A STUDY OF MIGRATION AND COMMUTING IN THE RURAL-URBAN FRINGE OF FLINT, MICHIGAN

Thesis for the Degree of M. A.
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Anthony J. Diekema

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A STUDY OF MIGRATION AND COMMUTING IN THE RURAL-URBAN FRINGE OF FLINT, MICHIGAN

by

Anthony J. Diekema

AN ABSTRACT

Submitted to the College of Science and Arts of Michigan State University of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Department of Sociology and Anthropology

1958

Approved William H. Form

Anthony J. Diekema Abstract

In order to investigate some of the sociological demensions of migration and commuting in an urban fringe a questionnaire was distributed to 362 households in the Carman School District, which is located in the rural-urban fringe area of Flint, Michigan.

The specific hypotheses which dealt with migration were concerned with the direction and time of movement of the fringe residents. According to direction of movement, three types selected were: (1) centrifugal migrants, (2) intra-fringe migrants, and (3) centripetal migrants. Thus it was found that recent settlement of the fringe area has been largely due to centrifugal movement from the city and is decreasingly a direct result of centripetal movement toward the city. The amount of intra-fringe movement was found to be no different than that of centrifugal movement. A number of variables in which differences were expected between centrifugal and centripetal migrants were: (1) occupational status, (2) place of employment, (3) age, (4) family size, (5) home ownership, and (6) residential mobility. A Chi-square test applied to measure the significance of the differences revealed significance (5 per cent level) in only one instance. Some directional tendencies were observed, however. The test supported the hypothesis that a larger proportion of centrifugal migrants are employed in the city.

According to time of movement, three categories selected were: (1) natives, (2) old migrants, and (3) new migrants. Thus it was found that four-tenths of the households were old migrants to the Flint area while three-tenths were new migrants, and only two-tenths were natives. A number of variables in which differences were expected between these groups were: (1) age, (2) residential mobility, (3) occupational status,

and (4) place of birth. A Chi-square test applied to measure the significance of the differences revealed significance (5 per cent level) in three instances. Old migrants were found to be older and residentially more stable. Most of the old migrants were born in other places in Michigan but the greatest proportion of new migrants were born in the southern United States.

The specific hypotheses which dealt with job-commuting by the fringe residents pertained to mode of transport, distance to work, and time spent en route. Two hypotheses were supported. Commuting distance to work was directly related to the number of riders in the commuting vehicle. A smaller proportion of women than men drove cars to work. Three hypotheses were not adequately supported, although two of them showed differences in the expected direction. An additional significant finding was that white collar workers spent less time in commuting to work than blue collar workers in spite of the fact that they traveled longer distances.

In general, both the significant findings of this research and the directional tendencies observed should be examined more intensively in future research on migration and commuting in the rural-urban fringe.

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Finally, I also wish to thank Mr. Frank Hartman, Superintendent, and the teaching staff of the Carman School for the excellent cooperation and assistance given me in the collection of the data upon which this study is based.

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INTRODUCTION

The population surrounding the larger cities in the United States has been increasing at a rapid rate during the last three or four decades. Population grows by natural increase or net migration. The rapid growth of the rural-urban fringe has been mainly due to net migration. This population movement has been accompanied by an enormous growth in commuting, since most of the breadwinners in the fringe work in the city.

The problem of this thesis, in general, is to investigate the relationships found within these two important movements; migration and commuting. The rapid growth of population in the fringe areas around central cities has created and aggravated a host of problems to which solutions need to be found. Problems of administration, finance and control are growing with the increasing population in the fringe.[1] Yet surprisingly little information is known about the two basic forces which create the problems; namely migration and commuting. While it may be true that some of the apparent complexity and disorder of the rural-urban fringe merely reflects our ignorance about social life in the fringe, research with this area and its population is necessary to appraise the magnitude of the problems which constantly arise.

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[1]For a discussion of some of these problems see Zimmer, Basil G. and Hawley, Amos H., "Approaches To The Solution Of Fringe Problems", Public Administration Review, Vol. XVI, No. 4, Autumn, 1956; and their "Property Taxes and Solutions to Fringe Problems", Land Economics, Vol. XXXII, No. 4, November, 1956

A study of the rural-urban fringe around Flint, Michigan is an appropriate setting to study migration and commuting. There are few cities in Michigan that have undergone such rapid industrial growth as Flint. Within a few decades Flint has changed from a small carriage manufacturing and agricultural trading center to a large industrial metropolis specializing in automobile and auto parts manufacturing. This has been accompanied by a continued growth in population. Since 1900 population increase in the Flint area has been especially rapid. Recently this increase has been especially rapid in the areas contiguous to the city. Since 1930 the greatest increase in the county, both numerically and proportionally, has been in the fringe area. During this time, the proportion of the total county population living in the city has decreased almost fifteen percent. In 1950 the population of the city of Flint was 163,143 and that of the fringe[2] was 57,363.[3] The distribution of the population and its growth patterns in the fringe tend to be concentrated on the boundaries of the city and along major roads leading into it. Available evidence indicates that growth patterns in the future will continue to follow this general pattern.

A Review Of Relevant Literature

The pattern of growth around Flint reflects the general pattern of metropolitan growth which has taken place in the United States. People

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[2]Fringe conceived of here as the remainder of the four contiguous townships.

[3]Taken from Zimmer, Basil G., Demographic Handbook Of Flint Metropolitan Area, Social Science Research Project, Institute for Human Adjustment, University of Michigan, March, 1955, p. 5.

have been moving into territory surrounding the cities and into the open-country at a rapid rate.[4] In recent years, particularly since World War II, populations have pushed farther out from the city than ever before. This new movement has been, in effect, an extension of the suburban trend which started before the turn of the century.[5] Each year more people locate farther out into the open-country around large cities. Some ecologists refer to the increasing proportion of population in the suburban and fringe area as decentralization, or a flight from the city. Others see the process as merely one aspect of the city's expansion. Firey states that from the standpoint of ecological theory, the rural-urban fringe may be viewed as a marginal area.[6] In this respect it is comparable to the zone in transition which lies between a city's business district and the surrounding residential districts. In both cases the fact of marginality exists between alternative types of land utilization. Because the land in this rural-urban margin becomes indifferently suited to either of two alternative uses, land uses interpenetrate. On this rural-urban fringe, farms and residences intermingle. Each depreciates the value of the land for the other use. For example, rurban residences need essential sewage and water facilities but farmers cannot stand the taxes which must be levied if these services are to be provided. In this process of conflict and change the rural-urban fringe has become an area

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[4]Anderson, W. A., The Flight to The Fringe, Cornell University Agricultural Experiment Station, Ithaca, N. Y., March, 1956, p. 1.

[5]Gist, Noel P., "The New Urban Fringe", Sociology and Social Research, May-June, 1952, p. 297.

[6]Firey, Walter, "Ecological Considerations In Planning For Rurban Fringes", American Sociological Review, Vol. II, 1946, pp. 411-23.

characterized by a unique disorganization. Martin describes it as follows:

> Along the highways just outside the city limits you see a motley collection of trailer camps, motels, markets, service stations, taverns, auto-wrecking yards, junk shops, and road houses, to which, more recently outdoor theatres have been added. In the interstitial areas between the main highways lie an untidy hodge-podge of miserable, unpainted privies, spacious country estates with landscaped grounds, intensively cultivated commercial farms, straggling unkept gardens, and solid blocks of middle-class and workingmen's homes arranged in urban patterns. Here and there are empty lots and larger brush-covered tracts awaiting future development. Apparently inconsistent and incompatible land uses prevail on every side.[7]

Firey states that the rural-urban fringe is a marginal land use area, not because of its geographical location, its soil type, or its topography, but rather because of its particular degree of accessibility to the central city.[8]

An examination of the literature in the field has shown that previous rural-urban fringe studies have largely neglected the study of migration and commuting. Several studies, however, are quite relevant to the present study.

Migration Studies

Many discussions of the rural-urban fringe assume that fringe settlements simply represent a move outward from the central city. Rodehaver found, however, in a study of the marginal fringe surrounding Madison, Wisconsin that in areas between well-organized urban land uses and the

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[7]Martin, Walter T., The Rural-Urban Fringe, University of Oregon Press, 1953, p. 5.

[8]Firey, Op. cit.

areas devoted to agriculture, settlement was a product of a two-directional movement.[9] He found that while city people move out into the nearby rural areas to establish homes, people from farms and villages move in toward the city to avail themselves of urban employment and educational opportunities. He also found that about six out of ten of the family heads and their wives residing in the Madison fringe had been reared in the non-urban places. Moreover, he found that urban congestion forced city dwellers to seek residential sites outside the cities' boundaries, while the lack of available space discouraged rural people from moving all the way into the city.

Tableman made a study of migration within the Flint metropolitan district in 1948[10] in an attempt to get further information concerning the factors underlying movement to the fringe areas. She found that settlement of the fringe area is decidedly not the sole result of centripetal movement toward Flint. Over half of the fringe residents interviewed in this study (about 500) came from Flint city. Less than one fifth of the inter-area migrants settled in the fringe. The study also revealed that 10 percent of the fringe residents disliked the fringe neighborhood in which they lived and an equal proportion had made definite plans to move.

Walter Firey made a rather thorough study of the Flint fringe area

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[9]Rodehaver, Myles W., "Fringe Settlement As A Two-Directional Movement", Rural Sociology, Vol. 12, March 1947, pp. 49-57.

[10]Tableman, Betty, Intra-Community Migration In The Flint Metropolitan District, Social Science Research Project, Institute for Human Adjustment, University of Michigan, September, 1948.

in 1945-46.[11] Despite the variations in social characteristics which he found from neighborhood to neighborhood, Firey indicated that there were several features which seemed to characterize the fringe as a whole. They were: (1) a high rate of population turnover, (2) a high rate of home ownership, (3) a high proportion of young adults having many children, (4) a heavy dependence upon industrial shop work in the city, (5) inadequate social life and organizational facilities, (6) part-time farming or gardening. Firey also stated that, although the influx of new residents came from all over the country, two areas were heavily represented: northern Michigan and the lower Mississippi valley.

Commuting Studies

Commuting in the metropolitan area, although quite inadequately explored, has recently received more attention. Seen in historical perspective, the separation of place of work from place of residence is a relatively recent phenomenon and has been closely associated with factors of migration.

It may be said that commuting, like migration, is a type of labor mobility. Commuting is a partial substitute for migration whenever new opportunities for better employment can be found within tolerable limits of travel time and distance. By using modern methods of transportation the worker today can avail himself of the advantages of urban employment

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[11]Firey, Walter, Social Aspects To Land Use Planning In The Country-City Fringe, The Case of Flint, Michigan, Michigan State Agricultural Experiment Station Special Bulletin 339, June, 1946.

and avoid some of the disadvantages of technological and labor market changes. Liepmann has suggested that these recurrent daily movements between home and work supplement migration and enhance the stability of community structure by contributing to the flexibility of industrial-economic organization. This contribution is most important in effecting adjustments to the changes that occur with the expansion and decline of particular industries, the short-distance relocation of factories, and seasonal fluctuations in production.[12] Hawley has even suggested that the daily journey to work might be tending to supersede migration as a means of adjustment to change, since the lengthening commuting radius of the automobile has reduced the amount of migration necessary within local areas. According to Hawley,

> Motor vehicle transportation seems to have introduced a new resistance to migration[13].....The lengthening commuting radius afforded by the automobile has reduced the amount of migration necessary, at least within local areas. Instead of having to live within walking distance of the job or of a transportation facility, the worker may locate his residence 10 or more miles away. Thus he has acquired a wider area in which he may seek employment without having to move his residence. Investigation would probably show a declining ratio of residence changes to job changes since 1900.....[14]

The greater mobility of workers has undoubtedly facilitated industrial development by providing the necessary manpower to staff new plants and by making it possible for workers to shift from plants that

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[12]Liepmann, Kate K., The Journey To Work, Oxford University Press, New York, 1944, pp. 10-19.

[13]Hawley, Amos H., Human Ecology, The Ronald Press, New York, 1950

[14]Ibid, p. 337

shut down. It has also provided an important means for draining off surplus agricultural workers and farm operators throughout a period when farm mechanization proceeded rapidly. Schnore suggests that perhaps a great many family units are allowed to participate in the centrifugal drift to the fringe by resort to ride-sharing.[15]

> Such a minimization of transport cost, together with the added security obtained by part-time agricultural activities, may account for the presence in these peripheral areas of large numbers of families whose general economic status would otherwise not permit such location.[16]

We may conclude, in brief, that the daily journey to work or commuting has occupied a place of some importance in previous discussions of the urban community from a variety of points of view. Commuting may have important consequences for the maintainance of the stability of the community itself as well as for the functioning of its component units. Also, commuting may serve, along with migration, as one of the most easily perceived data in the observation of the human community.

Several commuting studies in the rural-urban fringe around cities similar to Flint in population density are particularly relevant to the present study. A review of this commuting literature in general will show that, although the evidence is inconclusive, it tends to bear out certain tentative conclusions that a general observer might make. Some of these are: 1) there is a heavy reliance by commuters on private automobiles, 2) women workers do not drive cars not depend on them to the same degree as men, 3) women workers do not commute as far as men

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[15]Schnore, Leo F., "The Separation of Home and Work: A Problem For Human Ecology", Social Forces, Vol. 32, May 1954, pp. 336-343.

[16]Ibid., p. 341.

workers, and 4) ride-sharing is a common practice by which cost of transport is met.

Schnore carried out an origin and destination traffic study of industrial employees in Flint, Michigan, in 1950 which dealt extensively with factors of commuting.[17] One of the most interesting findings of this study was that ride-sharing of workers increased with residential distance from the place of work and that it was a response to rapidly increasing costs of transport. Schnore suggested that perhaps the centrifugal drift to the fringe is stimulated by the extension of this practice.

Matson made an extensive study of transportation and commuting during World War II based on a survey of 48 war plants located throughout the United States.[18] This study indicated that time spent in commuting varied with the mode of transportation, and that automobile users spent much less time commuting than common-carrier commuters. He suggested that this discrepency in time is perhaps one important reason for the reluctance of workers to use mass transportation. Matson also found, as did Schnore, that the number of passengers carried in a car tended to increase as the distance from home to place of work increased.

