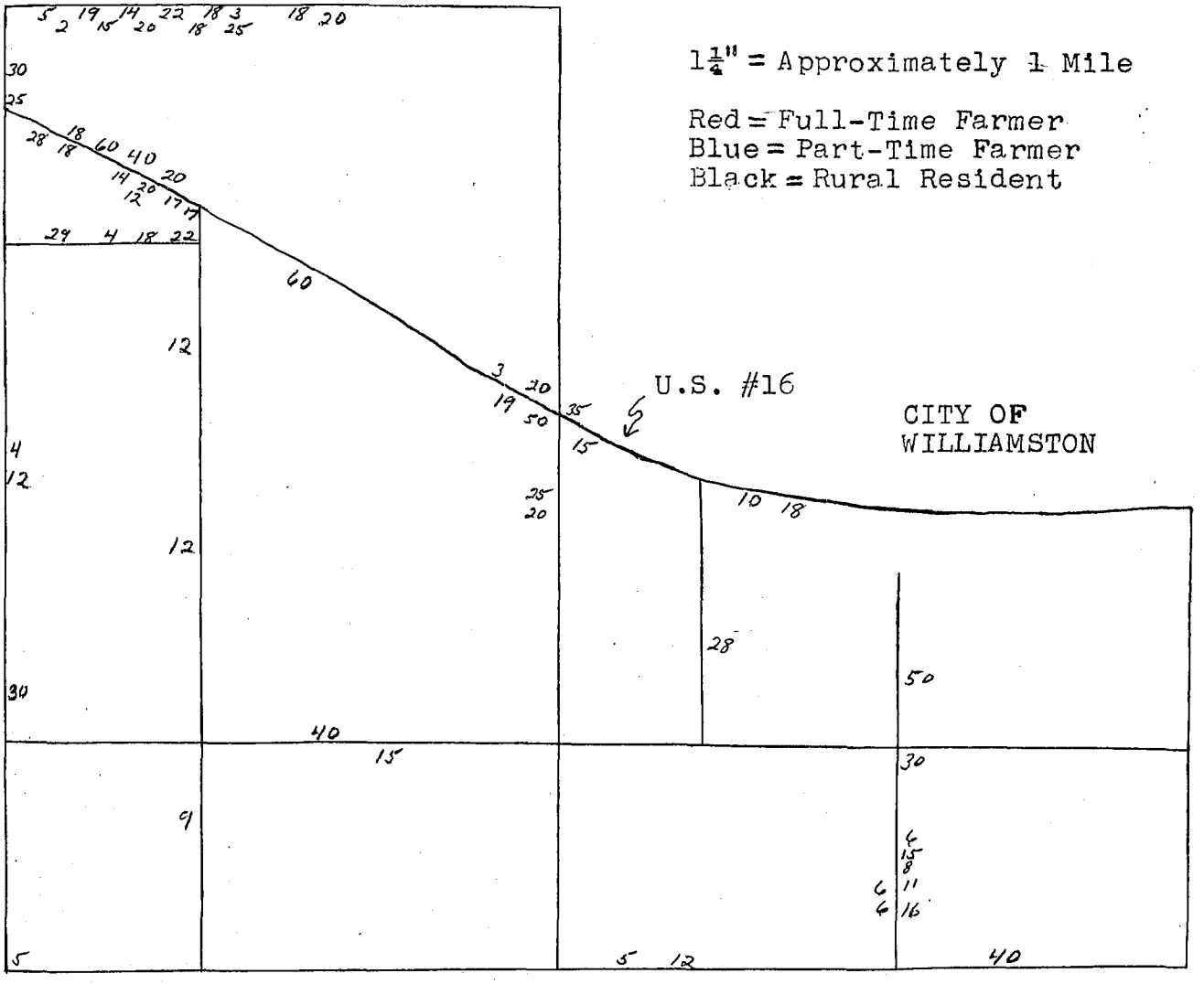

Figure 6

Value of Farms and Residents for Residential Purposes as Estimated by Their Occupants in Williamston Area, Michigan, 1951. (In Thousands of Dollars)

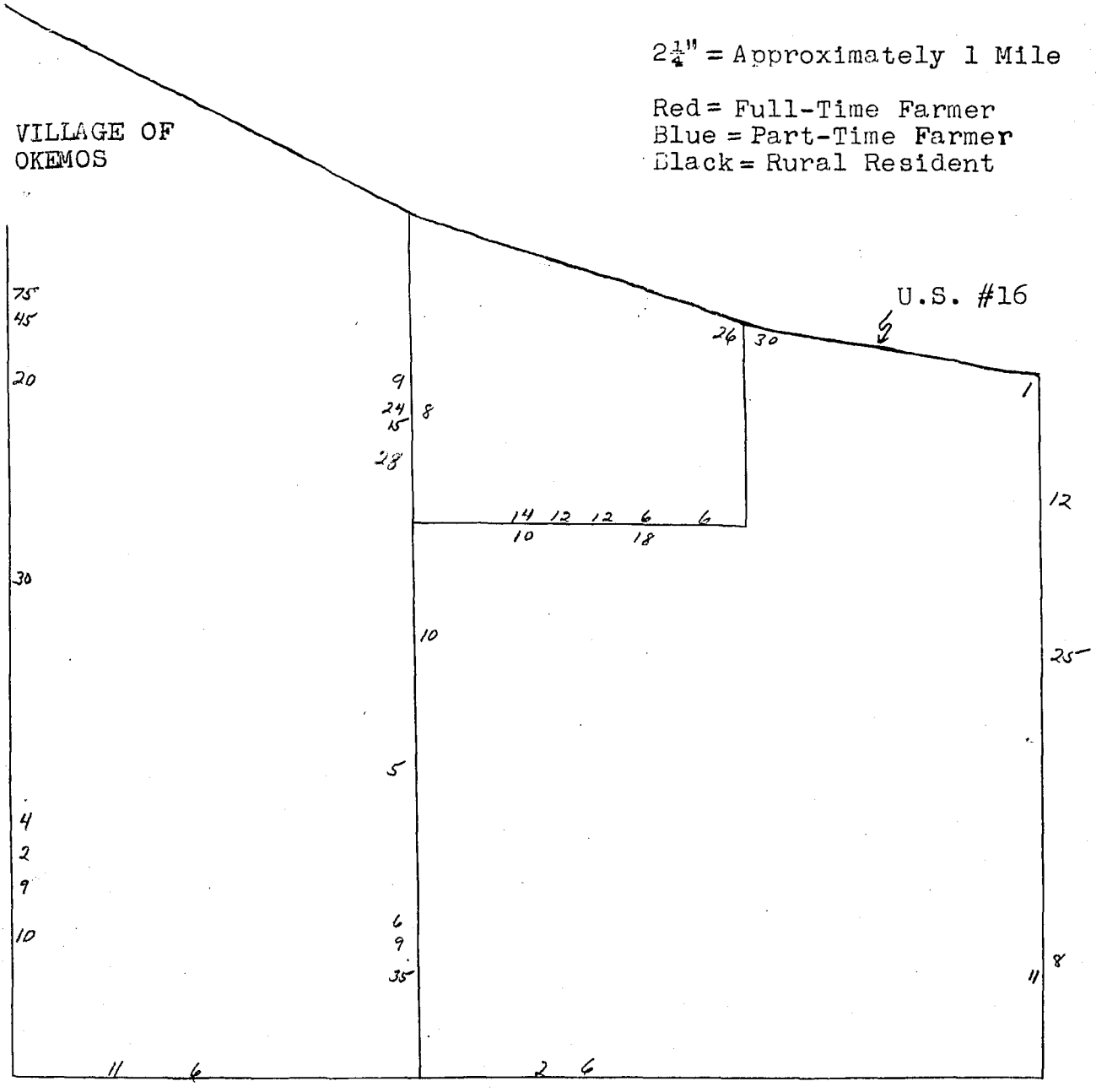

Figure 7

Value of Farms and Residents for Residential Purposes as Estimated by Their Occupants in Okemos Area, Michigan, 1952. (In Thousands of Dollars)

farmers generally gave a higher value than the other types of residents. In most cases, the size of the farm influenced the estimate. It appears that the suburban movement has not affected the residential value of land to as great an extent as it has building acreages. However, it has affected the residential value of land more than the farm value.

Property Taxes

Property taxes in both areas increased considerably in recent years. In general, this resulted from increased school taxes to help pay for additions to the consolidated districts. Within a specific township, the rates varied according to the different school districts located in it. Taxes in a consolidated district were higher than those in a rural district. In addition to the questionnaire, information on taxes was obtained in personal interviews with the township supervisors of the three townships included in the study.

Most of the Williamston Township area studied had a property tax rate of 30.00 mills ($30 per thousand). The few residents from this township who were in the Okemos School District paid a 38.60 mill rate. These rates may be compared with the rate of approximately 28.00 mills which was in effect in most of the area studied in Wheatfield Township. A few residents who lived in country school

districts paid about 17.00 mills. In the area studied around Okemos, all lying in Meridian Township, the tax rate was 50.00 mills. About eight mills of this figure from each township was the county tax, and the remaining was school tax. No township taxes were found in either area.[2] A few localized drainage taxes were found, but they have not been included in the rates given.

