

THE USE OF DECISION MAKING DATA IN LOCATING
PUBLIC SCHOOLS AND UTILIZING EXISTING SCHOOL
FACILITIES IN THE FUTURE

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JOEL A. SHAFFNER

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Approved by:


Major Professor

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Chapter I

INTRODUCTION

This thesis is a study of the demographic patterns of growth and their use in developing an improved procedure for the location of new public schools in newly developing metropolitan areas and the utilization of existing school facilities in the future.

The Problem

Demographic patterns of growth often have not been and are not now normally used by school authorities as a basis for decision making by which building needs and the location of new public schools can be determined. The result of this has been the failure to develop an effective school planning program. Decisions as to the building needs and the location of new public schools have typically been made in response to crisis situations. The nature of such decisions are thus arbitrary.

The Hypothesis

The demographic patterns of growth are important to the public comprehensive planning process. They can be determined, projected and used as a fundamental part of the decision making data to:

1. locate new public schools,

2. designate the manner in which existing buildings may be best utilized in the future.

School authorities can do a better job of locating new public schools and utilizing existing facilities in the future where new facilities cannot be justified if they:

1. Use data and information on demographic patterns of growth and are assisted in the use of such data.

2. Develop a school planning program which relates to the comprehensive community plan.

3. Develop goals and criteria as to the utilization of school buildings and the location of new schools which can serve as a basis for an effective school planning program.

Concentration of Study

This study concentrates on an area that includes four school districts. They are located within the boundaries of the Topeka Metropolitan Area. Figure 1 shows the boundaries of each school district. They include Unified School District 501, Shawnee Heights USD 450, Washburn Rural USD 437, and Seaman USD 345. The boundaries of the Topeka School District take in some areas outside the city limits, but essentially they are coterminous with the city boundaries. The boundaries of each of the other school districts take in a very small area within the city limits. As a point of reference for this study, they will be considered outlying districts.

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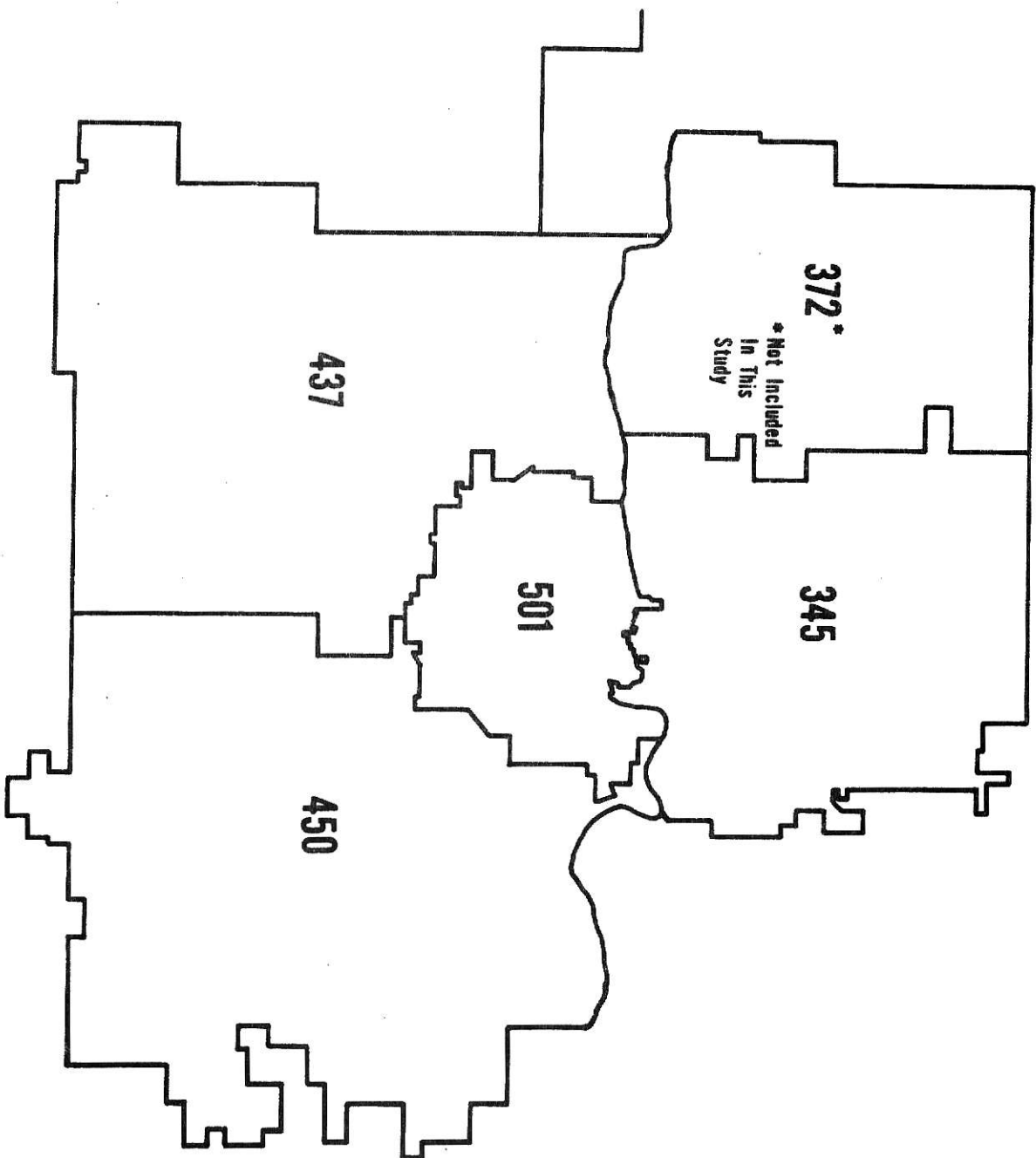