A study by Parnes made in the Columbus, Ohio area showed that distance to work was closely associated with occupation and wage level.[19]

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[17] Ibid., pp. 336-343.

[18] Matson, Theodore M., War Worker Transportation, New York: Institute of Traffic Engineers, 1943.

[19] Parnes, Herbert S., A Study In The Dynamics Of Local Labor Force Expansion, Columbus, Ohio: The Ohio State University Research Foundation, 1951 (mimeo.)

He found that workers in the lower wage brackets lived closer to their places of work than the more skilled, higher paid workers. This study also revealed that the middle-aged workers (20-44 years) tended to commute the longest distances. Older workers did not travel as far to their place of work.

Although there are other studies in this general area, enough of them have been reviewed to acquaint the reader with the general findings on the subject of commuting.

Since three of the previously cited studies were carried out in the Flint area, they will be used most extensively in the present study. Schnore's commuting study[20] will be valuable and will be used as a base comparison for subjects discussed in Chapter IV. Tableman's migration study[21] is also an excellent reference and will be used extensively in the analysis of Chapter III. Finally, Firey's extensive fringe study[22] contains excellent information regarding the Flint fringe as a whole and will be referred to at various times throughout the entire discussion. Comparisons will be made with the results from these three studies whenever possible.

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[20]Schnore, Leo F., The Separation Of Home And Work In Flint, Michigan, Social Science Research Project, Institute for Human Adjustment, University of Michigan, June, 1952.

[21]Tableman, Op. cit.

[22]Firey, Social Aspects To....,Op. cit.

Statement of Hypotheses

A number of hypotheses guided the writer in this study. Although several of them have been tested by former studies, the evidence is somewhat inconclusive and contradictory. Hopefully this study may help clarify some of the findings on commuting and migration both as they apply to the Flint fringe specifically, and to the problems in general. Since each hypothesis will be developed in some detail in their appropriate chapters, they may be briefly stated here:

I a. As fringes become urbanized they become characterized by as much centripetal movement as centrifugal movement.

An examination of several studies which have tested this hypothesis show that results are contradictory. Rodehaver[23] found that centripetal movement was quite significant in the settlement of the Madison fringe but Tableman[24] contends that settlement of the Flint fringe area was decidedly not a result of centripetal movement. Because Tableman's study was also done in the Flint fringe the findings of the present study may support her findings.

b. The Flint fringe is characterized by a degree of intra-fringe movement which is no different from the amount of centrifugal movement.

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[23]Rodehaver, Op. cit.

[24]Tableman, Op. cit.

> Previous fringe studies have indicated that there is a high degree of mobility within the fringe area itself. Although these studies emphasize centripetal and centrifugal movement they also indicate that there is a considerable intra-area or intra-fringe movement.[25]

These hypotheses will be examined in Chapter III.

II <u>There are significant differences between Flint fringe residents who have migrated to the fringe from within the city</u> (centrifugal migrants) <u>and those who have migrated to the fringe from outside the county</u>. (centripetal migrants)

Tableman described a number of differences between centripetal and centrifugal migrants,[26] but did not concern herself with the following characteristics, all of which will be tested in the present study.

a. <u>A larger proportion of centrifugal migrants are employed in the city than centripetal migrants</u>.

It is felt that those households moving to the fringe from within the city of Flint have previously established employment "roots" in the city and, therefore, continue their source of employment within the

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[25] See Reid., p. vii; and Zimmer, Op. cit., p. 45.

[26] See Tableman, Op. cit., pp. iii-v, for a summary.

city. On the other hand, household heads moving into the Flint area for the first time are more likely to also consider employment opportunities in the suburbs and the fringe as well as within the city of Flint.

b. Centrifugal migrants represent a broader age range than centripetal migrants.

Tableman indicated that it is largely young households which move into the fringe from outside the county in order to find employment in the metropolitan district of Flint.[27] On the other hand, we feel that households moving from within the city represent different kinds of households, such as, young households desiring more space for bringing up their children, middle-aged people desiring spacious lots and suburban-type living, and older people seeking the peace and quiet of the open-country for their retirement years. Therefore, it may be expected that the centrifugal migrants may represent a broader age range.

c. Centrifugal migrants have fewer children than centripetal migrants.

This hypothesis is closely related to the one above. Because centripetal migrants tend to be made up of young

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[27] Ibid., p. iii

migrants in their productive years and the centrifugal migrants represent a broader age range, centripetal migrants may be expected to have more children.

III a. Commuting distance to work is directly related to the number of riders in the commuting vehicle; i.e., ride-sharing increases with distance from workplace.

This hypothesis has been supported in previous studies by Schnore[28] and Watson.[29]

b. There are significant differences between fringe residents who commute long distances to work and those who commute short distances to work.

Parnes[30] has suggested several differences which will be tested further in the present study. They are:

1. Occupational status is directly related to the distance traveled to work; i.e., distance traveled to work increases with higher occupational status.
2. Age is inversely related to the distance traveled to work, i.e., distance traveled to work decreases with increase in age.

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[28]Schnore, The Separation Of Home And Work In Flint...., Op. cit.

[29]Watson, Op. cit.

[30]Parnes, Op. cit.

c. There are significant differences between men and women commuters.

Adams and Mackesey, in a review of the findings of a number of commuting studies,[31] state that the findings of previous studies suggest the following hypotheses which will be tested in the present study.

1. A smaller proportion of women than men drive cars to work.
2. Women workers do not commute as far as men workers.

These hypotheses will also be discussed in length in Chapter IV.

Methodology

The method used to obtain data on migration and commuting for this study is that of a closed form questionnaire. In formulating the questionnaire extreme care was taken to insure that each question asked for only specific and factual information. The questionnaire was distributed to residents in the Carman School District which is located in the rural-urban fringe, contiguous to but completely outside the city limits, around Flint, Michigan (see Figure I). The questionnaire was distributed in February, 1957, to students in the seventh, eighth, ninth and tenth grades in the Carman School. The student filled out part of the questionnaire (which was also concerned with school problems). The remainder of the

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[31] Adams, Leonard P. and Mackesey, Thomas W., Commuting Patterns Of Industrial Workers, Cornell University Housing Research Center, Ithaca, N. Y., p. 13.

questionnaire was filled out by the parents (this included the migration and commuting questions). Carman School officials and teachers cooperated by placing their names on a covering letter (Appendix A) which was sent to each household explaining the purpose of the study (see questionnaire, Appendix B). A total of 473 questionnaires were distributed. Of these, 429 were returned for a total return of 90.5 percent. Due to the fact that some students came from the same household, the 429 returned questionnaires represented 362 households in the Carman School District. In cases where more than one student represented the same household only one of the questionnaires was used, after checking for similarity of answers. This study, therefore, is based upon migration and commuting data obtained from 362 households in the Carman School District.

After the 362 useable questionnaires were singled out, the relevant questions were selected and a numerical coding system was worked out to insure uniformity of data compilation. All relevant information was recorded on prepared I.B.M. data sheets. After all the data were transferred from the individual questionnaires to the I.B.M. data sheets, they were recorded on individual I.B.M. cards and verified. Mechanical tabulations were then made for the 362 households in the study universe as guided by the writer's hypotheses.

The Research Site

The Carman School District is a fringe area contiguous to the city of Flint on the south and east. It extends south into the open country thus including not only those people who settled in the dense, urbanized area immediately adjacent to the city boundary but also those who settled

in the non-urbanized fringe along major streets leading out of the city, and in the interstitial areas between them. The Carman School District, therefore, provides a sample which includes a rough cross-section of fringe residents as to their location within the fringe area.

The sample upon which this study is based is unique in that it is not a random or probability sample. The sample is not representative in a strictly statistical sense because of two factors. First, those households in the Carman School District which have no children in the seventh, eighth, ninth or tenth grades (age range of approximately 11 thru 16) were automatically excluded from the sample. Secondly, those households in the Carman School District who send their children to a parochial school in the area were not included in the sample.

It is felt, however, that the above factors have not seriously biased the sample and will not invalidate the findings of this study. All previous studies known to the writer which have been conducted in the Flint fringe area have characterized the fringe as being composed of families with many children. Firey, in 1946, stated that, despite the variation in social characteristics which one finds from neighborhood to neighborhood in the fringe area, the fringe as a whole is characterized by a "high proportion of young adults having many children".[32] Tableman, in 1948, found that "spending units in the fringe are predominantly complete families with children."[33] Zimmer, in 1955, in a report

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[32]Firey, Social Aspects To....., Op. cit., p. 4.

[33]Tableman, Op. cit., p. 17

based upon United States decennial census data states that "the high proportion of children of school age is a particular burden to the fringe area residents".[34] Beegle, in an earlier study of fringe population around 10 large Michigan cities based on 1940 census data, found that "fringe areas in Michigan are characterized by very large proportions of youth, small proportions of aged persons, and an intermediate proportion of productive-aged persons".[35] This study also showed that more than 46 percent of the Flint fringe population was under 21 years of age. Previous studies would indicate, then, that a sample taken from households with school children, ranging approximately from 11 to 17, would be quite representative not only of the households in the Carman School District but of the fringe as a whole.

The sample of households upon which the present study is based represented a total of 1317 persons. When considered as to age composition, the sample shows that almost one half the persons were under 21 years of age, and slightly over one half were over 21 years of age. This compares favorably with the findings of Beegle's study of the Flint fringe population in 1940.[36]

Furthermore, a check of the 1950 census data for the four census tracts in which the Carman School District is located also showed a

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[34] Zimmer, Op. cit., p. 47.

[35] Beegle, J. Allan, "Characteristics of Michigan's Fringe Population", Rural Sociology XII, September, 1947, p. 263.

[36] He found that 46.1% of the Flint fringe population was under 21 years old, 53.3% was between 21 and 64, and 0.5% was 65 years old or older. Taken from table in Ibid., p. 259.

striking similarity to the previously cited findings on age composition. This check showed that 44.2 percent of the population of these tracts was under 21 years of age, 51.7 percent was between 21 and 64, and 4.1 percent was 65 years old or older.[37] A comparison of the findings of these three separate investigations support the writer's contention that the sample used in the present study is quite representative both of the Carman School District and the area in which it is located, and of the Flint fringe as a whole. (See Table I)

At any rate, there is no evidence on age composition and area of residence to suggest that the Carman School District is atypical of the fringe as a whole or that the sample used in the present study is not representative of the Carman School District and the area in which it is located. The sample, therefore, may be considered adequate to test the hypotheses of this study.

Limitations Of The Study

The internal heterogeniety of the rural-urban fringe would seem to suggest that early studies would be limited in their scope. Although a number of other limitations of the study may be apparent to the reader, two of the more significant ones should be made explicit.

The people who live in the fringe area around a large central city are quite often varied in their social characteristics. Yet areas of

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[37]Derived from United States Census of Population: 1950, Vol. III, Census Tract Statistics, Chapter 20, p. 17, U. S. Government Printing Office, Washington, D. C., 1952.

Table I

Age Composition Of The Fringe Population
Derived By Three Separate Investigations

Age	Studies		
	Beegle's Study based on census data* (1940)	Carman School District sample (present study)	Census Tracts G-9,G-10,G-11 G-12**(1950)
Under 21 years	46.2%	46.9%	44.2%
21-64 years	53.3	52.7	51.7
65 years or over	0.5	0.4	4.1
Total	100.0	100.0	100.0
Total no. of cases	30,531	1,317	14,115

*Derived from Beegle, J. Allan, "Characteristics of Michigan's Fringe Population", Rural Sociology XII, September, 1947, p. 259.

**Derived from United States Census of Population: 1950, Vol. III, Census Tract Statistics, Chapter 20, p. 17, U. S. Government Printing Office, Washington, D. C., 1952.

similar economic and social characteristics are commonly found.[38] Therefore, whenever a single area is taken as a sample (as has been done in the present study) rather than a proportionate area sample, there is a possibility that the selected sample may represent a single and possibly atypical neighborhood. Although no evidence could be found to suggest that the Carman School District is atypical of the Flint fringe, it should be kept in mind that the fringe is characterized by variations in the social characteristics of neighborhoods. This may limit the validity of any generalization which may evolve from the study.

Secondly, the subject of this study merits a much more intensive and extensive investigation than was possible to give it. In the light of this limitation also, therefore, the conclusiveness of the results of the present study should be carefully evaluated.

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[38]Firey, Social Aspects To....., Op. cit., pp. 3-4.