The equalization rates of the three townships, obtained from the office of the Auditor General of the State of Michigan show that the differences between the property tax rate paid in the Townships were not as great as indicated above. In Meridian Township, the equalized rate was 31 percent higher than the assessed value of that Township. In Williamston Township, the equalized rate was 25 percent higher, and in Wheatfield Township, it was 12 percent higher. This suggests

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[2]Township taxes had not been necessary for approximately eight years in all three townships. This was possible because of the state funds received by the townships through the sales tax diversion amendment adopted in 1946 (Art. X, sec. 23). The amendment contains a mandatory shared-tax provision that a "one-cent state sales tax levy" shall be distributed quarterly one-half to school districts and the other half to cities, villages, and townships. The share for cities, villages, and townships must be distributed on a per capita basis, using the last federal census of population. These funds are to be used for operating expenses. In addition, two-thirds of the proceeds of the state intangible tax are returned to the cities, villages, and townships on a population basis. This tax was imposed in 1939 (Act 301) after intangible personal property had been exempted from the general property tax.

that part of the variance shown in the millage rates between townships is caused by the difference in the ratio of the assessed value to the market value that the township supervisor uses. The purpose of equalization is to adjust for these differences between townships.

The high millage rate in the area studied in Meridian Township will create a problem for this area when further property tax increases are necessary. The maximum rate allowed under law in Michigan is 50.00 mills.[3] Therefore, any additional taxes in the Okemos area will require an increase in the assessed valuation of property.

In past years, property taxes usually have been increased by raising the millage rates. The Wheatfield Township valuation was increased slightly in recent years. However, raising the millage rate remained the principal way of increasing taxes to obtain additional revenue. All three supervisors indicated that where improvements had been made on a piece of property, the valuation was increased in proportion to the improvements made.

Full-time farmers usually paid a higher amount of property taxes, but this was partly a result of the larger

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[3]This should not be confused with the Fifteen-Mill Amendment adopted in 1932 (Art. X, sec. 21). It provides a 15 mill limit on the total taxes on property in any one year. However, extra taxes up to 50 mills can be levied if legally voted by the people of a taxing unit.

total valuation of the land and buildings owned by this group. Rural residents paid the lowest amount of total taxes. The average full-time farmer in the Williamston area paid between $80 and $90 property tax, the average part-time farmer about $75, and the average rural resident about $45. From the data collected, the Okemos area farmers and rural residents were paying approximately 25 dollars more apiece than were those in the Williamston area. As suggested above, this increased amount was largely caused by the higher tax rate in Okemos which, in turn, was caused by the greater amount of school additions completed and also in the process of construction in this area.

In addition to having a larger total valuation, there was evidence that the full-time and part-time farmers' property was assessed at a higher proportion of its market value than was that of the rural residents. Using tax and market values supplied by the residents and millage rates furnished by the supervisors, the ratio of assessed values to market values in the Williamston area was 30.7 percent for full-time farmers, 25.0 percent for part-time farmers, and 17.0 percent for rural residents. There was a slight difference between the figures in Williamston and Wheatfield Townships, occurring mainly between those for part-time farmers and rural residents. However, the situation was approximately the same in both townships.

A similar relationship was found in the Okemos area. The ratio of assessed values to market values was 28.5 percent for full-time farmers, 32.2 percent for part-time farmers, and 16.9 percent for rural residents. Only the part-time farmer figure is very different from the one given for the Williamston area, but no good explanation can be offered for this difference.

From these figures, it appears that the rural residents are not paying their fair share of the property taxes if this payment is to be based on the market value of the property. Especially, they are not paying their share if the benefits received from the taxes are considered, for rural residents usually receive more benefit from the services offered from the use of their tax dollar than do the farmers. The difference in ratio probably results from the supervisors' farm bias. They are probably more familiar with farm land values than they are with residential house values. This results in an undervaluing of most rural resident homes, especially the more expensive ones. In fairness to all the residents of a fringe area, this inequity should be removed and all property should be assessed at the same ratio of market value.

It appeared that those individuals with the higher valued property paid less tax proportionately than did

those with lower valuations. This situation was observed for both farms and residential homes. Again, this may be a result of the higher valued property being undervalued when assessed. The assessor is usually more familiar with a medium priced property and will tend to have a bias toward this medium value. It should be added, though, that the property values included in this study are those of the residents and not that of an assessor. For this reason, these last comparisons should be taken only as observations and not as facts.

This chapter briefly described the types of houses which were found in the areas studied and presented some of the house and land values and also the value changes that were taking place. More small houses than formerly are now being built. They are usually well constructed, very often above $15,000 in value. The suburban movement did not seem to have much effect on the value of land for agricultural purposes, but it appeared to have raised values in general. The value of land for building acreages appeared to be higher where it was closer to the actual suburban movement. This was also true for the value of land for residential purposes. The millage rate on school taxes, in particular, had been increased considerably over the past few years. Property valuation remained the same in two of the townships and had increased only slightly in the third.

Chapter V

COMMUNITY PROBLEMS

Although this study deals primarily with agricultural economic problems, there are additional issues closely related to other disciplines created by the suburban movement. These issues were often raised by the residents interviewed before the section of the schedule was reached which referred directly to them. Such community problems as roads, transportation, zoning, and schools seemed of most concern. Following a discussion of various reactions to these problems, a description of the methods being used to solve the problems will be presented.

Reaction of Residents

Certain phases of the following community problems logically fit into the chapters on land use and property development. However, a discussion of the reactions of the residents to them has been reserved for this section.

Roads

The reaction of the rural residents toward the roads on which they lived and drove to town was usually favorable. The majority considered them in good condition and considered

they were maintained satisfactorily during the year. Only 13 percent rated the roads as poor in contrast to what they thought they should be.

Of those residents living on U. S. Highway 16, over three-quarters were satisfied with its condition and maintenance. This would be expected, for if they had a strong aversion to living on the highway, they would not have selected their present location. Since the highway was only three-laned where it went through the areas studied, a few mentioned that a fourth lane would be very desirable.

Those living on "black-top" roads were almost as satisfied as those next to the highway. A few more referred to the roads as unsatisfactory, but these were generally located in an area where repairs were needed. Nearly 40 percent of the residents having homes on gravel roads considered them poor. Dust in the summer, poor snow removal service in the winter, and impassable conditions in the spring were given as reasons for this reaction.

Although the survey was taken during the summer months, many of those interviewed were quick to mention the good snow removal service they received during the winter. Only a few of the gravel roads appeared to be slow in getting this service. One resident living on a "black-top" estimated that following a heavy snow, the road on which he lived was open within six hours after U.S. Highway 16.

Bus Service

A suburban bus line operated between Lansing and Okemos, and Greyhound buses maintained schedule runs traveling along U. S. Highway 16. In addition, a few residents in the Okemos area lived on the route traveled by the Shortway Bus Company. With this in mind, the reaction of the rural residents to the bus service available to them was requested. Over half of the residents in each area said that the service was adequate. Only 22 percent of the Williamston residents, but 41 percent from Okemos, felt that more service was necessary. It may have been that the closeness of the Lansing Suburban Lines was a factor causing more of the Okemos residents to answer in this manner. Since the bus line served a corner of the area, they may have been more dependent on the bus for transportation. Thus, they preferred to have it still more convenient.

When the answers of the Williamston residents were classified by the distance they lived from bus services, it was noticed that 42 percent of those who lived on the highway said that better service was needed. Only 17 percent of those living further away shared this opinion. Since those on the highway had easy access to Greyhound buses, they may have found themselves more dependent on a bus than those who were not so close. The majority used the bus only

occasionally, but had more opportunity to observe the advantages of a regularly scheduled suburban line from Lansing to Williamston. A breakdown of the Okemos area residents did not show this same relationship.

The replies received also were sorted by the occupation of the chief breadwinner of the household and by those families who did and did not have children at home. There was no relationship shown in either case. In addition, the residents were frequently asked if they thought it would pay a suburban line to operate in the areas studied. Their answers were about split between those who said it would pay and those who said it would not. Many, however, did not appear to grasp the costs involved in running a suburban line.

Zoning

Only one of the three townships, Meridian, had a zoning ordinance and building code in effect. The other two had not taken action along this line, and there was little evidence of much concern for starting such a movement. Only full-time and part-time farmers were specifically asked for their reaction to zoning and the need for it in their township, since they generally had an opportunity to observe more of the development of the fringe movement than had the rural residents. Only 28 percent of the Williamston

farmers, but 60 percent from Okemos, said there was a need for zoning. The fact that Meridian Township already had a zoning ordinance probably prompted many of the farmers in this township to answer as they did. However, the closer position of this township to Lansing and the greater evidence of a suburban movement on all sides probably were factors, also. The township as a whole has been confronted with a large increase in population in the last two decades as well as with the many problems accompanying this growth.