Figure 1:
Unified School
Districts

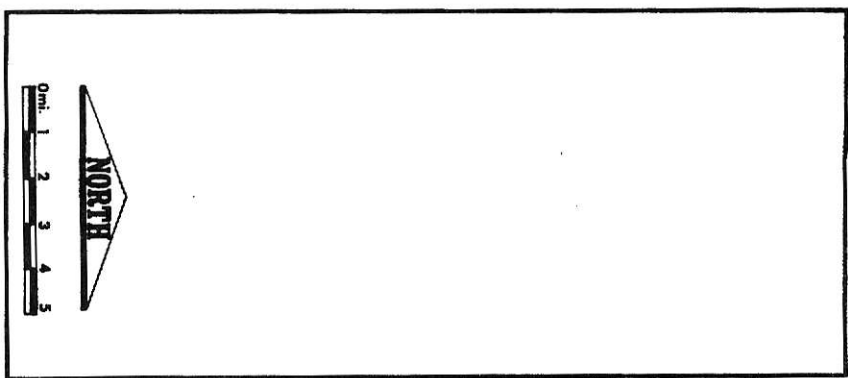
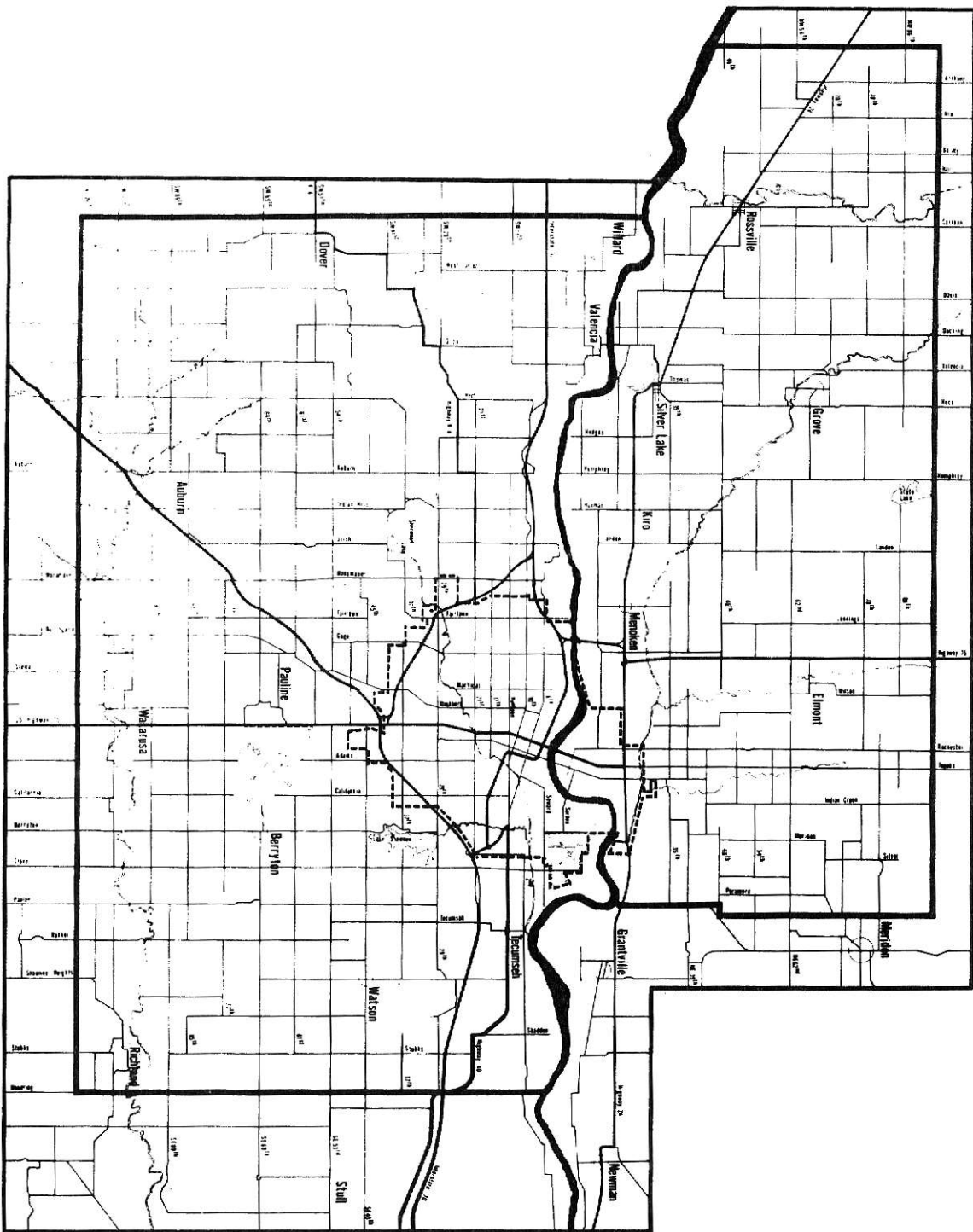