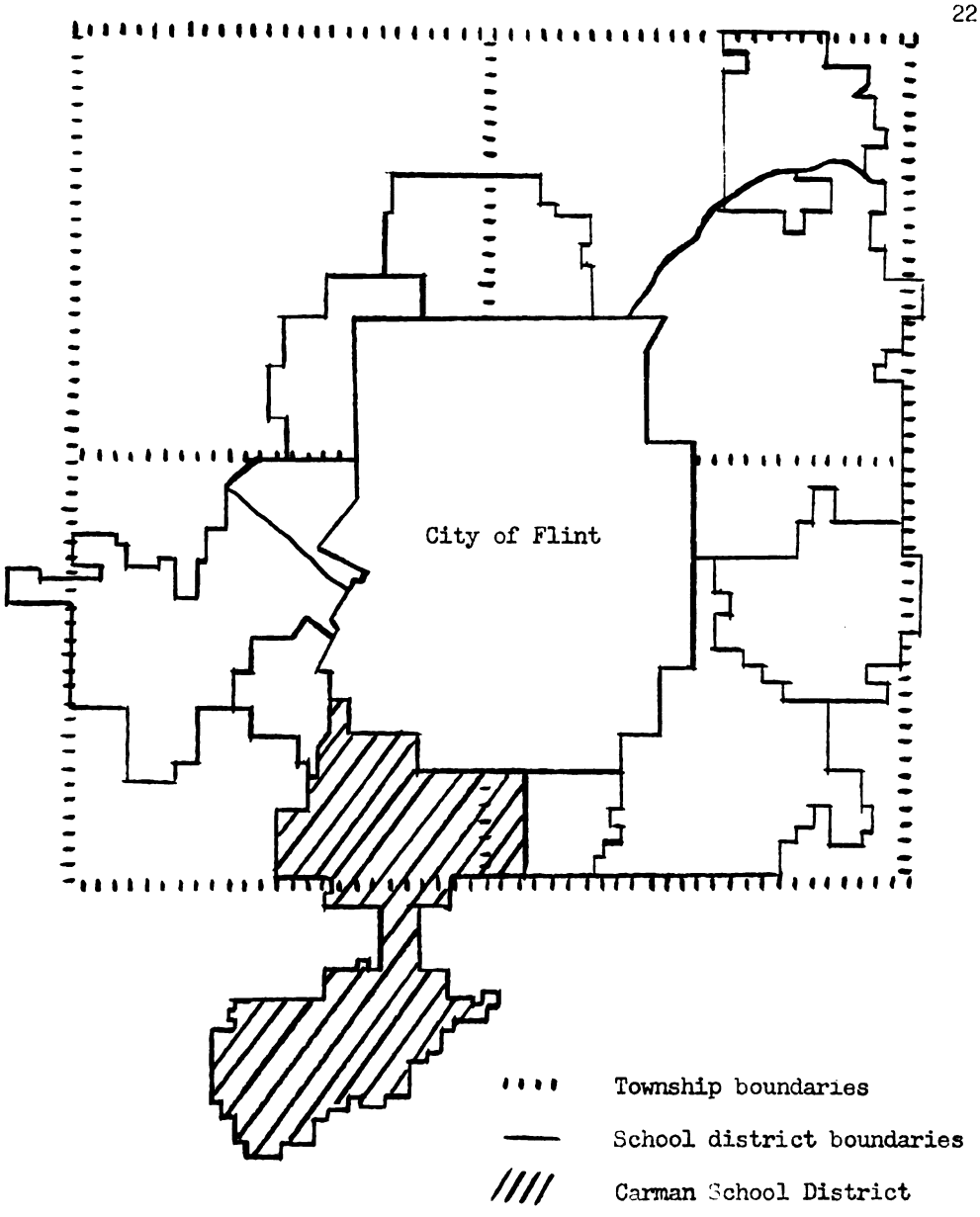

Figure 1. Outline map of the City of Flint, the four adjacent townships, and a number of school districts. Adapted from Basil G. Zimmer, Demographic Handbook of Flint Metropolitan Area, Social Science Research Project, Institute for Human Adjustment, University of Michigan, March, 1950, p. 50.

CHAPTER II

THE RESEARCH SITE

This chapter will provide a more complete picture of the research site and a description of some of the population characteristics of the residents which may have a bearing on the research problems. The research site is the Carman School District, in the Flint fringe. The population of the district will be briefly described in terms of the following characteristics: residence, occupation, and education. Whenever possible, data from other sources will be used to supplement those gathered in this research to describe the area and test further the representativeness of the sample.

The Fringe

As has been noted above, the area surrounding Flint, Michigan is probably typical of rural-urban fringes around midwest industrial cities. Sociologically, the fringe is in many respects an extension of the city of Flint. It is characterized by "small part-time acreages, platted suburbs, blighted 'shack towns', gracious country estates, trailer camps, and other typical fringe manifestations."[1]

The Flint fringe had its beginning around 1910. Particularly with the first World War, an industrial expansion took place that literally

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[1] Firey, Walter, Social Aspects To Land Use Planning In The Country-City Fringe: The Case of Flint, Michigan, Michigan State Agricultural Experiment Station Bulletin 339, June 1946, p. 3.

mushroomed the city's population.[2] Between 1910 and 1920 the population of Flint rose from 38,550 to 91,599 - an increase of 138 percent. In the meantime the population of Genesee County as a whole rose from 64,555 to 125,668.[3] This trend continued in the next decade when the population reached a peak of 156,492 and the county numbered 211,641 persons.[4]

Since 1930 the population of Flint proper has changed very little, but the county as a whole has continued to grow. This continued growth is most pronounced, not in the other towns and cities of the county, but in the fringe and rural areas. Obviously, this rapid growth in the population surrounding Flint is attributable, not to the resident population's natural increase, but to immigration. Firey describes the early development of the fringe as follows:

> .....A stream of immigration was thus inaugurated by the industrial revolution of Flint - a stream that has never ceased, except during the depression years following 1930. Naturally housing had to be provided for this stream of newcomers. But it was not available. Building could not keep pace with housing requirements. Real estate values became inflated to the point that renting or buying a house within the built-up part of the city was beyond the means of many working people. The only recourse for such people was to build homes of their own. Most of them located on inexpensive lots lying beyond the built-up

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[2]Findley, A. C., Brief Industrial History of Flint, Michigan, Flint Institute of Research and Planning, Flint, Michigan, 1937.

[3]United States Census of Population: 1920, Volume I, Number and Distribution of Inhabitants, Table 4, U. S. Government Printing Office, Washington, D. C., 1922.

[4]United States Census of Population: 1930, Volume I, Number and Distribution of Inhabitants, Table 4, U. S. Government Printing Office, Washington, D. C., 1932.

> parts of the city. There taxes were low, land was cheap, and building restrictions were almost non-existent. The houses which these people erected were usually inexpensive structures which in many cases lacked the facilities for wholesome living. Farms and country estates found themselves menaced by an encroaching blight. In the meantime, however, people were also seeking suburban homes. They sought spacious yards, open air, and opportunities for leisure-time gardening. These they hoped to find in the fringe areas, where they might be able to enjoy the advantages of both country and city. Thus another very different element was added to the new population that was mushrooming on the outskirts of the city. Farmers for their part either fell in with the trend and recklessly plotted out their farms as subdivisions or they sought to maintain themselves in the face of higher taxes and the disappearance of their old neighborhood groupings... The fringe area became a maelstrom of people, coming and going, having no opportunity or desire to form durable groupings with their neighbors....[5]

Under these conditions orderly economic and social development in the fringe was almost an impossibility. A number of local government units became relevant for fringe dwellers.[6] They include one county, four townships, about twenty-five school districts, two cities and one special district. "Every acre.....is under (at least) three local governments....."[7]

> Urban decentralization is one of the most difficult problems confronting public administration today. A suburban fringe of residential communities, incorporated and otherwise, surrounds every major city in the United States.

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[5]Firey, Op. cit., pp. 9-12.

[6]Fringe is conceived here, again, as the four contiguous townships.

[7]Hughes, I. Harding, Jr., Local Government in The Fringe Area of Flint, Michigan, Social Science Research Project, Institute for Human Adjustment, University of Michigan, July, 1947, p. i.

> Multiplicity of unifunctional units of the government, need for urban services, limited ability to raise revenue, and lack of integrated development with the central city and with neighboring suburbs - all characterize these communities to some extent.[8]

This has seriously hampered the development of efficient administration and control and is, therefore, also an obstacle to the social well-being of the fringe residents. In main essentials the same pattern has been followed in every major industrial area in the state.

The Carman School District

The Carman School District is a fringe area which is contiguous to the city of Flint on the south and east. From here it extends into the open-country; the furthest point being about five miles from the city limits of Flint. The boundaries of the district include not only those people who settled in the dense, urbanized immediate outskirts of the city but also those living in the less-urbanized fringe along major streets leading out of the city and in the interstitial areas between them. The entire district can be considered as a zone of transition between well-recognized urban land uses and areas devoted to agriculture. Even at the southern-most points of the district, which extend into the open country, one finds interpenetration of land uses.

Physically, the Carman School District is a typical rural-urban fringe area. The full import of a typical rural-urban fringe area does not appear until one actually sees to what uses the land has been put.

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[8] Kurtz, Maxine, "The Tri-County Regional Planning Commission", Public Administration Review, VII, (1947), pp. 113-122.

As one drives along the main roads leading through this area he sees an intermingling of farms, urban residences, and commercial property. Evidence of unguided development of the area is apparent on every side. Along the road there are all types of business and commercial establishments. Intermingled with these there are large unplanned residential areas characterized by small lots with cheap, unkempt dwellings. Streets are not paved and sidewalks are non-existent. On the other hand, only a very short distance away, there are planned subdivisions which have large spacious lots on which high cost residences have recently been constructed. In other areas, it is quite evident how a one-time farm (with its old dilapidated buildings still standing) has recently been subdivided into a new medium-cost residential district with orderly rows of homes arranged in typical urban patterns. Scattered throughout these intermingled areas one sees, from time to time, large well-kept country estates with beautifully landscaped grounds.

Along Bristol Road, a major artery through the major part of the district, almost every manifestation of an unguided fringe development can be seen. On one side of the street within a two block area there is a cemetery, a trailer park, a manufacturing plant, a church, an old dilapidated farm, and several urban-type residences. Along a two mile stretch of this main artery one can see an airport, a cemetery, several trailer parks, an automobile manufacturing plant, several churches, motels, supermarkets, a drive-in theatre, old "run down" farms, "shack" residences, large country estates, taverns, and numerous new urban-type residences. These are the tangible symbols of what has resulted from unguided settlement in this rural-urban fringe.

In the interstitial areas between these main arteries are great expanses of land grown up to weeds evidently awaiting future development. Further out toward the open-country a number of farms may be found. Much of the land is idle, and the buildings are usually run-down. Well-kept and properly maintained farms are a rarity in this district.

Judging solely from the physical characteristics of the district one would be led to assume that the population of the Carman School District is quite heterogeneous. The district is too large an area with too varied physical characteristics to be conceived of as a homogeneous fringe neighborhood, which Firey described in his study.[9] The district is a much larger and more hetergeneous area which would probably include a number of "neighborhoods" as defined by Firey in his study.

The Population

Residence

About one-half of the families in the studied area are presently buying their homes while almost two-fifths already own their present homes. Only a tenth (11.3%) of the families are presently renting their homes. When asked how well they were satisfied with the area nine-tenths of the families expressed general satisfaction with their present neighborhood. The findings of Tableman in 1948 were highly similar. She

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[9]Firey found that fringe neighborhoods are often made up of homogeneous groups with like economic status and social characteristics. However, Firey concerned himself with much smaller areas, actually neighborhoods, one of which is located within the Carman School District. The neighborhood in this district which Firey studied was the uncontrolled residential area characterized by small lots and cheap, unkept dwellings. See Firey, Social Aspects To.....,Op. cit.

found that 92 percent of the Flint fringe households were satisfied with their neighborhoods.[10] Furthermore, very few (9.7%) families had definite intentions[11] of moving to another residence. Tableman found that only one-tenth of the fringe households had definite intentions to move.[12] These data suggest that the Flint fringe households experienced no significant change in neighborhood satisfaction and plans for residential movement during the last decade.

Although about two-fifths of both male heads of households and their wives have lived in the Flint area[13] for more than twenty years, only about one-fifth were born in the Flint area (See Table II). Only about one-fifth of the households in the Carman School District are "natives" of the Flint area. However, Table III shows that another quarter were born in Michigan. Most of the others (41% of the total) were born in southern and midwestern sections of the United States. (See Table III) The above data indicate that four-fifths of all the households in the district are in-migrants to the Flint area.

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[10]Tableman, Betty, Intra-Community Migration In The Flint Metropolitan District, Social Science Research Project, Institute for Human Adjustment, University of Michigan, September, 1948, p. 43.

[11]Definite intentions is defined here as a definite plan by the household to move within a year from the time of answering the questionnaire.

[12]Tableman, Op. cit., p. 45

[13]Flint area is conceived here as any place within Genesee county.

Table II

Duration Of Residence In The Flint Area Of Householders In The Carman School District

Duration of Residence	Male	Female
Born in Flint area (Native)	19.3%	20.7%
Lived in Flint area less than 5 years	9.7	9.9
Lived in Flint area from 5-19 years	20.4	24.6
Lived in Flint area 20 years or more	39.0	38.4
Absence of householder	0.1	0.8
No answer	5.5	5.6
Total	100.0	100.0
Total number of cases	362	362

Table III

Place Of Birth Of Householders
In The Carman School District

Place Of Birth	Male	Female
Flint area (Genesee county)	19.3%	20.7%
Another place in Michigan	26.3	26.0
Midwestern United States*	12.4	12.1
Southern United States**	27.9	29.6
Other place***	6.9	9.4
Absence of householder	0.1	0.8
No answer	1.1	1.4
Total	100.0	100.0
Total number of cases	362	362

*Midwestern United States includes the following states: Illinois, Indiana, Iowa, Kansas, Minnesota, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

**Southern United States include the following states: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tenessee, Texas, Virginia, West Virginia, and Missouri.

***This category is very broad. The necessity for its use was brought about because of the few cases which would otherwise represent the more narrowly defined subgroups. (Western United States, Northeastern United States, Canada, Foreign countries, etc.)

Occupation

Although almost three-fifths of the householders in the sample have had some farm background, there are very few farm residents in the district. (See Table IV) Nine-tenths of the present residences are non-farm.

Table IV

Rural-Urban Backgrounds Of Householders
In The Carman School District

Background	Male	Female
Farm background (Rural)	63.3%	55.0%
No farm background (Urban)	29.8	37.8
Absence of householder	6.1	0.3
No answer	0.8	6.4
Total	100.0	100.0
Total number of cases	362	362

When only the last move is considered, almost nine-tenths of the families have moved to their present address from non-farm residences. This would indicate that, although the Carman School District extends far into the open country, almost all the householders are employed by non-agricultural industries in and around Flint. As a matter of fact none of the householders in the studied area are full-time farmers. Although there is a good deal of part-time farming in the area, (See Table V) all male heads of households are engaged full-time in non-farm occupations.

Table V

Type Of Part-Time Farming
In The Carman School District

Type of Part-Time Farming	Percent
No part-time farming	45.3%
Part-time farming to sell	3.9
Part-time farming for family use	37.3
Part-time farming as a hobby	4.1
No male householder	6.1
No answer	3.3
Total	100.0
Total number of cases	362

Table VI shows that about four-fifths of the male heads of households are "blue collar" workers while only about one-fifth are "white collar" workers.[14] This is comparable, as Table VI reveals, to the data derived from the 1950 Census for the four tracts in which the district is located.[15]

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[14]The occupational categories used here are necessarily very broad. The necessity for their use was brought about because of the few cases which would otherwise represent some of the more narrowly defined subgroups (professional, managerial & official, sales, etc.).