The age of the farmers apparently did not effect their replies to the question regarding zoning. The location of the farmers in Okemos also was not a factor determining their opinion toward zoning. On the other hand, 64 percent of those Williamston farmers living on U. S. Highway 16 as against 23 percent living off of the highway stated that an ordinance was needed. Much of the land along the highway showed evidences of the suburban movement. This would suggest that the farmers who are confronted with the movement at close range begin to feel that it is a situation which needs close scrutiny and even group action to see that it does not get out of hand.

Many farmers felt that zoning was taking too many rights away from the individual, and that they by themselves were capable of coping with any problems the suburban movement

might create. Deed restrictions on a property when sold was the method of control usually suggested. One farmer mentioned the lack of flexibility that many times accompanies a zoning ordinance. Several others saw the need for building codes but were not able to see the advantage of land restrictions. Many were aware, on the other hand, of the lowering effect on values of faulty platting and poor quality housing.

Services

The majority of the rural residents found no fault with the public services they received. Inadequate telephone facilities were most often mentioned when discussing services, but only 15 percent had a criticism to make regarding them. Approximately six percent of the residents without natural gas remarked that it would be desirable for heating and cooking purposes. One resident suggested that if he had wanted all kinds of services, he would not have moved into this type of area. In general, the residents have moved to these areas for other reasons than services, and the lack of some conveniences and some types of protection detracts only slightly from their satisfaction.

All farmers were asked whether or not they thought the rural residents who had moved into their area were demanding more public services. The replies from farmers in the

Okemos area showed that half of them felt that this was true, but only slightly over one-quarter of those from Williamston answered in this way. Since the rural residents in the Okemos area had been established longer on the average than those from Williamston, there may have been more reason for the farmers in the former area to become aware of their wants. On the other hand, it may be explained by the closer location of the Okemos residents to urban services. If they see these services being offered to residents only a mile or so distance from them, they may be more anxious to see them offered in their area also. One farmer from Okemos observed that there were many more services offered than had been the case five years earlier. Several others mentioned that there appeared to be all the services that one would ever need; however, a background of rural living which included fewer services was usually behind this feeling.

Community Life

The farmers had varied reactions toward the effect the suburban movement was having on community life. The majority of part-time farmers felt that it either had no effect or that it improved community life, but full-time farmers considered it in a more unfavorable light. This may be explained by the fact that the full-time farmers usually had their activities tied close to the community in which

they lived. Because of this, many objected to the influx of residents who had their interests away from it. They felt this disrupted the spirit that used to be found in the local community. Since part-time farmers generally had their other employment away from their home community and thus had activities and associations connected with this employment, they would be expected to have a slightly different outlook on the effect of the suburban movement upon local community life. Another factor is that some of the residents had moved into the area from urban localities. When the farmers' reactions were broken down by age groupings, it was observed that the older farmers were generally the ones who felt the movement had an ill effect upon community life. Many of the "old-time" residents mentioned the change toward less co-operative attitudes and a lack of friendliness that appears to have resulted from the suburban movement. They noticed it in the new rural residents and also in the new farmers. Modern farm machinery, automobiles, and television were cited as causes. Some of the part-time farmers told how they had lived in the area four and five years and still had almost all their contacts in Lansing, where they formerly lived.

Schools

One of the conflicts that arose early in the two areas, and one upon which certain elements of the population still

were not in full agreement, was the school problem created by the suburban movement. When the area was inhabited by full-time farmers almost exclusively, the country school houses were large enough to handle all students. However, the advent of many new residents resulted in the school facilities becoming inadequate. Consolidation has been the method of combating this situation, but some "old-time" residents have not been convinced that this is the best solution. On the other hand, the rural residents related how much happier they were since the country school districts had been consolidated with the town school systems. Two-thirds of those who expressed an opinion, considered the schools in the areas to be good. Very few felt that they were giving poor instruction.

The few residents who sent their children to a rural school were satisfied with the training given the students in general. Two of them, however, were opposed to country schools and wanted their district consolidated. In general, the residents felt that there was not much difference between the instruction received by the students in the consolidated systems of Williamston and Okemos and that received in the city of Lansing. Some have had an opportunity to actually compare the two. This section of the questionnaire prompted one Williamston resident to remark, "Schools are to the point

now where there is not much to attract anyone to stay in the city." From comments heard, the type of school was a point of concern with some of the residents when they were making the decision whether or not to move into the fringe area.

The enlargement of schools greatly increased taxes where consolidation had taken place. This was a sore point with some of the residents. The Okemos school illustrates this. At the time of the survey, construction was being completed on three new rooms for the school house, but the indicated enrollment figures for the next year showed that these rooms still would fall short of supplying the needed space. When construction started, the school board thought these rooms would provide sufficient space for several years. This will be a problem for many years if the new house construction in the surrounding area of Okemos is any guide. Williamston is also going through the same process.

All residents were well satisfied with the school bus facilities offered by the consolidated districts. A Williamston man felt that they helped in the juvenile delinquency problem that might be found. In his words, "Children are now picked up by the bus, which is a lot better than walking to school in town. To get home, they have to come on the bus; so, they are off the streets where they could get into trouble."

Health

There was little complaint about health conditions in the fringe, and generally the comments were very favorable. All but one rural resident considered the conditions either average or good in comparison to city living. The largest percentage of answers fell in the good range. Fresh air, plenty of sunshine, and large open spaces were suggested as the main reason for this attitude. One resident used his children as an example of the health conditions found in the fringe area. In the year his family had lived in this area, he felt that his children had become a lot healthier. They had better appetites and all had gained weight. They only had to see a doctor once in that year's time. Another resident, who was inclined to be nervous, mentioned that it was much better for the nerves to be in a rural area. However, this person went on to say that it was not much different than it would be in a small city. Several said that it was not too hard to get a doctor to come in case of sickness.

Flies and septic tanks were the things which received the most adverse comment. Some mentioned faulty septic tanks which became very unpleasant on warm days. Two hay fever sufferers pointed out the increased irritation they suffered from the weeds found in fringe and rural areas.

Isolation

Living in a fringe area leaves many families, especially the wives, stranded at times when they would like to be visiting or attending some function. Bus service, where it is available, eases this situation and having two cars would solve it for most families. The rural residents were asked to comment on their reaction to the isolated conditions found in a fringe area and the possible need for two cars. The isolation element was recognized but received little comment.

Concerning the need for two cars, a few more residents felt that they were unnecessary than felt they were necessary. Various reasons and suggestions were offered for both reactions. When both the husband and wife worked, and especially when they worked in different directions from home, a second car was usually considered necessary. Children having high school activities were another reason given for having two cars. Several men were traveling salesmen and they thought an additional car was a must for their wives. The social ambitions of the wife was a factor which was not expressed directly in many cases but one which seemed to be implied by several residents. To illustrate, an Okemos man said, "I absolutely need two cars. My wife wouldn't be happy without two." There were residents, on the other hand,

who considered one car ample, though they naturally thought that two would be nice. Many one-car families solved the problem of providing a car for the wife during the day by having her drive her husband to work and then pick him up at night. Others made arrangements for the husband to go to work with a neighbor. Proper planning in advance was suggested as sufficient in most situations where a second car might seem necessary.

A sorting of the feeling toward the necessity of two cars according to the occupation of the residents showed that over 75 percent of the professional and proprietor and manager classes considered a second car necessary while less than half of those in the other classes were of this opinion. These two classes tended to have higher incomes and their wives generally participated in more activities which took them away from the home.

Taxes

As was mentioned in the section on schools, there have been increased taxes in both areas resulting from additional school construction required by consolidation and increased enrollment. The farmers and residents of the Williamston and Okemos areas were almost unanimous in their replies that the suburban movement had caused the taxes to rise. However, they were not always certain why they had risen.

From special interviews with the township supervisors, it was learned that nearly all the tax increases in recent years have resulted from school needs, for there had been no township tax. Although the supervisors did not indicate otherwise, some residents felt that those who owned small acreages were having to pay more than their share of the taxes. It appeared that they failed to realize that the valuation per acre of a five acre lot with a house is almost always much greater than that of a 200 acre farm. Also, assuming equal per capita benefits, those who owned small acreages were probably not paying enough taxes if a benefits received basis is used. They are paying a smaller total amount of taxes, but are receiving equal benefits as the larger land owner.

Some residents from Okemos felt that land taken from the tax rolls by the State of Michigan for Michigan State College also had an effect on increasing taxes. It naturally would because the tax paying acreage would be reduced, while the cost of operating the schools and township would remain approximately the same. Other residents felt that too many luxuries and frills were being built into the schools. A bathtub for the teachers was an example given. They thought just as good instruction could be given at a smaller cost in buildings.