[15]Zimmer found that the city of Flint has a higher proportion in the "white collar" positions while the fringe has a higher proportion in the "blue collar" positions. For further discussion see Zimmer, Basil G., Demographic Handbook Of Flint Metropolitan Area, Social Science Research Project, University of Michigan, March, 1955, pp. 38-40.

Table VI

Occupational Status Of Male Heads Of Households In The Carman Fringe Area Derived By Two Separate Investigations

Occupational Status	Carman School District Study*	Census Tracts G-9,G-10,G-11, G-12**
White collar	17.2%	20.9%
Blue collar	82.8	79.1
Total	100.0	100.0
Total number of cases	319	4052

*The "No answer" and "No male householder" categories were omitted in the computation of these percentages.

**Derived from United States Census of Population: 1950, Vol. III, Census Tract Statistics, Chapter 20, p. 17, U. S. Government Printing Office, Washington, D. C., 1952.

The General Motors Corporation, which has a total of eight plants in the Flint area, employs more than one-half of the male heads of households in the studied area. Furthermore, as Table VII shows, six out of every ten male householders in this fringe are employed within the city of Flint. Thus it is evident that the Carman School District is made up predominantly of industrial workers employed within the city of Flint; a large proportion being employed in the automobile industry, and in plants of the General Motors Corporation.

About one-third of the wives of these male heads are gainfully employed. About one-half of these working wives are white collar workers. As Table VIII indicates this proportion is close to that reported

Table VII

Place Of Employment Of Male Householders And
Working Wives In The Carman School District

Place of Employment	Male	Female
In city	(60.8%)	(52.8%)
General Motors	39.3%	17.6%
Other	21.5	35.2
Outside city	(28.7%)	(42.4%)
General Motors	14.6	15.2
Other	14.1	27.2
No male householder	6.1	----
No answer	4.4	4.8
Total	100.0	100.0
Total number of cases	362	125

by the 1950 Census for the four tracts in which the Carman School District is located.

Table VII indicates that over half of the employed wives in the district are also employed within the city of Flint and that one out of every three is employed by the General Motors Corporation. A smaller proportion of the working wives than husbands worked in Flint and were employed by the General Motors Corporation there.

Table VIII

Occupational Status Of Working Wives
Derived From Two Separate Investigations

Occupational Status	Carman School District Study*	Census Tracts G-9,G-10,G-11,G-12**
White collar	50.4%	54.1%
Blue collar	49.6	45.9
Total	100.0	100.0
Total number of cases	125	1018

*The "No answer" and "No female householder" categories were omitted in the computation of these percentages.

**Derived from United States Census of Population: 1950, Vol. III, Census Tract Statistics, Chapter 20, United States Government Printing Office, Washington, D. C., 1952.

Education

Table IX reports the educational levels of the heads of households and their wives. It shows that one out of every three males did not go beyond grade school (8th grade). Only about one-third of them completed (at least) a high school education. The educational level of the district as a whole, however, compares generally with the figures derived from 1950 census data for the four tracts in which this district is located.[16] Table IX also indicates that the general educational level of women in this area is higher than among men. The median educational level attained by men was 9.3 grades completed while that of women was 10.5 grades completed.

To summarize, the population of the Carman School District is largely composed of in-migrants to the Flint area who moved from other urban areas. The area is characterized by a high degree of home ownership and neighborhood satisfaction. Occupationally, they are predominately manual workers employed in the industries of Flint, especially the General Motors Corporation. A major proportion of the inhabitants have attended high school, having completed two years of formal education at this level.

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[16]The median school years completed for the Carman School District, according to the present study, was 10.0 while the median for the four census tracts in which it is located was 10.2. Zimmer found that the general educational level is lower among persons residing in the fringe than in the city of Flint. For further discussion see Zimmer, Op. cit., pp. 36-38.

Table IX

Formal Educational Attainment Of Householders In The Carman School District

Educational Attainment	Male	Female	Total	1950 Census* Tracts G-9,G-10,G-11,G-12
Some grade school (1-7th Grade)	9.7%	5.5%	7.6%	16.7%
Completed grade school (8th Grade)	23.7	14.6	19.2	25.1
Some high school**	24.0	33.4	28.7	27.4
Completed high school	24.3	36.2	30.2	22.7
Some college	5.5	5.0	5.2	6.0
Completed college	1.4	1.1	1.2	2.1
Business or vocational	2.5	1.4	1.9	- - -
No male/female householder	6.1	0.8	3.5	- - -
No answer	2.8	1.9	2.3	- - -
Total	100.0	99.9	99.8	100.0
Total number of cases	362	362	724	7075

*Derived from United States Census of Population: 1950, Vol. III, Census Tract Statistics, Chapter 20, p. 17, U. S. Government Printing Office, Washington, D. C. 1952.

**The median educational level fell within this category. The median level attained by males was 9.3 years; for females 10.5 years.

Chapter III

MIGRATION

One of the problems of this thesis was to investigate migration in the rural-urban fringe area of a growing urban community. The present chapter will examine the characteristics of various types of migrants and compare them with those reported by other relevant studies.[1] Hopefully the present chapter may add some knowledge to the scant body of information concerning the migration patterns of rural-urban fringe households.

Although additional relevant data are considered at various times, three general hypotheses guided the following presentation. They are:

1. As fringes become urbanized they become characterized by as much centripetal movement as centrifugal movement.

2. The Flint fringe is also characterized by a degree of intra-fringe movement which is no different from the amount of centrifugal movement.

3. There are significant differences between centrifugal and centripetal migrants.

Contradictory results have been reported by researchers with respect to the hypothesis that as fringes become urbanized they become

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[1] All the appropriate tables in the present chapter have been subjected to the Chi-square test according to the method suggested by R. A. Fisher, Statistical Methods for Research Workers, Oliver & Boyd, Edinburgh, England, 1930, pp. 75-98. Findings of below the .05 level of probability were considered as indicating statistically significant results. This level of significance was employed throughout the study, unless otherwise indicated.

characterized by as much centripetal movement as centrifugal movement. Rodehaver found in a study of the marginal fringe around Madison, Wisconsin[2] that settlement was a product of both significant centripetal and centrifugal movement. Tableman, on the other hand, in her study of the Flint metropolitan area[3] found that settlement of the fringe area was decidedly not a result of centripetal movement toward Flint. The test of this hypothesis in the present study would be expected to support the findings of Tableman because of the similar location of research sites. However, it is also expected that intra-fringe movement has become increasingly important in the settlement of fringe areas. Although previous studies have tended to neglect this type of movement, they do imply considerable intra-area movement. Because the fringe areas around major cities have experienced a phenomenal increase in population in recent years, the writer would expect the fringe to take on many characteristics of urban places; one of these being much intra-area movement.

Tableman's study has indicated that there are various significant differences between centripetal and centrifugal migrants in the Flint metropolitan area.[4] The writer would also expect characteristic differences between these two migrant groups in the fringe area. A higher

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

[3] Tableman, Betty, Intra-Community Migration in the Flint Metropolitan District, Social Science Research Project, Institute for Human Adjustment, University of Michigan, September, 1948.

[4] Ibid., p. iii-v

proportion of centrifugal migrants than centripetal migrants is expected to be employed within the city of Flint. Because households moving to the fringe from within the city have very likely established employment there, it is expected that they will continue to work in the city. On the other hand, households moving to the Flint area for the first time are expected to consider employment opportunities in the suburbs and fringe as well as in Flint city.

Furthermore, it is expected that centrifugal migrants represent a broader age range than centripetal migrants. Tableman's study[5] indicated that centripetal migrants are largely young households which moved into the fringe area to find employment in the metropolitan district of Flint. The writer feels that centrifugal migrants, on the other hand, represent different kinds of households, such as, young households desiring more space for bringing up their children, middle-aged people desiring spacious lots and suburban-type living, and older people seeking the peace and quiet of the open-country for their retirement years. Therefore, it was expected that these migrants would represent a broader age range. By the same token, and because centripetal migrants tend to be made up of young people in their productive years, it was expected that centrifugal migrants would have fewer children.

For purposes of testing the specific hypotheses and analyzing the relevant data, the population of the district was viewed in terms of direction and time of migration. No significant correlation was found between the direction and the time of movement.

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[5] Ibid., p. iii.

Direction of Migration

When viewed in terms of direction of migration the households in the Carman School District group themselves into three categories:

> Centrifugal migrants, or those households which moved from Flint city to the fringe area.
>
> Centripetal migrants, or those households which moved to the Flint fringe from other areas outside Genesee county; inter-area migrants.
>
> Intra-Fringe migrants, or those households which moved within the Flint fringe area.

Using these three categories, the writer attempted to test hypothesis #1(a) which states that as fringes become urbanized they become characterized by as much centripetal movement as centrifugal movement. As stated above, the results of several previous studies have shown contradictory results. Table X shows that the vast majority of the households in this fringe area are either centrifugal or intra-fringe migrants.[6] When the last move is considered, two-fifths of the households reported that they moved to the fringe from within the city of Flint. An equal portion of the households were intra-fringe migrants, having moved to their present address from other places within the fringe. Hypothesis #1(b) that the fringe is characterized by a degree of intra-fringe movement which is no different from the amount of centrifugal movement from the city is, thus, confirmed. This high proportion of intra-fringe migrants suggests that the fringe area is rapidly becoming urbanized, and is taking on the characteristics of an urban community with much intra-area movement. Only about one-seventh (14.1%) of the households moved into the Flint

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[6] In this and all the following tables, unless otherwise indicated, data pertaining to the male head of the household was used to represent the household as a unit.

fringe from places outside Genesee county and were, therefore, classified as centripetal migrants.

In general, the above findings confirm those of Tableman in 1948. She found, when counting the last move and next-to-last move, that about half of the fringe householders had moved from Flint city and were centrifugal migrants. About one-fifth (18.3%) of the households were centripetal migrants, having moved to the fringe from someplace outside Genesee county.[7]

Table X

Migrant Status Of Households In The Carman School District

Migrant Status	Percent
Centrifugal migrants	40.0
Intra-fringe migrants	40.3
Centripetal migrants	14.1
No answer	5.6
Total	100.0
Total number of cases	362

The present study showed a smaller proportion of centripetal migrants when only the last move is considered. The hypothesis that as fringes

[7] Ibid., p. i.

become urbanized they become characterized by as much centripetal movement as centrifugal movement is, therefore, not confirmed. As a matter of fact it is safe to conclude that the recent settlement and urbanization of the Flint fringe is decreasingly a direct result of centripetal movement toward the city. Only a small percentage (14.1%) of the households in the research site were inter-area migrants (when only the last move is considered) and four-fifths of the recent moves in the fringe have been due largely to centrifugal and intra-fringe migration.

In attempting to test hypothesis #1, that there are significant differences between centrifugal and centripetal migrants, a number of variables in which differences might be expected to appear were considered. They are occupational status, place of employment, age, family size, home ownership, and residential mobility.[8]

Occupational Status

Most of the migrants in this study were skilled and unskilled workers. Large differences were not found among the different migrant groups. Although the differences observed in Table XI are not statistically significant, the trends they suggest may be considered. Thus the centrifugal migrants have a higher proportion of white collar workers than either centripetal or intra-fringe migrants. Almost one-fifth of the

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[8]In the following series of tables (Table XI thru Table XVII) the "Intra-Fringe" category was omitted in the computation of the Chi-square. This was done to insure accurate tests between the centrifugal and centripetal categories which were the major concern here.

Table XI

Occupational Composition Of Three Types Of Migrant Households*

Occupational Composition	Centrifugal	Intra-Fringe	Centripetal
White collar	19.1%	12.3%	13.7%
Skilled and foremen	30.5	28.8	25.5
Semi-skilled & unskilled	41.1	47.3	43.1
No male head of house	5.7	6.8	5.9
No answer	3.6	4.8	11.8
Total	100.0	100.0	100.0
Total number of cases	141	146	51

$\chi^2 = 0.69$ P = .8

*The "No answer" and "No male head of house" categories were omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

centrifugal migrants were white collar workers as compared to one-eighth in the other groups. Intra-fringe migrants had the highest proportion of semi-skilled and unskilled workers, with almost one half of the male heads of households in this category. However, the trends reported in Table XI may be somewhat clouded due to the unusually high proportion of "No answer" returns from centripetal migrants.

Place of Employment

A test of the hypothesis that a larger proportion of centrifugal migrants are employed in the city than centripetal migrants, was confirmed by the data in Table XII. The latter shows that almost seven-tenths of the centrifugal migrants were employed within the city of

Table XII

Composition Of Migrant Groups By Place Of Employment*

Place of Employment	Centrifugal	Intra-Fringe	Centripetal
In city of Flint	68.8%	58.2%	47.1%
Outside city of Flint	22.0	30.8	41.2
No male head of house	5.7	6.8	5.9
No answer	3.5	4.2	5.8
Total	100.0	100.0	100.0
Total number of cases	141	146	51

$\chi^2 = 8.04$ P = .01

*The "No answer" and "No male head of house" categories were omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

Flint as compared to five-tenths of the centripetal migrants. One-fifth of the centrifugal migrants were employed outside the city of Flint while two-fifths of the centripetal migrants were so employed. The larger proportion of centrifugal migrants employed in the city of Flint is probably due to the fact that they had established employment "roots" within the city and very likely retained their jobs in Flint when they moved to the fringe. On the other hand, centripetal migrants to the fringe had to obtain new employment and very likely considered employment in the fringe and suburbs as well as in the city of Flint.

Age

Hypothesis #2 also states that centrifugal migrants represent a broader age range than centripetal migrants. It was expected that, based upon the results of previous studies and the reasons stated earlier,[9] this would be confirmed by the present study. However, evidence in Table XIII tends to disprove the hypothesis for it shows that centripetal migrants represented the broadest age range and had the larger proportion of males in the extreme age ranges. The differences, however, are not statistically significant.

Family Size

The hypothesis that centrifugal migrants have fewer children than centripetal migrants is closely related to and based upon the same rationale as the one above concerning age. In addition, Tableman found

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[9]See Chapter I, p. 13.