A breakdown of the reaction according to the location of the residents showed that those who were farthest away from the highway and local communities were the ones who were least conscious of the suburban movement having an effect on taxes. These residents were usually ones who did not live in a consolidated school district and, thus, did not have the increased school tax to pay.

Values

The citizens of the two areas believed that the suburban movement had affected land values in much the same way as it had taxes. A large majority felt that land values had gone up as a direct result of the movement. Many pointed out that inflationary forces of recent years were also a factor. Of those who believed that there had been no effect on land values, most were living over a mile either from the highway or from the city of Williamston or village of Okemos.

Many of those who expressed an opinion, realized that the increased demand for land by people wanting small acreages was a major factor behind the increased values. Where the rural resident looked upon this as costing him more to buy a suburban acreage, the farm owner saw where it meant a greater value for his place when he wants to sell it. Some further effects on values that were indicated included several statements that large acreages were easier to buy

than the smaller ones because of the greater demand for the smaller acreages. Also one Okemos farmer stated that hilly land was selling for as much as good bottom land. He was trying to buy farm land, but land for residential purposes was competing with both good and fair farm land and forcing their prices up.

It was remarked by several residents that the type of house being constructed in a locality affected the value of surrounding houses. From the data gathered in this survey, this could not be proved, but it was felt to be true. An Okemos rural resident contrasted the effect of good and poor housing on the values of surrounding homes in the following statement:

> A couple good houses up the road have raised the value of our home a lot. Maybe it will be an incentive to our garage house neighbors. Garage type houses and shacks have a lowering effect on house and land values. One family moved because of the nearness to a garage house. Rats were everywhere and garbage was left standing uncovered.

In general, it can be stated that according to those interviewed the suburban movement has had a significant effect on the values of land which is ripening into residential use.

Action Taken

The residents and townships have handled the problems created by the suburban movement in several ways. Collective

measures have been used in some instances and individual action in others. A short description of the forms of action taken will be discussed in the following paragraphs.

Collective action has been taken in the form of zoning ordinances, building codes, and petitions. Meridian was the only township of the three included in the study which had adopted a building code and zoning ordinance. These were both adopted in 1948 and are very complete, but many residents of the township have complained that they are not enforced to the extent that they should be. One case in particular was pointed out several times. The zoning ordinance specifically states that no trailer coaches may be installed for dwelling purposes except on a licensed trailer coach park which is operated in conformity with the laws of the State of Michigan. However, many mentioned a trailer coach which was moved onto an acreage for dwelling purposes since the ordinance had been adopted and that no effective action had been taken to force it to be removed. Another example pointed to was a house with substandard foundations built since 1948. It could be observed that the house was sagging badly.

The Meridian Township Supervisor was in favor of a zoning ordinance, and he felt that it should have been adopted many years before it was. He mentioned that it had been passed with only a slight majority and that only a small number of

those eligible had voted. This would imply that the residents of Meridian Township were not too interested in the zoning issue. The township's control over platted acreages was maintained by requiring such acreages to be approved by the township board before any houses could be built. Also, the board required that a house must be built on a plot of ground at least half an acre in size.

When this zoning ordinance was adopted, the Okemos area had already experienced an influx of residents during the 1930's, and was in the process of being settled by still more rural residents. Some of the land was ripening into a residential use, but very little had been used for commercial purposes. However, more commercial property was found in some of the other areas of Meridian Township. Some of the housing built before the adoption of the ordinance was below the standards set forth in it. However, it was evident from observation and from comments picked up during the survey, that the ordinance did not stop this type of development. It was also heard that the township board would very often change the ordinance if a land owner wanted his property to be classed for a different use. The supervisor said that this was true part of the time, but not always. From the above, it would appear that the zoning ordinance and building code were not fully accomplishing the purposes for which they had been adopted.

Neither Williamston nor Wheatfield Townships had a zoning ordinance or building code. There had not been much agitation for them by the voters in these townships, and the supervisors were against them. Some residents observed what they considered to be a lack of effectiveness of the Meridian ordinance and code, and felt that they were just as well off without them. Also, the supervisors were of the opinion that zoning would be voted down if placed on a ballot. However, the Williamston Supervisor mentioned a few instances where interest had been shown in a zoning ordinance. Not all the interest came from individuals living close to where rural residents were building. Some came from farmers who were worried that their neighbors might sell some acreages from their farms and that tar paper shacks would then be built.

Williamston Township handled the problems of the suburban movement mainly through individual action with some guidance from the township board. According to the supervisor, the board insists that enough restrictions be placed on those acreages which are sold so that a good type of housing will be built. They tell those individuals wanting to sell that a few cheap houses will ruin the whole area, and that it is best to keep restrictions in effect. The supervisor felt that their township had controlled a poor type of housing better than most townships with zoning. According to him, "We have more good houses."

Also, any farmer or land owner who sold more than three lots had to record the platted acreages as well as have them approved by the township board. The restrictions placed on the deeds were the main concern of the board.

The Wheatfield Township Board discussed the possibilities of zoning, but such a program had not received much interest from the citizens of the area. The supervisor looked at some ordinances from other townships, but he considered them all too complicated for the needs of his township. He is following a "wait and see" attitude. If the type of housing becomes poorer in quality than he and the board feel is in the best interest of the township, then they will act. Up to this time the residents of Wheatfield Township have had a free reign to build or sell as they pleased. What they did would determine how serious the problem of poor housing and some of its accompanying problems would be.

The Wheatfield Township Supervisor expressed his position on zoning and the suburban problems in the following statement:

> I am lucky since I am the second township from the movement. I can watch the other fellows' problems and be ready for them. I will know what to look for.

The two townships of Williamston and Wheatfield have tackled the fire prevention problem by joining in a cooperative agreement on fire fighting. Originally the number of calls to each township was about equal. In recent years, Williamston

Township has had by far the largest number of calls. Also, the township of Williamston has recently been receiving more fire calls than the city of Williamston. This points out the increase in rural residents that has taken place in the Williamston area, especially in Williamston Township and near to U. S. Highway 16.

Petitions are another method used to combat problems created by the suburban movement. They have been used mainly in connection with efforts to get some work done on a county road. A recent effort by petition to expand the city limits of Williamston about one mile westward was not successful. One explanation for its failure was that the people in the area concerned did not want to pay the increased taxes which would accompany annexation into the town.

An Okemos rural resident had a solution to many of the worries caused by a movement into the rural-urban fringe area. He felt that considerable thought should be given to the subdivision of land, and that it should usually be laid out by both a rural and urban planner. His suggestion was prompted by the ill effects to farm land brought about by farmers cutting off part of their farm and allowing haphazard subdivisions to develop.

As for collective action in solving suburban problems, the responsibility, in the final analysis, rests on the

individual. Through his vote and the votes of others, the township board is elected. It is up to the voter to let his wishes be known through this board. New reforms can be developed or defeated according to the desires of the citizens. Problems created by a movement are usually the responsibility of all those who take part in it, and they are the ones to finally decide upon the type of action to be taken to solve them. The part played by a thesis such as this is to suggest possible alternatives. Some of these will be discussed in the final chapter.

Chapter VI

EVALUATION

In the preceding chapters, many of the land use and community problems created by a suburban movement have been discussed. A solution to some of these problems has already been worked out by individuals concerned with them. The solution to others has been only partially achieved in some cases and not at all in others. The objective of this chapter is to review many of these problems and to discuss possible courses of action which may be taken either to relieve or to solve them. Areas for further research in connection with related problems will also be discussed.

Review of Problems Created

Before going into the suggested methods for combating the problems which have been discussed in this thesis, it may be well to briefly summarize the more important ones.

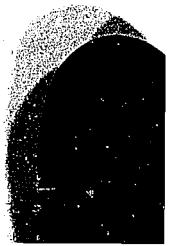
Two types of residents are found to accompany a suburban movement into a rural-urban fringe area. One, the part-time farmer, often is a full-time farmer who has taken on another job and thus is devoting only part of his efforts to his farm. He may also be an individual who, in addition to his

city employment, has purchased land to farm in the fringe area. The second type of resident is the rural resident. He has moved into the country with the idea of making a home there. A garden is the extent of his agricultural activities.

Land Use

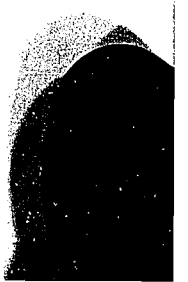
The full-time farmers in the area studied were carrying on very similar farming activities to those carried on by the Ingham County farmers. Thus, it was assumed that the suburban movement only slightly changed their activities. Therefore, most of the changes and resulting problems connected with land use in the fringe area were related to the two new types of residents found there.

A large amount of land went into the hands of the rural residents and part-time farmers. Rural residents leased out some of their land, but much of it went out of agricultural production. Part-time farmers also were leasing out large amounts of land, much more than was found in the case of full-time farmers. The leasing experience of many of these people indicated that large fields were much more in demand than small fields. Farmers interested in renting land were willing to work only those fields which would be large enough to be profitable.



Future plans of the farmers suggested that several intended to sell or subdivide their farms, especially those around Okemos. This points to a continuation of the suburban movement and to an increase of part-time farmers and rural residents. Assuming a continuation of prosperity in the state and nation and that no prohibitive action is taken, most of the Okemos area will probably be inhabited by these two types of residents within the next twenty years. This means that little land will be operated by full-time farmers. Because of the fewer farmers in the area and the fewer large acreages to be worked, many residents will find their market for leasing out land diminished. The Williamston area will probably undergo the same development, but it will be heaviest in those regions within the first mile of U. S. Highway 16.

In addition to the change in the type of resident found on the land, the suburban movement has also brought about a change in the type of farming that is done. A larger percentage of the land operated by part-time farmers was devoted to row crops and small grains than was true for that operated by full-time farmers. Also, the land leased out by rural residents usually went into these crops. The part-time farmers, especially those with the smaller acreages, generally raised only one crop per year. Often it was the same crop that had been grown for the preceding



several years, which means that there was little attempt to carry on a regular crop rotation program. In addition, much less livestock was found on the part-time farms than on full-time farms.

The farmers of the areas also indicated in their future plans an increase in the amount of cropland, and, thus, a reduction in pasture land. This appears to be another trend resulting from the suburban movement. It is very probable that within 20 years there will be little livestock raised in this fringe area. A further indication of this is suggested by the fact that Williamston farmers more often than Okemos farmers named livestock as their most profitable enterprise. Also, more idle barns were found in the Okemos area. This suggests that farmers in the Okemos area are less oriented toward livestock, possibly as a result of the suburban movement

If present trends are significant, beef will be replacing other types of livestock in the next several years, especially on those farms operated by the part-time farmers. The smaller amount of daily work required by beef in comparison to most other types of livestock will be a primary factor if this trend continues. However, in past years it has been caused partly by the high price of beef that has prevailed.

Two other situations may occur as the suburban movement advances and affects the use of the land. Though there was

no indication of the farmers interviewed doing so, it appeared that some of the land that had been subdivided in earlier years had been "mined" during its last years of production. It is evident that as less livestock is raised, less barnyard manure will be put on the land. It is also suspected that no commercial fertilizer will be added to the soil for the last years preceding subdivision, especially if the farmer intends to subdivide. If this happens, the land purchased by a rural resident often will be in a run-down condition. However, for the farmer, it is good economics to complete his farming of the land without leaving large amounts of readily available nutrients unused. This is particularly good economics if in the building of the rural residences, large quantities of subsoil are deposited over the top soil.

The second situation concerns farms that are being subdivided. On these, much of the land will go idle for many years before it is purchased or before house construction begins. This situation was observed to some extent, but it had not become serious. One indication of it was seen in the greater amount of idle land in the Okemos area. Part of this was a result of the poorer land in this area, but much of it was caused by the larger proportion of part-time farmers and rural residents in this

area as compared to the Williamston area. These two types of residents also owned a larger proportion of the total area in the Okemos region than was the case around Williamston

As the suburban movement takes over more land, the above two problems probably will become more evident. Both situations are wasteful. Worn out land causes much expense and effort for the rural resident if he wishes to improve it so he can have a good yard and garden. Although, as mentioned earlier, if excavation dirt is spread over the top soil, it may be more economical, from society's standpoint, for the farmers to "mine" the soil. Idle land is wasteful because it is not producing either living space or crops. Idle land is also undesirable because it is often a seed bed for weeds.

It is believed that the high price of corn and wheat has had much to do with the large amounts of these two crops grown in recent years by the part-time farmers in particular. Should a sharp drop in the prices occur, relative to other commodities, it is felt that a sizeable acreage which formerly had been planted in these crops would go idle. High farm prices have aided in keeping some suburban land in production.

Loss of agricultural land through idleness and through its going into rural residences has amounted to the equivalent

of 13 farms of 160 acres each in the two areas studied. These areas include only about 55 percent of one township and are toward the outer limits of one segment of the Lansing rural-urban fringe. From this, realizing that there are at least 24 townships in the Lansing fringe, the magnitude of the present situation can be seen. If the sample areas were typical of the fringe, this would mean that the equivalent of approximately 576 farms of this size had gone out of production around Lansing as a result of the suburban movement. Actually, it may be much higher.

The loss of land, however, is going to continue. It has been estimated by some that the population of the Metropolitan Detroit area will increase by 50 percent by 1970. If this increase is projected to the Lansing Metropolitan area, its population will increase by at least 80,000. Much, perhaps most, of this increased population will move into rural areas because very few vacant lots and houses remain within the various city limits. Assuming that three out of every four new families locate in areas that are now rural, and that each family averages four persons, 15,000 families will be moving into these now rural areas. If each new family occupies an average of two acres of ground, 30,000 acres will move into residential use. In addition, many acreages will remain unsold, possibly as

many as are sold. There also will be areas needed for commercial and service purposes. Therefore, with this population increase in mind, it would be safe to assume that nearly 60,000 additional acres of agricultural land will go out of production by 1970 because of the suburban and urban movements. This is the equivalent of 376 more farms of 160 acres each. Actually this estimate is very low when it is considered that the average rural resident in this study owned nearly 18 acres. However, it gives a picture of what the situation may be in another two decades. On a national scale, the above acreage in idle and residential land caused by the suburban movement would probably be increased at least a thousand times.

Property Development

Though a cheaper type of housing was built in the Okemos area during the 1930's as a result of an earlier migration of population, most of the recent homes in the two areas were well constructed. Their styles were usually either bungalow, Cape Cod, English cottage, ranch, or a style modified by the owner's own design. Housing of a higher range of values was found generally to be located either near the highway, the village of Okemos or the city of Williamston. This indicates that many who intended to build more expensive homes wished to be located in this

vicinity. The proximity of other good houses was also a factor.

As the suburban development continues to move into these areas in future years, the type of housing constructed is going to depend a great deal upon the economic situation prevailing in the nation. Recession and depression can bring an end to good housing and there may follow an unwanted type of development with its many accompanying problems. Continued prosperity, on the other hand, will see a type of housing following much the same pattern as has already begun. Good housing is not going to be built in a region where poor housing prevails. Also, since a good housing development tends to increase land values, those wishing to build a cheap house will not be willing to pay the higher price for land in such a region.

In addition to the increased land values which accompany a suburban movement, rental values on houses appeared to be affected also. Okemos houses, in general, were valued for rental purposes at a higher price than were Williamston houses. These values will continue to be affected as the population movement spreads further into the areas.

Building acreage values were much higher than values given for farming purposes and were closely associated with their location in relation to the highway, city, or village.

Full-time farmers, in most cases, gave a much lower estimate for the building lot values than did the other types of residents, but unfamiliarity with values may partly explain this. It was observed that the first acres sold from a farm usually sold relatively cheap, but that later acreages brough a higher price. A better understanding of the market for land by the seller and the further development of the area are principal causes for this.

When a farm is split into acreages, the front part is most often the first to be sold, while the back acreages may remain unsold for some time. This adds to the idle land found in the suburban area and is one of the serious land use problems created. Unless methods are found and used to relieve this, it will be more serious in these areas as more farms are divided and partially sold.

Community Problems

Large numbers of new residents cause many new problems to rise in a suburban area which previously had been rural. One of the first to appear is connected with septic tanks and drainage in the new residential sites. Faulty functioning of either results in discomfort for the individual and many times for his neighbors. If such facilities are not properly maintained in populated regions, a serious health problem may be created.

In these townships, as well as others, where soil drainage is a problem, it is recommended that minimum lot sizes be established. These would be gaged to the soil permeability in order that each lot could accommodate a septic tank system. If smaller than minimum sized lots are platted, the result will be an unhealthy area in which to live.

As an area becomes well developed, township water, sewage, and drainage systems are demanded more and more by its residents. This creates an increased tax burden, usually much higher than is found for the cost of the same services in the city. In addition, the cost of the water and septic tank systems already installed cannot be regained. There will not be a great demand for these services for many years in most of the Okemos and Williamston areas, but it will probably begin to be heard as the more populated regions become still more settled.

Transportation creates another series of problems. Road service was generally considered satisfactory in the areas studied, but at times, the residents were prevented from reaching their jobs following a heavy winter snow. Spring thaws caused inconveniences, especially for those living on gravel roads which became impassable at this season of the year. Through bus service was available to

those living on the highway, and a suburban line travelled between Lansing and Okemos. Although this was enough to satisfy many, there were others who felt there was definitely a place for a suburban line which made regular runs through the more populated regions. Many wives felt isolated if there were not a second car in the family for them to use. However, more of these women were from the professional and manager and proprietor classes than were from the other occupational classes. A greater population in these areas will eventually lead to "black-topped", or hard surfaced roads, and there will undoubtedly be a suburban bus line running between Lansing and Williamston that will travel several of the more populated roads. Even though many services are already offered to the residents, a further extension of them will take place. In future years, natural gas and improved telephone service will be available to a large percentage of the residents living in these areas.