Table XIII

Age Composition Of Migrant Status Groups*

Age of Head of Household	Centrifugal	Intra-Fringe	Centripetal
Under 35 (Young)	7.8%	2.8%	11.8%
35-44 (Middle-aged)	44.7	54.1	33.3
45 or over (Old)	39.0	33.6	47.0
No male head of house	7.7	6.8	5.9
No answer	2.8	2.7	2.0
Total	100.0	100.0	100.0
Total number of cases	141	146	51
Median age	43	42	45

$\chi^2 = 2.46$ P = .3

*The "No answer" and "No male head of house" categories were omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

that centripetal migrants tend to be made up of young people in their productive years.[10] Therefore, it was expected that they would have larger families than centrifugal migrants. Table XIV does not show significant differences between the two migrant groups. However, the data show that a slightly higher proportion of centripetal migrants had large families[11] than centrifugal migrants. Although the evidence is inconclusive, the small differences are in the expected direction for they show that centripetal migrants had somewhat larger families (more children) than centrifugal migrants. The table also shows that intra-fringe migrants had the highest proportion of large family households.

Table XIV

Family Size Of Migrant Status Groups*

Family Size	Centrifugal	Intra-Fringe	Centripetal
Small family (less than 3 children)	53.9%	45.2%	51.0%
Large family (3 children or more)	44.0	52.8	48.3
No answer	2.1	2.0	0.7
Total	100.0	100.0	100.0
Total number of cases	141	146	51

$\chi^2 = 1.23$ P = .3

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

[10]Tableman, Op. cit., p. iii.

[11]For descriptive purposes, an arbitrary choice was made here to

If the differences observed here are to be explained, they must be based on a rationale other than that on which the hypothesis was based. The hypothesis was based, largely, on the validity of preceding research. When considering only those households in which the mother was 45 years old or over (thus being assured that she was past the child-bearing years) an opposite tendency was observed. Data in Table XV suggest that a slightly higher proportion of centrifugal migrants had larger families than centripetal migrants.[12] This finding would be in accordance with that found in testing the previous hypothesis concerning age. The table also shows that intra-fringe migrants have about the same proportion of large family households as centripetal migrants.

Table XV

Family Size Of Migrant Status Groups For Households With Mothers 45 Years Of Age Or Older *

Family Size	Centrifugal	Intra-Fringe	Centripetal
Small family (less than 3 children)	58.1%	74.2%	75.0%
Large family (3 children or more)	35.5	25.8	25.0
No answer	6.4	0.0	0.0
Total	100.0	100.0	100.0
Total number of cases	31	31	12

$\chi^2 = .63$ P = .5

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

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define a family with 3 or more children as "large" while a family with 2 or less children was considered "small". This choice was partially based upon the 2.9 median number of children in the households.

[12]The differences were not statistically significant.

The differences observed in both investigations regarding family size are quite small and insignificant. The writer feels the findings were such that they cannot adequately support or refute the hypothesis upon which the investigations were based.

Home Ownership

Tableman found that movement in the fringe is predominantly a movement from rental housing toward home ownership.[13] Firey also found that the fringe was characterized by a high degree of home ownership.[14] As might be expected, our data showed that there was a very small amount of home renting among all the migrant groups. Although the differences observed here are not statistically significant, they suggest some trends.

Table XVI shows that over nine-tenths of the centrifugal migrants either owned or were buying their own homes. Only 7.8 percent were renting. On the other hand, 17.6 percent of the centripetal migrants were renting their homes. This may be partially due to the fact that the centrifugal migrants were of somewhat higher occupational status, and economically more secure to buy their own homes. If home ownership can be considered an indication of residential stability, centrifugal migrants may be more stable residentially than centripetal migrants. It might also be speculated, based upon the observed high proportion presently buying their homes, that the fringe will be increasingly characterized by residentially stable households.

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[13] Tableman, Op. cit., p. ii.

[14] Firey, Walter, Social Aspects To Land Use Planning In The Country-City Fringe: The Case Of Flint, Michigan, Michigan State Agricultural Experiment Station Special Bulletin 339, June, 1946.

Table XVI

Home Ownership Status Of Three Types Of Migrant Groups*

Ownership Status	Centrifugal	Intra-Fringe	Centripetal
Rent	7.8%	13.0%	17.6%
Own	32.2	36.3	35.3
Buying	56.0	47.9	47.1
No answer	0.0	2.8	0.0
Total	100.0	100.0	100.0
Total number of cases	141	146	51

$\chi^2 = 4.09$ P = .2

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

Residential mobility

The households of the Carman School District could be classified according to three statuses of residential mobility. When considering change of residence in the last 5 years (1952-1957) the following categories appeared to be most meaningful:

> Residentially stable households, or those households which have not moved within the last 5 years.
>
> Residentially mobile households, or those households which have made one move within the last 5 years.
>
> Residentially highly mobile households, or those households which have made two or more moves within the last 5 years.

When the above classification was used it was found that half of the households in the studied area were residentially stable, three-tenths were residentially mobile, while two-tenths were highly mobile.

In further analyzing these three residential statuses in regard to direction of migration, Table XVII indicates that the centrifugal migrants have been residentially most stable. About half of them have been residentially stable and less than one-fifth have been highly mobile. The centripetal migrants show an opposite tendency. About two-fifths were residentially stable and one-fourth were highly mobile. Intra-fringe migrants have a slightly higher proportion of residentially mobile households than the other two migrant groups. These differences are not statistically significant.

Table XVII

Composition Of Migrant Status Groups By Residential Mobility*

Residential Status	Centrifugal	Intra-Fringe	Centripetal
Stable	52.5%	43.8%	39.2%
Mobile	29.1	34.2	31.4
Highly mobile	18.4	21.9	27.4
No answer	- - -	- - -	2.0
Total	100.0	99.9	100.0
Total number of cases	141	146	51

$\chi^2 = 2.85$ P = .3

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

In brief summary, it may be said that centrifugal migrants are characterized by a high degree of home ownership and residential stability, are usually employed within the city of Flint, and have generally

higher occupational status than the other migrant groups. Centripetal migrants, on the other hand, are characterized by a somewhat higher degree of residential mobility and more often rent their homes than the other migrant groups. They include a broader age range and are employed more often outside the city of Flint. Intra-fringe migrants are characterized by a lower occupational status and also are residentially quite mobile. They represent a more concentrated age range which shows a median age of 42 years.

Time Of Migration

Time of migration, although not included in the guiding hypotheses of this study, was considered an important factor which could provide additional insights concerning the research site and its population. When viewed in terms of time of migration, the households in the Carman School District group themselves into the following typology:

> Natives, or those households in which the male head was born in the Flint area (Genesee county).
>
> New Migrants, or those households in which the male head has lived in the Flint area (Genesee county) for less than 20 years.
>
> Old Migrants, or those households in which the male head has lived in the Flint area for more than 20 years, but was not born in the Flint area (Genesee county).

When the population of the district was viewed according to the above typology it became apparent that only about one-fifth of the households were "natives" of the Flint area. About four-tenths, the largest proportion, of the household population were "old migrants" who immigrated to to the area more than 20 years ago, while three-tenths were "new migrants".

Table XVIII

Age Composition Of Migrant Status Groups*

Age	Natives	Old Migrants	New Migrants
Under 35 (Young)	35.7%	19.9%	33.0%
35-44 (Middle-aged)	42.9	43.3	48.6
45 or over (Old)	14.3	36.2	17.4
No answer	7.1	0.6	1.0
Total	100.0	100.0	100.0
Total number of cases	70	141	109

$\chi^2 = 18.85$ P = .001

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with four degrees of freedom.

Age:

Table XVIII shows that a high proportion of all the migrant groups were middle-aged households. However, statistically significant differences were observed between the three groups. Only one-fifth of the old migrants were under 35 years of age and could be considered young householders. On the other hand, over one-third of them were over 45 years of age and considered old householders. The new migrants showed an opposite tendency. One-third of the new migrants were under 35 years of age and considered young householders, while less than one-fifth were 45 years of age or over and could be considered old householders. Natives of the Flint area compared closely with the new migrants in regard to age distribution. Old migrants, then, generally represent older households than the new migrants and natives in the research site. This fact

should be kept in mind when considering some of the other observations regarding the time of migration.

Residential mobility

Tables XIX and XX show expected significant relationships between migrant status and residential mobility. Table XIX shows that length of time in the Flint area is inversely related to residential mobility or length of time at present address. Sociologically, it might be expected that the natives and old migrants of a given geographical area would be residentially less mobile than the new migrants who, by reason of their recent migration, are not yet established within the area. Table XX shows more clearly in a narrower breakdown that duration of residence in the Flint area is inversely related to residential mobility, i.e., the households with the longer duration of residence in the Flint

Table XIX

Length Of Time Spent At Present Address By Migrant Status Groups*

Duration at Present Residence	Natives	Old Migrants	New Migrants
Less than 5 years at present address	28.6%	35.5%	66.0%
Five or more years at present address	64.3	63.8	33.0
No answer	7.1	0.7	1.0
Total	100.0	100.0	100.0
Total number of cases	70	141	109

$\chi^2 = 30.61$ P = .001

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

area were residentially more stable than those households with shorter durations of residence in the Flint area. It appears safe to conclude that the longer a household resides in a given area the more residentially stable it tends to become. The establishment of various social, occupational, and economic "ties" very likely contribute to this increasing residential stability.

Table XX

Residential Mobility Of Migrant Status Groups*

Residential Status	Natives	Old Migrants	New Migrants
Stable	67.2%	61.1%	32.1%
Mobile	17.1	30.5	33.4
Highly mobile	15.7	8.4	33.0
No answer	- - -	- - -	1.5
Total	100.0	100.0	100.0
Total number of cases	70	141	109

$\chi^2 = 37.94$ P = .001

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with four degrees of freedom.

Occupational Status

As was pointed out in an earlier section, it is important to note that most of the migrants were semi-skilled and unskilled workers. Table XXI indicates that there is no significant relationship between migrant status and occupational status as defined in this study. It should be

Table XXI

Occupational Composition Of Three Types Of Migrant Groups*

Occupational Level	Natives	Old Migrants	New Migrants
White collar	14.3%	14.9%	18.3%
Skilled and foremen	31.4	37.6	24.8
Semi-skilled & unskilled	45.7	44.0	49.6
No answer	8.6	3.5	7.3
Total	100.0	100.0	100.0
Total number of cases	70	141	109

$\chi^2 = 3.99$ P = .5

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with four degrees of freedom.

noted, however, that new migrants had the highest proportion of white collar workers as well as semi-skilled and unskilled workers. Old migrants had the highest proportion of foremen and skilled workers.

Place of Birth

Over one-half of the population of this fringe area was born outside the state of Michigan. Comparing this finding with 1940 census data for Flint city showed that the fringe area contained a higher proportion of people born outside the state of Michigan than did the city. Flint city had only 37.4 percent of its population born outside the state of Michigan.[15]

Table XXII

Composition Of Migrant Status Groups By Place Of Birth

Place of Birth	Old Migrants	New Migrants
Within Michigan	41.1%	25.7%
Midwest United States	22.0	11.0
Southern United States	22.7	58.7
Other	14.2	4.6
Total	100.0	100.0
Total number of cases	141	109

$\chi^2 = 34.85$ P = .001

[15] See United States Census of Population: 1940, Vol. III, State of Birth of the Native Population, Table 33, U. S. Government Printing Office, Washington, D. C., 1942.

Significant differences were found between old and new migrants when considering place of birth. It is interesting to note the high proportion of recent migrants who were born in the southern United States.[16] Table XXII shows that the highest proportion (58.7%) of new migrants were born in the southern United States while the highest proportion (41.1%) of old migrants, were born in Michigan but outside the Flint area.

The findings indicate that there has been a heavy wave of in-migration from the southern United States in the last 20 years. In-migration to the Flint area from within Michigan was heavy more than 20 years ago and has continued to be quite significant in the last 20 years. In-migration from the midwest United States has decreased proportionally since 20 years ago.

Summary

In Chapter III an attempt was made to discover relationships between a number of variables relevant to migration and to test the previously stated hypotheses in the area.

As fringes become urbanized they become characterized by as much centripetal movement as centrifugal movement. The test of this hypothesis showed that, contrary to the stated hypothesis, the recent settlement and urbanization of the studied fringe area is decreasingly a direct result of centripetal movement toward Flint. Recent settlement of the fringe has been due largely to centrifugal and intra-fringe migration.

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[16] Firey also found a high proportion of southern migrants in his 1946 study of the Flint fringe. See Firey, Op. cit., p. 17.

The Flint fringe is characterized by a degree of intra-fringe movement which is no different from the amount of centrifugal movement. It was found, in accordance with the above hypothesis, that the amount of intra-fringe movement is virtually no different from that of centrifugal movement. This finding suggests that the particular fringe area studied is rapidly developing into an urban community.

A larger proportion of centrifugal migrants are employed in the city than centripetal migrants. Conclusive evidence was found supporting the hypothesis. It is suggested that this is due to the fact that centrifugal migrants have established employment "roots" within the city and retain their city jobs when they move to the fringe. Centripetal migrants, on the other hand, must find new employment and very likely consider employment in the fringe and suburbs as well as in the city of Flint.

Centrifugal migrants represent a broader age range than centripetal migrants. No significant differences were observed in testing this hypothesis. The small differences noted were not large enough to either support or refute the hypothesis.

Duration of residence in the Flint area is inversely related to residential mobility. Households with the longer duration of residence in the Flint area were residentially more stable than those households with shorter durations of residence. Centrifugal migrants tended to be residentially more stable than centripetal migrants.

The data indicate that there are very few "natives" of the Flint area located within the fringe. Migration to the Flint area from other areas within Michigan was significant in the early development of the

fringe over 20 years ago. In the last 20 years migration into the Flint fringe from the southern United States has been more significant. In-migration from the midwest United States has decreased by one-half since 20 years ago.

The Flint fringe contains a higher proportion of people born outside Michigan than does Flint city. The data showed that 51.2 percent of the population of this fringe area was born outside the state of Michigan. Flint city, according to the 1960 census, showed only 37.4 percent of its population to be born outside the state of Michigan.