More families mean more school children. Consolidated school systems were found in both Okemos and Williamston, and each underwent considerable expansion, resulting in higher taxes for the land owners in the school districts concerned. The increases were obtained through raising the millage rates except in Wheatfield Township. Here, the valuation of the property had been raised slightly also.

A further increase of population will mean still larger schools and thus more taxes, but there will be a larger tax base to help balance this. Further demands, such as better roads and more fire and police protection, will give an added impetus to higher taxes. Moving into the suburban area to avoid taxes does not always prove successful, for higher taxes usually follow in the wake of population movements into new areas.

A further problem caused by many farms being split into suburban acreages is that of maintaining the desired type of housing. This has been done in the Wheatfield and Williamston Townships through the restrictions placed on the deeds when land was sold. In Williamston Township in particular, the township board has kept a close eye on the restrictions placed on the type of housing that can be built. Zoning has been the method used in Meridian Township in recent years, although some residents felt that it had not been too effective. Zoning and restrictions have been the principal methods used in combating many of the suburban problems, but they are ineffective if the citizens of the area in which they exist are not whole-heartedly behind them. Further measures are needed to solve these problems.

Suggested Action

The land use problems created by the suburban movement around Williamston and Okemos cannot be compared accurately with those created around other cities in Michigan and the United States, but many of the conditions will be similar. The movement is common, and large quantities of good agricultural land are going out of production and into building acreages every year.

Any one individual is next to helpless in combating the problems created by the suburban movement, for it is only through cooperation with others that constructive action can be taken. On the other hand, it may be felt by some that no action is the best policy and that the uses of the land should be allowed to follow their own pattern without interference. However, it is considered that a serious effor should be made to find a workable solution in order to mainta as much good agricultural land for farming purposes as possib This requires a better understanding of the problem than most people now have.

Zoning

The usual method of solving suburban problems has involved the use of zoning ordinances. These have generally contained a land classification for agricultural purposes,

but this classification usually allowed residential uses to be included. Since the greatest amount of land going out of farming finds its way into residential uses, it will take more than this type of ordinance to meet the problems in question. However, it is a possibility which can be used, with some modification, along with other devices. A strict zoning ordinance which prohibited the sale or transfer of farm land for residential purposes except to the immediate family could do much in preventing good farm land from going out of agricultural production. However, many farmers who support most zoning ordinances would be against one this strict. Their reason for favoring zoning is usually based on the fact that it has helped to maintain the value of their property. This restriction, on the other hand, would definitely hold back possible increases in land values because a residential use of the land is a higher use than farming and generally has a higher sale value. Those farmers with good agricultural land near or in a fringe area would lose a chance to sell their land at increased prices. Therefore, such an ordinance would be seriously limited.

A recent change in land use in the Williamston area points out the merit of a strict zoning ordinance similar to the one described. Located at the intersection of U. S. Highway 16 and one of the "black-topped" roads and diagonally

across from a new subdivision is the beginning of an automobile repair shop. At the present time, several junked cars are parked on this land, and some residents fear that the repair shop may turn into a junk yard. Although it probably has not yet affected land values, in the future this development may have a deteriorating effect on the values of some of the surrounding land and buildings, especially those located in the neighboring subdivision. The land on which this shop is to be built is good farm land. Therefore, a strict zoning ordinance limiting this land to agriculture would have saved the nearby residents a serious land use problem.

Metropolitan Regional Planning Commission

Legislation and zoning alone do not give the answer to suburban land use problems. However, past legislation by the Michigan legislature provides a basis for a possible working solution. The Regional Planning Commission Act[1] provides for regional planning within the state and gives several functions to any commission formed. It can conduct all types of research studies as well as make plans for the physical, social, and economic development of the region.

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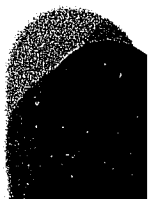
[1]Act 281, Michigan Public Acts of 1945, amended by Act 194, Michigan Public Acts of 1952.

From these, it should prepare its official recommendation for the development of the region. A planning commission can be organized through the action of two or more local legislative bodies. A commission of this type would have more than land use problems to consider if it were to be successful, but its emphasis could be directed primarily toward this phase of the suburban movement. Furthermore, such a commission would have to have public support and financial backing.

A Lansing Metropolitan Planning Commission is proposed as a solution to the suburban problem. It should be instituted by the local governments of at least Lansing, East Lansing, Williamston, Okemos, Haslett, Grand Ledge, and Holt, along with those townships surrounding these communities. These townships would be located in parts of the three counties of Clinton, Ingham, and Eaton. The planning commission would be selected from leading residents who live in this metropolitan area. Advice and help from outside authorities would be encouraged. Its area of influence would extend well beyond the farthest boundary of the present rural-urban fringe so that it would encompass any further movements. Although it would probably not concern the Lansing Metropolitan Planning Commission, it is very possible that some counties would be included in two fringe areas and

thus in two planning commissions if others should be organized. Where this happens, working contacts would be necessary between the two commissions in order that they would not be working at cross purposes.

The first job of the planning commission would be to obtain basic information on the central city of Lansing and the metropolitan area surrounding it. This would include an analysis of the peoples' places of employment, activities, wants, and customs. The direction of intended future expansion should be discovered as should be the physical and economic limitations within which future growth must occur. An inventory of the various land uses in the area should be made with special emphasis on those zones where the land has nearly ripened from one stage to another. Attention should also be placed on the quality of land, especially where it is in agricultural use. A thorough study of such information would provide the commission with the necessary insight with which to make plans for future development. However, these plans should go beyond just indicating those locations which should be devoted to the various land uses. The commission should be able to give direction to future population movements and land use changes. Its plan should include a blueprint of future public services and transportation needs as well.



The toughest problem of putting such a plan into action will be to keep good farm land in agricultural production. This involves dealing with both the residents planning to move into a rural area and the farmers who own the land. Inducements may be necessary to get the residents to choose something other than the best farm land for their home sites and to get the farmers to restrain from selling their good land. To get the residents to choose a less productive area will mean suggesting and providing an area which will be just as satisfactory, or more so, than an area of good farm land. In the fringe area around Lansing, there are regions of good soil which have gone into suburban acreages whereas there are some of poor soil which are yet unbroken. Some are not even farmed. What makes the difference? One of the differences lies in the fact that an excellent road is often found in areas having good soil. By providing a good network of roads leading into the less productive regions, this hindrance to attracting people into an area would be removed. This is where financial support and public backing become necessary. The plan for the roads can be drawn, but finances are needed to construct them.

One possibility would be to have the planning commission apportion the road construction and area development costs among the local governmental units, and then let these units

float the bonds necessary to finance their share of the expenses. Another possibility would be for the state to underwrite the cost of the development and then to assess taxes equitably to repay the cost. This would require special legislation which, in turn, would need the support of the voters of the state. Federal aid would be a third possibility. In order to obtain either state or federal aid, plans would have to be approved by a committee of experts who understand the many problems of area planning. To secure coordination between areas, support from either the state or federal level probably would be necessary.

Another drawback to the use of poor farm land for rural acreages is its tendency, in some areas, to be swampy. Drainage and some filling may be all that is necessary, along with good roads, to make this land as attractive as other land for rural residents. The cost of doing this could be covered in the same way as described for roads.

In addition to building roads and draining swampy land, the commission could provide further inducements to a prospective resident. It could have the area divided into suburban acreages in a systematic, but appealing way. This could be done by advising and working with the land owners who intend to sell. Entrepreneurs could be attracted to start business ventures in the new area. Proposed sewage

and water works could be planned, and, where practical, certain sections might be provided with them. Natural gas might also be made available in those areas proposed for first settlement. These things cost money, but the suggested methods of financing might prove adequate. Some of these inducements might be worked out cooperatively, with the government paying for part and private concerns for the rest.

Inducements to the farmers would take a different form. Such inducements would require that taxes on the farmers' land would not be increased above their present rate, except to adjust them to rising costs of services or to additional services rendered. This means that though a suburban development should be very near, the farmers would not have to pay for services except in proportion to those they receive. This arrangement could be made in the form of an agreement whereby as long as the land remained in agricultural use, the taxes would be kept low. However, as soon as any of the farm land was sold for residential purposes, all the land on that farm would be taxed as though it were in residential use. In essence, this would mean raising the assessed valuation of the farm. The planning commission should also have the authority to see that the price received for land in a region being broken into building acreages is not out of line with that received for good farm land in another

area. This may require that the commission be given the authority to buy the land first and then sell it to rural residents. Any profits made on the land would go to defray the cost of developing the new region.