Chapter IV

COMMUTING

This chapter is concerned with the results of the study which deal with the job-travel path of workers living in the Carman School District. Commuting was made a part of this study because it is closely related to theoretical considerations in the general field of migration.[1] Studies have shown, for instance, that the primary motive in much commuting to work as well as in migration seems to be a desire for economic betterment. Non-economic considerations, such as preference for a country rather than a city home, also play a part in some migration and commuting decisions. Studies have also shown that commuting patterns, like migrations, are sensitive to general business conditions; thus the proportion of long-distance commuters, as well as of migrants, may be expected to increase with prosperity and to fall off during depressions. It must be mentioned that there were a number of limiting factors in the methods followed in this study. It is hoped that the problems encountered may provide a basis for improving methods to be used in future research.

The study of commuting was guided by three focal hypotheses. They are:

1. The number of riders in a commuting vehicle is directly related to the commuting distance to work; i.e., ride-sharing increases with distance from workplace.

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[1]Adams, Leonard P. and Mackesey, Thomas W., Commuting Patterns of Industrial Workers, Cornell University Housing Research Center, Cornell University, 1955, pp. 79-83.

2. There are significant differences between fringe residents who commute long distances to work and those who commute short distances to work.

3. There are significant differences between men and women commuters.

Although additional data are considered from time to time, the following presentation is largely concerned with the testing of these hypotheses.

Two researchers have previously indicated that commuting distance to work is directly related to the number of riders in the commuting vehicle. Schnore found in a traffic study of industrial employees in Flint, Michigan,[2] that ride-sharing increased with residential distance from the place of work and hypothesized that it was a response to rapidly increasing costs of transport. Schnore suggested that perhaps the drift to the fringe is stimulated by the extension of this practice. Matson also found, in a survey study of commuting to 48 different war plants during World War II, that the number of passengers carried in a car tended to increase as the distance from home to place of work increased.[3] The present study is expected to confirm these findings. It is also expected, based upon Schnore's suggestion that ride-sharing is a response to rapidly increasing costs of transport, that ride-sharing arrangements will be used most extensively by lower status occupational groups.

A study by Parnes made in Columbus, Ohio suggested that there are significant differences between fringe residents who commute long distances to work and those who commute short distances to work. He suggested

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[2]Schnore, Leo F., "The Separation of Home and Work: A Problem for Human Ecology", Social Forces, Vol. 32, May 1954, pp. 336-343.

[3]Matson, Theodore M., War Worker Transportation, New York: Institute of Traffic Engineers, 1943.

that there is a direct relationship between occupational status and distance traveled to work. He also indicated an inverse relationship between age and distance traveled to work.[4] These suggested relationships will be tested further.

Adams and Mackesey reviewed a number of commuting studies and suggested two hypotheses concerning differences between men and women commuters. They stated that commuting studies generally have indicated that a smaller proportion of women than men drive cars to work. They also reported that women workers do not commute as far as men workers.[5] These inconclusive findings will be considered as hypotheses to be tested further.

In analyzing the commuting data and testing the guiding hypotheses the population of the research site was viewed in terms of three essential commuting factors: mode of transport, distance to work, and time spent en route. The following presentation will discuss each factor.

Mode of Transport

The present study, as well as previous research in the field, seems to stress the importance of the private automobile as the primary means of transportation. Because of an ever-increasing amount of automobile ownership in the United States "the average citizen has developed an attitude toward transportation that demands freedom from frequent stops,

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[4]Parnes, Herbert S., A Study In The Dynamics of Local Labor Force Expansion, Columbus, Ohio: The Ohio State University Research Foundation, 1951. (mimeo.)

[5]Adams and Mackesey, Op. cit., p. 13.

transfers and predetermined schedules and routes."[6] Beyer's study of commuting in the area around Rochester, New York indicated that only a very small percentage of commuters used public transportation.[7] Ownership of a car has also enabled workers to travel unprecedented distances to and from work, often without increasing the commuting time.

Hypothesis #3(c) states that a smaller proportion of women than men drive cars to work. The data in Table XXIII show that a greater proportion (four-fifths) of the gainfully employed men did in fact travel to and from work in a private car than the gainfully employed women (three-fifths). The data also show that women workers tended to participate in carpools or rode with other drivers much more than the men did. They also reveal that a much larger proportion of women (12.6%) than men (1.5%) depended upon public transportation to get to their place of work. These differences are statistically significant beyond the one per cent level and support the hypothesis that a smaller proportion of women than men drive cars to work. This may be due, in part, to the fact that the male is usually the major "breadwinner" and would normally use the family automobile if only one is available. Working wives, on the other hand, are usually "supplementary breadwinners" and therefore must rely on other modes of transport if the family automobile is not available. It may be hypothesized that the decision of the female

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[6]Matson, Theodore M., Op. cit., pp. 4-5.

[7]Beyer, Glenn H., Housing and Journey to Work, Cornell University Agricultural Experiment Station Bulletin 877, Ithaca, N. Y., 1951, p. 13.

Table XXIII

Mode Of Transportation To Work Used By Working Men And Women*

Mode of Transport	Male	Female
Drives a car	81.5%	58.0%
Carpool or rides with another driver	14.9	27.7
Bus or taxi	1.5	12.6
Other (walk or bike)	2.1	1.7
Total	100.0	100.0
Total number of cases	330	119

$\chi^2 = 38.61$ P = .001

*The "Other" category was omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

head of the household to work may depend upon the availability of modes of transport other than the family automobile.

An investigation of the mode of travel of three occupational groups indicated that white collar workers tended to drive to work alone while blue collar workers tended to participate in carpools or arrange rides with other drivers. The differences proved to be statistically significant.[8] These differences are shown in Table XXIV and support the observation that occupational status is directly related to use of private car as a means of commuting to work, i.e., the higher the occupational status the greater the tendency to drive alone to work in a private car.[9]

Distance To Work

Distance to work is one important factor in influencing an employee's decision regarding choice of a place to work. For purposes of analyzing the data, workers were divided into two classes: those traveling a short distance (less than 5 miles) and those traveling a long distance (5 miles

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[8]Extreme caution must be exercised when analyzing such a finding because of the small number of cases that existed for certain categories. Each cell frequency should preferably be much larger than 5. See Elmer B. Mode, The Elements of Statistics, New York: Prentice-Hall, Inc., 1941, p. 358.

[9]This would serve as an interesting hypothesis in future research. Several factors would lead this writer to expect significant findings in support of the hypothesis. White collar workers may have less rigid working hours and may also have to use a private car at various times during the day which would necessitate having a car available at all times. Also, the white collar workers generally may not be "forced" economically to arrange a carpool in order to cut costs of transport. Furthermore, white collar workers do not usually work in large work groups as do most blue collar workers and, therefore, may not have as many opportunities to form ride-sharing arrangements with fellow-workers.

Table XXIV

Mode Of Transportation Used In Job-Commuting By Occupational Levels*

Mode of Transport	White Collar	Skilled & Foremen	Semi-skilled & Unskilled
Drives a car	90.4%	85.7%	77.8%
Carpool or rides with another driver	3.8	13.3	17.7
Bus or taxi	- - -	1.0	2.6
Other (walk or bike)	5.8	- - -	1.9
Total	100.0	100.0	100.0
Total number of cases	52	105	158

$\chi^2 = 6.13$ P = .05

*The "Bus of taxi" and "Other" categories were omitted in the computation of the Chi-square, leaving the table with two degrees of freedom.

or more) to work.[10] Hypothesis #3(c) states that women workers do not commute as far as men workers. This may be expected to be true when considering the fact that female householders, who are usually "supplementary breadwinners", tend to work only when it is relatively convenient for them. It is expected that female householders, if they are forced to spend a great deal of time commuting to work, tend to remain at home.[11] The data in this study do not support the inconclusive evidence of previous studies that men commute longer distances to work than women.[12] However, a larger sample and a narrower breakdown of distance traveled to work would be more useful in testing this hypothesis. (See Table XXV)

Schnore suggests that ride-sharing arrangements are a response to rapidly increasing costs of transport with distance.[13] When considering the practice of ride-sharing as a method used by long-distance commuters to cut costs of transport, one may hypothesize that a higher proportion of short-distance commuters than long-distance commuters drive private cars. Data in Table XXVI show that about one-fifth of the long-distance

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[10]For descriptive purposes, an arbitrary choice was made here to define a commuting distance of less than 5 miles as "short" while a commuting distance of 5 miles or more was defined as "long".

[11]It was also expected that the age of children in the household may have been a factor here. It was felt that young mothers with their younger children would be less willing to spend a long time commuting because of their more pressing obligations to small children in the home. It was found, however, that a much greater percentage (73.6%) of the young mothers (under 35 yrs.) spent a long time commuting than the older mothers (49.5%). Differences, however, were not statistically significant.

[12]Adams and Mackesey, Op. cit., p. 13.

[13]Schnore, Leo F., The Separation of Home and Work in Flint, Michigan, Social Science Research Project, Institute for Human Adjustment, University of Michigan, June, 1952, pp. 135-138.

Table XXV

Distribution Of Male And Female Commuters By Distance Traveled To Work*

Distance Traveled	Male	Female
Short distance commuters (less than 5 miles)	36.2%	36.0%
Long distance commuters (5 miles or more)	52.6	52.8%
No answer	11.2	11.2
Total	100.0	100.0
Total number of cases	340	125

$\chi^2 = .00$ P = 1

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

commuters participated in carpools or rode with other drivers while less than one-tenth (8.9%) of the short-distance commuters used these arrangements. This difference, which is statistically significant beyond the five percent level, generally supports the findings of previous studies that ride-sharing increases with distance from workplace.[14]

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[14] Ibid., pp. 133-135; and Matson, Op. cit.

Table XXVI

Mode Of Travel To Work Used By Long And Short Distance Commuters*

Mode of Travel	Short Distance Commuters	Long Distance Commuters
Drives a car	84.6%	78.8%
Carpool or rides with another driver	8.9	19.0
Bus or taxi	0.8	2.2
Other (walk or bike)	5.7	- - -
Total	100.0	100.0
Total number of cases	123	179

$\chi^2 = 5.08$ P = .05

*The "Bus or taxi" and "Other" categories were omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

In testing hypothesis #3(a), which states that the practice of ride-sharing increases with the distance of home from workplace, it was found that about two-thirds of the commuters did not have riders. However, support for the above hypothesis is provided by data in Table XXVII in which the practice of ride-sharing is considered. They show that a greater proportion of short-distance commuters than long-distance commuters rode to work alone. Only one-seventh of the short-distance commuters carried riders while one-fourth of the long-distance commuters carried riders. Furthermore, a higher proportion (8.4%) of the long-distance commuters carried two or more riders than the short distance commuters (0.8%). Because of the crude categories used in this study

Table XXVII

Distribution Of Short And Long Distance Commuters By Number Of Riders To Work *

Number of Riders	Short Distance Commuters	Long Distance Commuters
No riders	69.9%	60.3%
One or more riders**	13.8	24.0
Does not drive	13.8	11.7
No answer	2.5	4.0
Total	100.0	100.0
Total number of of cases	123	179

$\chi^2 = 4.82$ P = .05

*The "No answer" and "Does not drive" categories were omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

**This category is a combination of two smaller categories. This combination was necessary to permit a Chi-square analysis. Percentage differences of the smaller categories were quite indicative. They showed that 15.6% of the long-distance commuters carried one rider while 13.0% of the short-distance commuters did so. However, more than one rider was carried by 8.4% of the long-distance commuters but only 0.8% of the short-distance commuters. These percentage differences suggest a direct relationship between commuting distance and the number of riders in the commuting vehicle.

the evidence is not as conclusive as might be desired.[15] However, the differences found are statistically significant and support the hypothesis that the practice of ride-sharing increases with distance of home from the workplace.

Hypothesis #3(b) states that distance traveled to work increases with higher occupational status. Parnes suggested from the results of his study that distance traveled to work increased with higher occupational status.[16] He pointed out, however, that this was probably unique in his study because, generally, the better homes were located beyond a four mile radius of the studied area. In this study there was very little evidence suggesting a direct relationship between occupational status and distance traveled to work. Although the differences observed are not statistically significant, Table XXVIII does show a small difference in the expected direction. A smaller proportion of unskilled workers commuted long distances to work than did the white collar and skilled workers.

Hypothesis #3(b), which states that distance traveled to work decreases with increase in age, is not supported. Table XXIX shows that a somewhat higher proportion of the young men commuted long distances to work than the old men did. Middle-aged men also traveled long distances more often than old men. A close examination of the differences

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[15]The nature of this study, being a fringe area study, made it difficult to divide the distance traveled to work into small, yet meaningful categories (which should be done to prove the hypothesis conclusively). Because the fringe area studied is contiguous to the city, very few commuters traveled more than 15 miles to work.

[16]Parnes, Op. cit. A review of specific findings which are of interest here can be found in Adams and Mackesey, Op. cit., p. 13.

Table XXVIII

Distance Traveled To Work For Occupational Groups

Distance Traveled	White Collar	Skilled & Foremen	Semi-skilled & Unskilled
Short distance (less than 5 miles)	37.0%	36.8%	45.6%
Long distance (5 miles or more)	63.0	63.2	54.4
Total	100.0	100.0	100.0
Total number of cases	46	95	147

$\chi^2 = 2.27$ P = .5

Table XXIX

Distance Traveled To Work For Age Groups

Distance Traveled	Young (less than 35)	Middle-aged (35-44)	Old (45 or over)
Short distance (less than 5 miles)	36.8%	40.1%	44.2%
Long distance (5 miles or more)	63.2	59.9	55.8
Total	100.0	100.0	100.0
Total number of cases	19	152	120

$\chi^2 = 2.60$ P = .3

shown in the table suggests that age is inversely related to the distance traveled to work. Although the differences are not statistically significant, they are in the expected direction for support of the hypothesis that distance traveled to work decreases with increase in age.

Time Spent En Route

Time spent in commuting, as well as distance to work, is one of the factors which influence employee decisions regarding choice of a place to work. One might suspect that time spent en route would be closely related to distance traveled to work. In addition to this, however, the writer felt that two other variables would affect the time spent en route. These are place of work and mode of transport. For purposes of the analysis the writer divided the commuters into two rather broad categories:[17]

Table XXX

Time Spent En Route To Work For Male And Female Commuters

Time Spent En Route	Male	Female
Short time (less than 20 minutes)	39.7%	40.8%
Long time (20 minutes or more)	50.0	50.4
No answer	10.3	8.8
Total	100.0	100.0
Total number of cases	340	125

$\chi^2 = .00$ P = 1

[17]For the same reasons as those stated in footnote #15 of this chapter, broad categories were necessary since very few commuters spent more than 40 minutes traveling to work.

those spending a short time (less than 20 minutes) and those spending a long time (20 minutes or more) in commuting to work.[18]

It was expected, based upon the hypothesis that men commute longer distances to work than women, that men would also, therefore, spend more time en route. The distance hypothesis was, however, found to be invalid. Women were found to commute just as far to work as men. As might be expected, therefore, Table XXX shows that equal proportions of men and women spent a "short" and "long" time in traveling to work.

As was expected, place of work proved to be a significant variable. Table XXXI shows significant difference in the place of work of long-time commuters and short-time commuters. It indicates that a very high proportion (85.8%) of the workers who spent a long time commuting worked within the city of Flint. Very few (14.2%) of the long-time commuters worked outside the city. Probably traffic congestion in the city makes for a long commuting time for those employed in the city. This may suggest that commuters not working within the city of Flint usually are employed in the various nearby fringe establishments. Actually only about one-half of the short-time commuters worked within the city of Flint.

Investigation showed that the mode of transport used by commuters was also a significant variable affecting the time spent en route. Examination of Table XXXII indicates that a considerably greater proportion of commuters who drove private cars to work spent a short time commuting than those commuters who participated in carpools, rode with other drivers,

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[18]Again for descriptive purposes, an arbitrary choice was made here to define a commuting time of less than 20 minutes as "short" while a commuting time of 20 minutes or more was defined as "long".

Table XXXI

Place Of Work For Short And Long Time Commuters*

Place of Work	Short Time Commuters	Long Time Commuters
In city	50.4%	85.8%
Outside city	48.8	14.2
No answer	0.8	- - -
Total	100.0	100.0
Total number of cases	135	170

$\chi^2 = 44.29$ P = .001

*The "No answer" category was omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

Table XXXII

Time Spent En Route To Work For Types Of Commuters*

Time Spent En Route	Drives a Car	Carpool or Rides With Another	Bus or Taxi	Other (walk or bike)
Short time (less than 20 minutes)	46.3%	29.8%	- - -	100.0%
Long time (20 minutes or more)	53.7	70.2	100.0	- - -
Total	100.0	100.0	100.0	100.0
Total number of cases	246	47	5	7

$\chi^2 = 4.35$ P = .05

*The "Bus or taxi" and "Other" categories were omitted in the computation of the Chi-square, leaving the table with one degree of freedom.

and used public transportation. This was probably due to the fact that commuters who drove private cars avoided the various stops and delays which are inevitable in carpool arrangements and the use of public transportation.

An interesting observation was made when viewing both time spent en route and distance traveled to work from the standpoint of occupational status. Table XXXIII reveals that white collar workers spent considerably less time commuting to work than blue collar workers. Two-thirds of the skilled workers and foremen spent 20 minutes or more in commuting to work as compared to less than two-fifths (37.8%) of the white collar workers. About one-half of the semi-skilled and

unskilled workers spent 20 minutes or more en route to work. The statistically significant differences show quite conclusively that white collar workers spent less time in commuting to work than blue collar workers. These findings are especially interesting when compared with the findings presented in Table XXVIII regarding distance traveled to work. Almost two-thirds of the white collar workers traveled long distances as compared to about two-fifths of the blue collar workers. The findings appear somewhat contradictory. However, the fact that white collar workers spend less time in commuting long distances may be explained on the basis of the earlier finding that they usually drive private cars to work and thereby avoid delays which are inevitable with carpool type and public transportation arrangements.

Table XXXIII

Time Spent En Route To Work For Occupational Groups

Time Spent En Route	White Collar	Skilled and Foremen	Semi-skilled & Unskilled
Short time (less than 20 minutes)	62.2%	33.7%	46.4%
Long time (20 minutes or more)	37.8	66.3	53.6
Total	100.0	100.0	100.0
Total number of cases	45	95	151

$\chi^2 = 10.38$ P = .01

Only a few of the many factors influencing commuting time to work have been considered. Other factors, such as availability of parking space, the location of plants with respect to roads, the condition of roads, traffic, and the population density of areas in which plants are located also influence the commuting time. All of those factors will also very likely enter into employee decisions regarding choice of a place to work.

Summary

In Chapter IV an attempt was made to find relationships between a number of variables relevant to commuting and to test a number of previously stated hypotheses.

Commuting distances to work is directly related to the number of riders in the commuting vehicle, i.e., ride-sharing increases with distance from workplace. Although the data supported this hypothesis, the crude categories[16] used prevented the hypothesis from being adequately tested.

Occupational status is directly related to the distance traveled to work, i.e., distance traveled to work increases with higher occupational status. Although the data were in the expected direction, statistically significant evidence to support this hypothesis was not found.

Age is inversely related to the distance traveled to work, i.e., distance traveled to work decreases with increase in age. The findings of previous research[17] were not supported by the test of this hypothesis

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[16] See footnote #15.

[17] Parnes, Op. cit.

in the present study. However, the differences found, although not statistically significant, were in the expected direction. An examination of Table XXIX suggests an inverse relationship between age and distance traveled to work.

A smaller proportion of women than men drive cars to work. An investigation of the data relevant to this hypothesis showed conclusive evidence in support of the stated hypothesis. It was found that women depended upon public transportation units to a much greater degree than men did. Women, also, tended to be included in carpools and ride with another driver much more than men. It was speculated that many female householders, because they are usually "supplementary breadwinners", make a decision to work largely on the basis of availability of transportation other than the family car, the use of which is usually dominated by the male head of the household or "major breadwinner".

Women workers do not commute as far as men workers. No evidence of support for this hypothesis was found in the present study. The data showed that almost an equal proportion of men and women commuted both short and long distances as defined in this study. However, the crude categories used here and the relatively small sample upon which the present study was based limited greatly the possibility of adequately testing this hypothesis. A larger sample and a narrower breakdown of distance traveled to work would be more useful in testing this hypothesis.

The present data showed statistically significant differences to suggest that occupational status is directly related to the use of the private automobile as a means of commuting to work; i.e., the higher the occupational status the greater the tendency to drive alone. It

was suggested that this may serve as a fruitful hypothesis for further research.

Statistically significant differences were found to show that white collar workers spent less time in commuting to work than blue collar workers. This is probably due, in turn, to the fact that a greater percentage of them drove private cars to work and thereby avoided the delays which are involved in carpool and public transportation arrangements.

Traffic congestion within the city of Flint may be an important factor in explaining the significant finding that most of the commuters who spend a long time commuting work within the city of Flint.

CHAPTER V

SUMMARY AND CONCLUSIONS

The empirical data for this study of migration and commuting were derived from a questionnaire obtained from 362 households in the Carman School District. This district is located in the rural-urban fringe area of Flint, Michigan. The writer, through the cooperation of the Carman School officials and teachers, was able to conduct a research study of the fringe which dealt with sociologically important areas of inquiry. It must be emphasized that any inferences from this study must be tempered with the realization that the data refer only to a specific fringe area of a single city.

Although many of the findings based upon this study appear to be of limited value, some of them appear worthy of further investigation. The examination of the data, especially that concerned with commuting, served as a point of departure for a great deal of speculation. Hopefully these may stimulate a series of testable hypotheses for future research.

The comparisons of the data of this study with those previously conducted in Flint and elsewhere were presented in spite of wide differences in methods used. In general, the findings were remarkably similar. However, some significant differences will emphasize the need for further research in these areas.

This research project centered on the testing of a number of hypotheses. Since a few general investigations concerning the problems of migration and commuting had been done, the writer chose to test further some of these. Other hypotheses were suggested to him as a result of extensive

interest in the problems. In addition, a number of correlates to the hypotheses were briefly considered.

A number of significant findings on migration were found in Chapter III. Thus the settlement of the Flint fringe is decreasingly a direct result of population movement toward Flint. Recent settlement of the fringe area has been largely due to outward movement from the city, making the area more like other segments of an urban community. Differences (although not all were statistically significant) between centripetal and centrifugal migrants were quite apparent, in spite of some rather crude measures utilized. As was hypothesized, a larger proportion of centrifugal migrants than centripetal migrants were employed in the city. Two hypotheses were not supported. Differences (although not statistically significant) tended to refute the hypothesis that centrifugal migrants represent a broader age range than centripetal migrants. Differences noted in testing the hypothesis that centrifugal migrants have fewer children than centripetal migrants were not large enough to either support or refute the hypothesis. Some findings other than those dealing with the specific hypotheses also proved to be interesting and significant. Duration of residence in the Flint area was inversely related to residential mobility, i.e., households with the longer durations of residence in the area were residentially more stable. Migration to the research site, which contained very few "natives" of the Flint area, from other places in Michigan was significant in the early development of the fringe over twenty years ago. However, since that time migration from the southern United States has been most significant. For the most part, the findings suggested that the differences observed and those hypothesized are worthy of more investigation.

Findings on commuting relationships in Chapter IV revealed a number of significant findings suggested by prior research. One such finding was that the practice of ride-sharing increased with the distance from home to workplace. Another was that a smaller proportion of women than men drove cars to work. Women depended upon public transportation to a much greater degree than men did. Three hypotheses were not adequately supported, however, two of them showed differences in the expected direction. A test of the hypothesis that women workers do not commute as far as men workers indicated that men and women workers commuted approximately equal distances to their places of employment. The data concerned with the hypothesis that distance traveled to work increases with higher occupational status were in the expected direction as were those concerned with the hypothesis that distance traveled to work decreases with increase in age. The present study also uncovered the importance of other variables unanticipated by prior investigations. Some of these variables were tested in the present study while others have been suggested as objects for further investigation. One such unanticipated finding was that white collar workers spent less time in commuting to work than blue collar workers in spite of the fact that they also commuted longer distances. This is partially explained by the observed tendency of white collar workers to travel alone to work in a private car and thus avoid the delays which are inevitable in carpool and public transportation arrangements. Hopefully the present study has indicated a need for more intensive investigation of all commuting variables.

Implications for Further Research

This study has been devoted to general fact finding on the rural-urban fringe. Hopefully further research will pursue these findings with a sharper and more specific design. Some suggestions for such further research may be offered.

First, it may be more profitable to pursue the leads from this study by a field investigation. Such an attack can provide clues to motivational factors which underlie migration and commuting practices. The reliability and validity of such a study will be improved by insuring representativeness of the sample by including all ages so that all family sizes will be equitably represented.

Secondly, comparable data on migration and the journey to work for the rural-urban fringe will also be needed. Data for the mother city and the outlying rural areas will provide valuable comparisons. Such data will also find it profitable to consider actual migration in the light of potential migrant populations.

The present study offers only a few insights into the study of migration and commuting in fringe areas around major cities. Although the design of the study did not provide the answers to a host of questions it did attempt to define, describe and investigate two general areas of potential significance to an adequate understanding of this increasingly significant type of ecological area. Hopefully, this attempt will lead to more intensive and extensive investigations in these two researchable areas.

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APPENDICES

Dear Parent:

You are being asked to help us with a study of your school district being made by Michigan State University.

The main purpose of this study is to gather information that will be helpful in solving school problems in your district. The study is also concerned with traffic and transportation problems in your area. All parents, teachers, and students in the 7th, 8th, 9th, and 10th grades are co-operating by filling in a questionnaire.

In addition to the student questions, we are asking parents to give us additional information that will help us in the study. These short questions should take no more than ten minutes to answer.

All information will be held in strict confidence. No individual parent or student will be identified in the study. A free copy of the final report by Michigan State University will be sent to anyone who wants it. Just check the box on the next page for a free copy.

To help us complete this study on time, please see that the student returns the complete questionnaire this week.

With your help, we will be better able to understand the problems facing the school, and this will benefit both students and parents. By your answers to these short questions, you can help us do a better job for you.

Thank you very much for your co-operation.

Mr. Frank Hartman, Superintendent
Mrs. Gladys Dillon, Assistant Superintendent

Grade Seven:
Miss Jean Ewing
Mrs Hilda Michener
Mr. Gerald Williams

Grade Eight:
Miss Mary Coleman
Mrs. Cathleen Durvan
Mr. Rudy Mora
Mrs. Dorothy Young

Grade Nine:
Mrs. Alice Coyner
Mr. C. Keith Edmonds
Miss Virginia King
Mr. Eugene Williams

Grade Ten:
Mrs. Sandra Anderson
Mr. Robert Brooks
Mr. Joseph Israel
Mr. James Jaksa
Mr. Frederick Lamb
Mrs. Nancy Pollard
Mr. Robert Pollard

QUESTIONS ON THIS PAGE SHOULD BE ANSWERED BY THE STUDENT.
THIS SHEET WILL BE REMOVED BY THE TEACHER BEFORE THE ANSWERS INSIDE ARE COUNTED.