When a planning commission plans an area, it should make sure that any suburban development that is well underway should be completed. A few isolated farms should not be left with building acreages on all sides, unless the farmer is willing to pay the added taxes. In any case, he should be encouraged to move as quickly as possible so his place could be broken up for residential purposes. Also, when the planning commission begins operation, it should be given adequate time to complete a certain phase of its work. Since the work is instituted by local governments, its support depends on the local voters' support. Therefore, a period of operation of at least eight to ten years should be given the commission before it can be terminated. In this way, even if the local governments decide against continuation, the plan would be at a stage where most of the expensive projects would be nearly finished. However, if the work of the planning commission is disbanded, there should be a stipulation that any incompleted projects should be finished as rapidly as possible.

Zoning measures might also be used in connection with the planning committee's action. These could be made strict by setting up separate areas solely for agricultural use and for residential and business use. If land values were restricted from increasing rapidly in other areas, the objection of the farmers to a strict zoning ordinance, which was discussed in the previous section, would be partly surmounted. Understanding of the problem involved might help overcome some more of the objection.

Another device the planning commission could use to reduce waste of land would be to place a limit on the size of a rural acreage. One to two acres would satisfy most individuals and would reduce the land that normally goes idle in a fringe area. The size of a part-time farm could be unlimited, but it would have to be shown that a certain amount of farming was being done on it. As soon as farming was stopped for more than one year, the land would be considered residential and taxed accordingly. A system of penalties also could be invoked which could require that back taxes representing the difference between farm and residential rates be paid for the total number of years that the place had been owned by the present owner. This could be avoided if the place were subdivided upon the cessation of farming activities.

A point not yet mentioned and one absolutely necessary to a scheme of this sort is the importance of having a planning committee and staff honestly working for the good of the community. This is vital to win the support of the residents who are affected.

It was mentioned earlier that a better understanding of the fringe problems was needed by the residents in the metropolitan area. A well organized method of disseminating literature explaining the problem and its present and future seriousness should be developed. Discussion groups in both the city and rural regions would appear to be most effective. Factual material should be available to teachers so they can understand the problem and instruct properly if the question arises. Future farmers and 4-H groups would furnish a further medium for contacting the people who are directly involved. Education of the population on impending problems is desirable particularly in those areas that are beginning to feel the first impact of suburbanization. They will thus be able to meet intelligently these problems as they arise.

It is realized that this plan has many features of a planned economy, but it appears to be the most effective over-all way to meet the land use problems created by a suburban movement before they take on major proportions.

If the suburban movement were a passing fad, there might not be the need for concern. But it is considered to be permanent and serious thought leading to possible solutions should be undertaken. One solution has been presented. Part or all of it may have some place in the control of these land use problems.

As decades pass, the value judgments of the population may change and the goal of everyone may become the maintenance of as much good agricultural land as possible. This could only come about through a thorough understanding of the serious disaster which a large loss of productive land might cause. It is not proposed that this country is in immediate danger of being short of productive farm land, but it is suggested that notice be taken of a developing major land use problem and that earnest thought be given to it.

There is a situation in a fringe development in which the fringe area planning commission and its proposed functions would not be needed. This situation would occur wherever good agricultural land was considered to be in a higher use when used for farming than when used for residential sites. Farming could then outbid residential use for the good land and would force rural residents on to poorer soils. This situation is unlikely to occur for some time, except in very unusual circumstances. However, for this to happen, good

land would have to be far less plentiful than it is today. This is a situation which it is hoped can be avoided.

The planning commission may have to alter its program in the event of a serious depression. In this case, unless action is taken otherwise, the new housing will not be of the quality that is associated with most houses built in prosperity. Building codes that may be in force should not be relaxed and areas with none should adopt a code that requires good housing. In addition, action should be taken so that credit may be available to qualified individuals. Best of all, preventative measures should be taken in advance.

Others

If major action is not taken, there are a few minor actions which might aid in keeping land in agricultural production. One would be an extension project to encourage a greater use of the land in those areas where much of it is going into rural residences and part-time farms. Increased numbers of livestock and better farming practices could be encouraged through youth groups as well as community groups. A second action would be to limit the size of the acreage a rural resident could own. As suggested in the previous section, this would save a considerable amount of land if the maximum size were two acres. Such a restriction could be incorporated in a zoning ordinance. However, if not, an

effective way to bring this about would be through the township board which, in most townships, has to approve all subdivisions. The board could encourage farmers planning to subdivide their farms to keep the acreages small. An additional limitation could be placed on the size of unsold acreage held by speculators or subdividers in a fringe area. They would have to show that they were consciously developing and trying to sell the land they controlled. This limitation should be gaged to each individual fringe area so that only a minimum amount of land is idle and yet provide enough to satisfy a normal demand for suburban acreages.

Another type of zoning restriction would be to limit the number of unsold lots and acreages which could be found in a fringe township at any one time. This would prevent large amounts of land from remaining idle as is often found in present suburban movements. A back-log of farms to be subdivided would have to be handled on a first-come first-serve basis. Honest management of this restriction and the back-log of farms would be essential to satisfactory operation of this suggestion.

This last restriction is related to the Wakefield plan.[2] This plan, dealing with a theory of colonization, was developed

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[2]Roy M. Robbins, Our Landed Heritage, Princeton University Press, Princeton, New Jersey, 1942, pp. 122-123.

in the 1830's by Edward Gibbon Wakefield, an English theorist. He wished to prevent speculation and bring about a balance between the industrial portions of a county and the frontier. This was to be done by placing a price on the land that was high enough to prevent too much from being taken at one time, and low enough to cause an acceleration of activity at a reasonable rate. The right price would be one that properly adjusted the supply of land to the supply of labor. In a similar way, a limit on the number of unsold lots and acreages in the proposed plan to control suburbanization could be adjusted to keep the supply of land in line with the demand for it.

Suggestions for Further Research

Several problems have been suggested to the author during the course of this project which might prove worthwhile to study in detail. Some of the following may be included in one project, but others are a problem within themselves.

Several studies have been made on zoning, but none have placed emphasis on land use specifically. This suggests an area in which information is lacking and a future study should be made. Between two and five Michigan townships that have adopted zoning ordinances should be selected for

intensive study. Preferably, those chosen should not all be similar. Two might be townships from a fringe area surrounding the same large city. One should be close to the city and the other further out. Other townships could be selected around smaller cities. It would also be advisable to include townships that had adopted zoning in different periods. Comparisons could be made of the problems found and of methods of handling those related to land use. An evaluation of the effectiveness of zoning in each township as well as suggested improvements should be made.

Another study which could be made on the township level would consider the fiscal problems of the townships. The sample might include many more townships than were suggested for the previous study; between 20 and 40 might be adequate. Problems to be considered would include methods of valuation, ratio of assessed valuation to market value, sources of revenue, tax assessments, and the cost of services provided with the tax money. School district fiscal problems could also be studied, with particular emphasis on those created by consolidation. Where discovered, improvements should be indicated.

A further study suggested by this project, but one on which action has already been started by the Michigan Agricultural Experiment Station, relates to the impact of

industrialization on land use. The changing pattern of land use would need to be discovered, part of which could be done by an inventory of the many uses that prevail. Some indication could be gained by a thorough study of two Michigan counties. One should be primarily agricultural and the other should have similar physical and climatic conditions but have a large industrial city within its limits. Genesee County, which contains the city of Flint, and Jackson County with the city of Jackson are two which might be used as examples of industrial counties.

A part of a study might be undertaken to chart the suburban development around a city to see what influence the quality of soil has on it. It is believed by some that poor soil generally attracts a poorer type of housing and that good soil attracts better housing. A comparison of the quality of soil with historical data on the suburban movement would give a clearer picture of this situation. Two or more complete fringe areas should be covered. In connection with this study, records of sales on houses and lots could be obtained to determine the effect good and poor housing has on surrounding areas in the suburban region. Records may not be too plentiful, but a thorough analysis of those available may give an insight into this particular problem.

Although many part-time farming studies were made during the 1930's and early 1940's, more up-to-date information should be obtained about this type of farm. A critical analysis should be made of the farming practices employed and complete information obtained on such topics as the crops grown, rotation followed, livestock raised, and fertilizer used. Information concerning when part-time farmers do their farm work and how much of it is done by outside help should also be obtained. In addition to the land use data, general information on age, occupation, place of work, reason for farming part-time, etc., should be secured. A random sampling of part-time farmers from several fringe areas should be made.

This study has investigated only a small segment of the fringe area around Lansing. Although it is felt that other areas will show many of the same tendencies, at least one or more areas should be studied in order to compare results with this study. The next area to be studied should be around another Michigan city preferably, but much might be gained by selecting an area on the northwest side of Lansing. More detailed information on the use of the land and on farming practices should be obtained, especially in connection with part-time farmers. It is suggested that the investigator familiarize himself with the building values

in the area, and in his analysis compare his estimates with those given by the residents interviewed. A block sample may not be necessary, but if not used, a carefully selected random sample should replace it.

It might prove beneficial in future years to make a thorough study again of the two sample areas selected in this study. This might be done at intervals of five years and ten years. Further knowledge could be gained from such studies on the effects of the suburban movement, especially since a good base has been developed. The permanency of the residents and the changes in land use as well as changes in attitudes toward the suburban movement could be determined in such future studies.

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APPENDIX

art-time and Full-time Farmers

Budget Bureau approval waived

QUESTIONNAIRE ON LAND UTILIZATION IN RURAL-URBAN FRINGE, WILLIAMSTON AREA

MICHIGAN STATE COLLEGE
in cooperation with the
U. S. Department of Agriculture

. General Information:

1. Name_____ 2. Address_____

3. Township_____ 4. Location_____

5. Age_____ 6. Married: Yes_____ No_____

7. Number of children (indicate number at home and their ages):_____

8. Ages:_____ _____ _____ _____ _____ _____ _____ _____ _____

9. What is your major occupation?_____

10. Other major sources of income, if any?_____

11. How permanent do you feel your job is or how long do you plan on farming?

_____

12. If employed off-farm, how many miles to place of work?_____

13. Number of years you have lived at this location_____

14. Farm background of husband_____

15. Farm background of wife_____

16. Comments:_____

_____

_____

_____

I. Land Use Data:

1. Acres owned_____ 2. Acres leased out_____ 3. Acres rented in_____

4. Acres operated_____

Acres of: 5. Cropland_____ 6. Pasture_____ 7. Idle crop and pasture land_____ 8. Woodland_____

Recent use of land (major crops, their yields, and acreage):

9. 1950

Crop	Acres	Total Production	Crop	Acres	Total Production

10. 1951 (Estimate of yields if not already harvested)

Crop	Acres	Total Production	Crop	Acres	Total Production

Livestock on farm (average for year):

11. 1950

Type	Number	Type	Number

12. 1951

Livestock products (for entire year):

13. 1950

Product	Number or Weight	Product	Number or Weight

14. 1951

15. Has your cropping or livestock program changed over the past five years? (Any trend toward new enterprise)_____

_____

_____

_____

16. Buildings:

	None	Idle	In Use	Condition Exc.	Good	Fair	Poor
Barn							
Tool Shed							
Chicken House							
Hog House							
Granary							
Corn Crib							
Garage							

17. Check items of farm machinery owned:

Tractor	_____	Harrow	_____	Hay Baler	_____
Plow	_____	Field Chopper	_____	Disk	_____
Combine	_____	Mower	_____	Rake	_____
				Manure Spreader	_____

18. What are your plans for the future use of the land you own?_____

_____

19. Your choice of the most profitable crops or ventures_____

_____

20. Comments:_____

_____

_____

_____

III. Farm Income Data:

1. Reported net income for 1951: Below $2,000_____, $2,000-3,000_____, $3,000-4,000_____, $4,000-5,000_____, $5,000-6,000_____, Over $6,000_____

2. Proportion of income from farm_____

3. Major dependence upon (check): Crops_____ Livestock_____

4. (Omit if no land is rented) What is your income from rent of land? (Percentage of total net income is acceptable)_____

5. What possibilities have you had or do you have for renting your idle land?

_____

_____

6. Comments:_____

_____

_____

_____

IV. Past History of Holding:

1. Years you have owned this holding_____; 2. Rented this holding_____

3. Is this the original complete farm? Yes_____ No_____

4. If not, when was it subdivided?_____

5. (If interview is with seller) If you have sold a part of your holding, what was the reason for selling it?_____

6. What was the approximate price? Total_____ Per acre_____

7. Was land idle season previous to purchase or renting? Yes_____ No_____

8. If not, and it is now idle, when did it first become idle?_____

9. Comments:_____

_____

_____

_____

V. Residential Use Data:

1. Is farm used primarily for residential use? Yes_____ No_____

2. Sale value for residential use_____ 3. Farm value_____

4. Value for building lots_____ 5. Taxes: Total_____ Per acre_____

Status of house: 6. Size in rooms_____ 7. Age_____ 8. Construction_____

9. Condition_____ 10. Style_____

Modern facilities: 11. Water_____ 12. Electricity_____ 13. Bath_____ 14. Inside toilet_____

15. Sale value of house_____ 16. Rental value of house_____

17. Comments:_____

VI. We want your reaction to some of the more important suburbanization problems. What effect do you feel the suburbanization movement has on the following, or the need for the following?

1. Community life_____

2. Land values_____

3. Taxes on land_____

4. Demand for public services by suburbanites moving into area_____

5. Tenancy and leasing of farms

6. Need for zoning of land or building restrictions

7. Conservation of land by farmers in the area

8. Problem of weed infestation

9. Pressure to sell your farm

10. Use of land by other farmers in area

11. Of those neighbors recently selling, what do you feel was their reason for selling?

12. If you are influenced by similar forces, why haven't you sold?

13. Comments:

VII. To be filled in by enumerator separately:

1. Short description of land_____

2. Use type_____

3. Highest and best use of land_____

4. Productive capacity of land as compared with present use_____

_____

Rural Residents

Budget Bureau approval waived

QUESTIONNAIRE ON LAND UTILIZATION IN RURAL-URBAN FRINGE, WILLIAMSTON AREA

MICHIGAN STATE COLLEGE
in cooperation with the
U. S. Department of Agriculture

I. General Information:

1. Name_____ 2. Address_____

3. Township_____ 4. Location_____

5. Age_____ 6. Married: Yes_____ No_____

7. Number of children (indicate number living at home and their ages):_____

8. Ages:_____ _____ _____ _____ _____ _____ _____ _____ _____

9. What is your major occupation?_____

10. Other major sources of income, if any?_____

11. How permanent do you feel your job is?_____

_____

12. How many miles to place of work?_____

13. Number of years you have lived at this location_____

14. Farm background of husband_____

15. Farm background of wife_____

16. Comments:_____

_____

_____

_____

II. Land Use Data:

1. Acres owned_____ 2. Acres leased out_____ 3. Acres rented in_____

4. Acres operated_____

Acres of: 5. Cropland_____ 6. Pasture_____ 7. Idle crop and pasture land_____ 8. Woodland_____

9. Buildings:

	None	Idle	In Use	Condition Exc.	Good	Fair	Poor
Barn							
Tool Shed							
Chicken House							
Hog House							
Granary							
Corn Crib							
Garage							

10. Check items of farm machinery owned:

Tractor _____ Harrow _____ Hay Baler _____

Plow _____ Field Chopper _____ Disk _____

Combine _____ Mower _____ Rake _____

Manure Spreader _____

11. What are your plans for the future use of this land, if any?_____

_____

12. Comments:_____

_____

_____

_____

III. Farm Income Data:

1. Reported net income for 1950: Below $2,000_____, $2,000-3,000_____, $3,000-4,000_____, $4,000-5,000_____, $5,000-6,000_____, Over $6,000_____

2. (Omit if no land is rented) What is your income from rent of land? (Percentage of total net income is acceptable)_____

3. What possibilities have you had or do you have for renting your idle land?

_____

_____

4. Value of garden enterprise (retail value):_____

5. Comments:_____

_____

_____

_____

IV. Past History of Holding:

1. Years you have owned this holding_____; 2. Rented this holding_____

3. Is this the original complete farm? Yes_____ No_____

4. If not, when was it subdivided?_____

5. (If interview is with seller) If you have sold a part of your holding, what was the reason for selling it?_____

6. What was the approximate price? Total_____ Per acre_____

7. Was land idle season previous to purchase or renting? Yes_____ No_____

8. If not, and it is now idle, when did it first become idle?_____

_____

9. Comments:_____

_____

_____

_____

V. Residential Use Data:

1. Is farm used primarily for residential use? Yes_____ No_____

2. Sale value for residential use_____ 3. Farm value_____

4. Value for building lots_____ 5. Taxes: Total_____ Per acre_____

Status of house: 6. Size in rooms_____ 7. Age_____ 8. Construction_____

9. Condition_____ 10. Style_____

Modern facilities: 11. Water_____ 12. Electricity_____ 13. Bath_____

14. Inside toilet_____

15. Sale value of house_____ 16. Rental value of house_____

17. Comments:_____

VI. We want your reaction as a suburbanite to some situations and problems that arise because of the suburban movement. What is your feeling or reaction to:

1. The roads on which you live and travel in this area_____

2. The isolation and need for two cars when living in the country as you now are

3. Bus facilities that are offered and the need for this service_____

4. The community services offered or need for services not offered_____

5. Schools in this area _____

6. Health conditions in the country_____

7. Time you have available for the gardening you would like to do_____

8. What do you feel the optimum use of the land in this area should be?_____

_____

_____

9. The effect the suburbanization movement has had on the value and resale value of homes (present and future) in the area_____

_____

_____

10. The effect the suburbanization movement has had on tax conditions in the area

_____

_____

11. What were your main reasons for moving out into or remaining in the country?

_____

_____

12. Comments:_____

_____

_____

_____

VII. To be filled in by enumerator separately:

1. Short description of land_____
2. Use type_____
3. Highest and best use of land_____
4. Productive capacity of land as compared with present use_____

_____