1. Name of student: _____

2. Complete home address: _____ _____
(number) (Street or road)

_____ _____
(city or town) (state)

3. Do you live on a farm now? _____Yes _____No

4. Did you ever live on a farm? _____Yes _____No

5. If you lived on a farm, how old were you at that time? From _____ to _____.
(age) (age)

6. How do you usually get to school? CHECK ONLY ONE:

_____Drive a car
_____Ride with another driver
_____Car pool: take turns driving
_____Walk
_____Hitch-hike
_____Ride a bicycle
_____Ride a motor scooter
_____Take a city bus
_____Take a school bus

7. If you take a school bus, which one is it? _____

8. Do you have a driver's license? _____yes _____no

9. How many cars or trucks are operated by members of your family living at home?

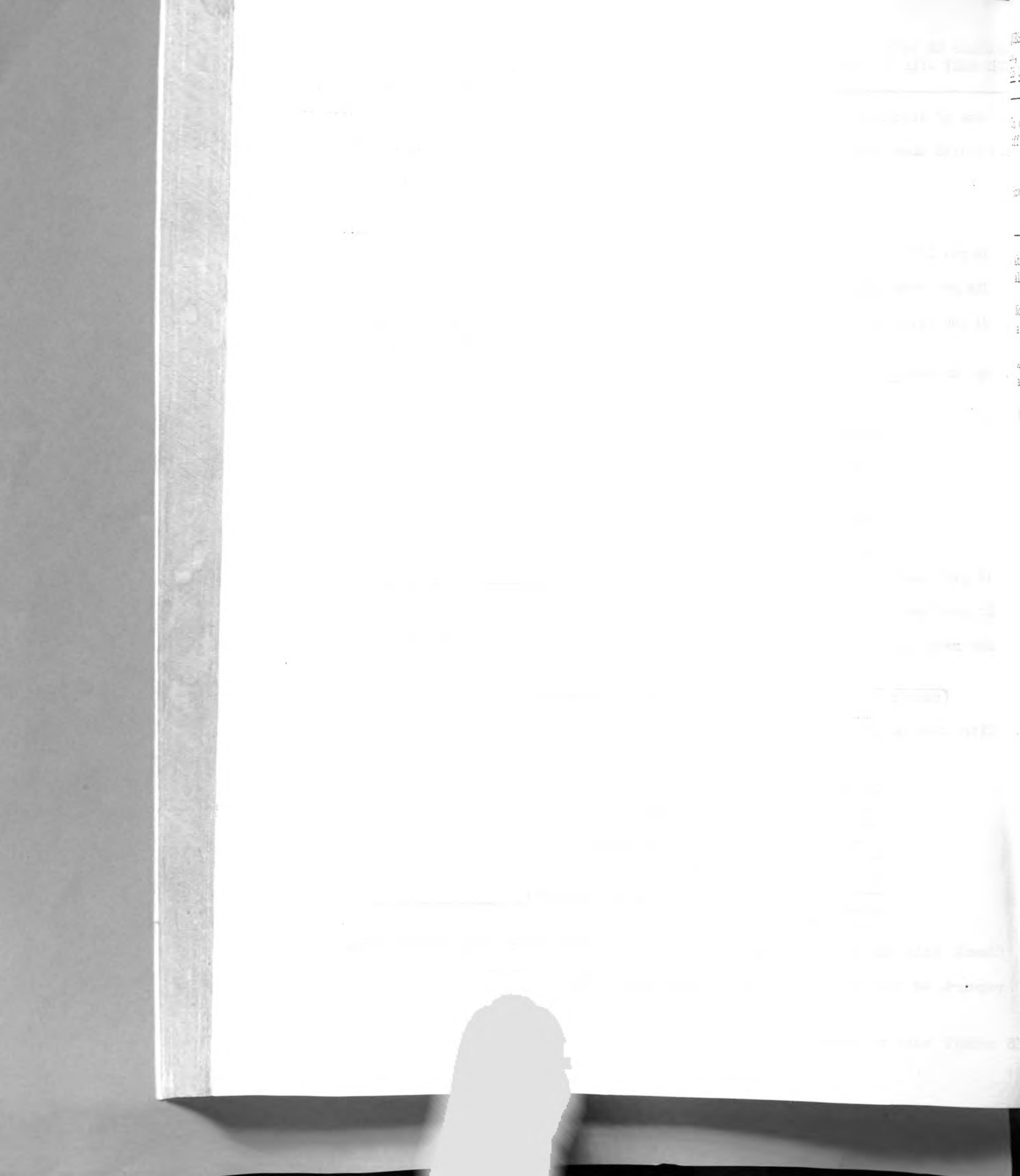
_____ _____
(number of cars) (number of trucks)

10. With whom do you live now? CHECK ONLY ONE:

_____With mother and father
_____With mother only
_____With father only
_____With mother and stepfather
_____With father and stepmother
_____With stepmother and stepfather
_____With grandparents
_____With aunt and uncle
_____With other relatives (Please specify: _____)
_____With other non-relatives

11. Check this box if your parents or others would like a free copy of the final report on this study by Michigan State University: _____

THIS SHEET WILL BE REMOVED BY THE TEACHER BEFORE THE ANSWERS INSIDE ARE COUNTED



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E QUESTIONS ON THIS PAGE MAY BE ANSWERED BY EITHER THE STUDENT'S MOTHER OR ATHER, STEPMOTHER OR STEPFATHER * * * EITHER THE MALE HEAD OF THE HOUSEHOLD HIS WIFE.

To do a better job, what kinds of changes should be made by the school officials? (Use the back of this sheet if there is not enough room here.)

How would you rate the job being done by the school officials now?

____Excellent ____Good ____Fair ____Poor ____Very bad

About how much schooling do you think most boys need these days to get along in the world? CIRCLE ONE:

None at all	Grade school:	High school:	College:	Technical school
	1 2 3 4 5 6 7 8	1 2 3 4	1 2 3 4	Business school

About how much schooling do you think most girls need these days to get along in the world? CIRCLE ONE:

None at all	Grade school:	High school:	College:	Technical school
	1 2 3 4 5 6 7 8	1 2 3 4	1 2 3 4	Business school

Suppose a young man just leaving high school asked your advice on what would be the best occupation to aim toward. What one job do you think you would advise her to aim toward?

_____

Suppose a young woman just leaving high school asked your advice on what would be the best occupation to aim toward. What one job do you think you would advise her to aim toward?

_____

How often are you able to attend Parent-Teachers meetings (P-TA)?

____Always ____Most of them ____Sometimes ____Never

What one night would be best for you to attend school events? _____

When did the family move to its present address? _____ _____
(month) (year)

What was your last complete address before moving to your present home?

_____ _____ _____
(Number) (street or road)

_____ _____
(city or town) (state)

Was this last home on a farm? ____Yes ____No

Do you rent, do you own your own home, or are you buying it?

____Rent ____Own home ____buying

Is the family generally satisfied with this neighborhood? ____yes ____no

Does the family intend to move within the next year? ____Yes ____NO

About how many times have you moved within the last five years? _____

How many cars or trucks are operated by family members living at your house? _____
(number of cars or trucks)

Is city bus service available within walking distance of your home?

____Yes ____No

Are the family members generally satisfied with the transportation that is available to them? ____Yes ____No

THESE QUESTIONS WERE ANSWERED BY ____MALE HEAD OF HOUSEHOLD ____WIFE

STIONS ON THIS PAGE TO BE ANSWERED FOR STUDENT'S FATHER, STEPFATHER, OR EVER IS THE MALE HEAD OF THE HOUSEHOLD

Date of his birth: _____ (month) _____ (year)

Place of his birth: _____ (city or town) _____ (state or country)

If he was born outside Genesee county, Michigan, when did he move to the Flint Area (Genesee county) for the first time? _____ (month) _____ (year)

Where did he live just before moving to the Flint area for the first time? _____ (city or town) _____ (state or country)

What was the last grade he completed in school?

CIRCLE ONE: Grade school: 1 2 3 4 5 6 7 8 High school: 1 2 3 4 College: 1 2 3 4 Business, Technical Vocational School

Did he spend any part of his life on a farm? Yes _____ No _____

If he lived on a farm, how old was he at that time? From ___ (age) to ___ (age).

Does the family plan to do any farming or vegetable gardening during this coming summer? Yes _____ No _____

If you plan to farm this summer, will it be

CHECK ONLY ONE:
___ to sell to other people
___ for family use only
___ as a hobby only

Is the male head of the household employed now? CHECK ONLY ONE:

Yes _____ No; sick _____ No: laid off _____ no; retired _____

Unless he is retired, what is his main job or usual occupation?

_____
(Be as specific as possible-example: lathe operator, foreman, farmer)

About how many hours per week does he work on this job? _____ hours

About how many weeks did he work on this job last year? _____ weeks

About how long has he done this type of work? _____ years

Where does he work? _____ (name of company or employer)

_____ (street address) _____ (city or town)

When did he start to work there? _____ (month) _____ (year)

About how far is this workplace from home? _____ miles

How much time does it usually take him to get to work? _____ minutes

How does he usually get to work?

CHECK ONLY ONE:
___ Drives a car
___ Rides with another driver
___ Carpool; takes turns driving
___ Walks
___ Rides a bicycle
___ Takes a bus or taxi

If he drives to work, how many other people usually ride with him? _____

Which hours or shift does he usually work on this job? _____

41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79

Page 3

V. Does the male head of the household have any other job besides the one named above? Yes_____ IF YES, COMPLETE THE FOLLOWING BOX ON THIS PAGE

No_____ IF NO, SKIP THE BOX ON THIS PAGE AND TURN TO PAGE 4, THE NEXT LONG SHEET

KK. What is his other job or occupation?

_____
(Be as specific as possible-example; haulaway driver, farmer, inspector)

LL. About how many hours per week does he work on this job? _____hours

MM. About how many weeks did he work on this job last year? _____weeks

NN. About how long has he done this type of work? _____years

OO. Where does he work? _____
(name of company or employer)

_____ _____
(street address of workplace) (city or town)

PP. When did he start to work there? _____ _____
(month) (year)

QQ. About how far is this workplace from home? _____miles

RR. How much time does it usually take him to get to work? _____minutes

SS. How does he usually get to work? CHECK ONLY ONE:

_____Drives a car
_____Rides with another driver
_____Car pool; takes turns driving
_____Walks
_____Rides a bicycle
_____Takes a bus or taxi

TT. If he drives to work, how many other people usually ride with him? _____

UU. Which hours or shift does he usually work on this job? _ _____

LEAVE THIS SHORT SHEET BLANK IF MALE HEAD OF THE HOUSEHOLD HAS ONLY ONE JOB.

EVERYONE FILL IN THE BOX ON THE FOLLOWING LONG SHEET (PAGE 4) FOR THE MOTHER, STEPMOTHER, OR WHOEVER IS THE WIFE OF THE MALE HEAD OF THE HOUSEHOLD.

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STIONS ON THIS PAGE TO BE ANSWERED FOR STUDENT'S MOTHER, STEPMOTHER, OR EVER IS THE WIFE OF THE MALE HEAD OF THE HOUSEHOLD

Date of her birth: _____ (month) _____ (year)

Place of her birth: _____ (city or town) _____ (state or country)

If she was born outside of Genesee county, Michigan, when did she move to the Flint area (Genesee county) for the first time? _____ (month) _____ (year)

Where did she live just before moving to the Flint area for the first time? _____ (city or town) _____ (state or country)

What was the last grade she completed in school?

CIRCLE ONE: Grade school: 1 2 3 4 5 6 7 8 High school: 1 2 3 4 College: 1 2 3 4 Business, technical, Vocational school

Did she spend any part of her life on a farm? Yes _____ No _____

If she lived on a farm, how old was she at that time? From _____ (age) to _____ (age)

What was the date of her marriage to her husband? _____ (month) _____ (year)

Does she have a driver's license now? Yes _____ No _____

Is she working for pay outside the home now?

Yes _____ IF YES, COMPLETE THE FOLLOWING BOX ON THIS PAGE

No _____ IF NO, TURN TO THE NEXT PAGE (PAGE 5) AND ANSWER QUESTIONS TO BE COMPLETED BY ALL STUDENTS.

If she is working for pay outside the home, what is her job or occupation?

_____
(Be as specific as possible-example: secretary, waitress, teacher, cook)

About how many hours per week does she work on this job? _____ hours

About how many weeks did she work on this job last year? _____ weeks

About how long has she done this type of work? _____ years

Where does she work? _____ (name of company or employer)

_____ (street address of work) _____ (city or town)

When did she start to work there? _____ (month) _____ (year)

About how far is this workplace from home? _____ miles

How much time does it usually take her to get to work? _____ minutes

How does she usually get to work?
- ___ Drives a car
- ___ Rides with another driver
- ___ Car pool: takes turns driving
- ___ Walks
- ___ Takes a bus
- ___ Takes a taxi

If she drives to work, how many other people usually ride with her? _____

Which hours or shift does she usually work on this job? _____

QUESTIONS ON THIS PAGE SHOULD BE ANSWERED BY THE STUDENT.

41 Which school subject do you like most? _____ least? _____

42 How much do you like school? ___Very much ___Some ___Not at all

43 As far as you can tell now, do you plan to finish high school? ___Yes

44 ___No

45 If you had your choice, what one job would you like to do for your life work? _____

46 (Be as specific as possible-example: housewife, coach, carpenter)

47 How good do you think your chances are for getting into this kind of life work? ___Good ___Fair ___Poor ___Don't know

48 If you think that your chances of getting into this life work are not very good, what job do you really expect do do for a living?

49 _____

50 (Be as specific as possible-example: teacher, housewife, foreman)

51 List all of the out-of-class school activities that you have taken part in during this year: _____

52 Give the first and last names of your three best friends in your grade at school --- those with whom you like to run around the most:

53 (1) _____

54 (2) _____

55 (3) _____

56 How far do these friends live from your house? (1) _____ miles

57 (2) _____ miles

58 (3) _____ miles

59 How far do you live from school? _____ miles

60 How many times have you moved in the last five years? _____ moves

61 Place of your birth: _____ _____

62 (city or town) (state)

63 Date of your birth: _____ _____ _____

64 (month) (day) (year)

65 Ages of all boys living at your home: _____

66 Ages of all girls living at your home: _____

67 Your sex: _____Male _____Female

68 If you are working for pay now, what is your job? (Skip if not working)

69 _____

70 (Be as specific as possible-example: farm worker, baby sitter)

71 About how many hours per week do you work on this job? _____ hours

72 If you plan to work for pay this coming summer, what kind of job will you try to get? (Skip if you do not plan to work this coming summer)

73 _____

74 (Be as specific as possible-example: lifeguard, waitress)

75 What do you plan to do when you leave high school? _____

76 _____

77 What are your hobbies? _____

78 To do a better job, what kindsof changes do you think should be made by the school officials? (Please use the back of this sheet for answer)

79

OUTLINE MAP OF THE CARMAN SCHOOL DISTRICT