Figure 1a:

Decisions as to where school district boundaries are delineated are dependent upon the joint recommendations of all four boards and the final approval of the State Board of Education.

Physical barriers such as major thoroughfares, railroad tracks and rivers are normally used as criteria for deciding where school districts should be divided.

Within each school district several attendance areas have been established. Their boundaries have been delineated by the district school board.

Existing neighborhood boundaries are the main criteria used for establishing the various attendance areas. This is particularly characteristic of Topeka School District attendance areas. Here neighborhoods are established and the residents generally identify the school as the focal point of their neighborhood.

In order to make the content and purpose of this study clear to the reader, it is desirable to define the significant terms and their relationship to the study.

1. Demography - the statistical and mathematical study of the size, composition and spatial distribution of human populations and of changes over time in these aspects through the generation of the processes of fertility, mortality, migration and social mobility.

2. School district - an administrative unit consisting of territory that is under the supervision of the school

board from which decisions are made in regard to any number of factors that relate to the status of any school in the individual district.

3. Attendance area - an administrative unit, or subdivision of it, consisting of the territory from which children legally may attend a given school building or school center.

4. Grade organization - any plan followed in assigning school grades to the primary and secondary administrative unit, such as the 6-3-3 plan or the 8-4 plan. This study focuses on the 6-3-3 plan -- six years of elementary school, three years of junior high school, and three years of high school.

5. Total school enrollment - the entire number of pupils who have been on the public school roll at any time during the period for which that enrollment is being reported.

6. Elementary school enrollment - this applies to the same concept as total school enrollment, except that it includes enrollment from kindergarten to sixth grade.

7. Junior high school enrollment - this applies to the same concept as total school enrollment, except that it includes enrollment from grades seven through nine.

8. High school enrollment - this applies to the same concept as total school enrollment, except that it includes enrollment from grades ten through twelve.

9. Impact - a concentrated force that can be measured to some degree which produces change. In this study the concentrated force which will produce change in pupil enroll-

ment is related to elements which influence the demographic patterns of growth in the Topeka metropolitan area.

10. Model - generally a mathematical representation of a phenomenon previously conceptualized in verbal and logical form and in theory. In this study the model will represent a process as it actually should occur or function in reality.

11. Dwelling saturation - the relationship of existing homes to the number that might be built under present zoning ordinances or patterns of home development for its available land of the district. Information that is needed is the number of available acres of undeveloped land and lot size. Then one can figure the potential number of homes.

12. Dwelling unit - according to the 1960 Housing Census, one room or rooms connected together, constituting a separate and independent housekeeping establishment for owner occupancy or rental or lease on a weekly, monthly or longer basis, and physically separated and containing independent cooking and sleeping facilities. ³

13. Comprehensive Plan - a long term general guide to orderly city development to promote health, safety, morals and welfare of the people of the community.

14. Flexibility - the capacity to adjust to unforeseen, as well as foreseen, development in the community and the pupil population.

15. Estimates - these refer to approximations as to the size or composition of a population at a current time or at a

specified time in the past when actual population was not known.⁴

16. Projections - mathematical calculations of what would happen to size and/or composition of a population at specified dates in the future, if certain stated conditions were fulfilled.⁵

17. Forecasts - statements by a knowledgeable authority that certain events are likely to occur at a specified time in the future.⁶

18. Regional Planning Area - the Topeka Shawnee County Regional Planning Area. This area comprises the city of Topeka and that portion of Shawnee County three miles beyond the corporate limits as of March 1, 1962.⁷

19. Topeka Metropolitan Area - this is coterminous with "Metropolitan Area," "Shawnee County," and "Topeka Standard Statistical Area. They have the same meaning and are used interchangeably.⁸

20. SMSA or Standard Metropolitan Statistical Area - as defined by the United States Bureau of the Census a Standard Metropolitan Statistical Area is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more.⁹

21. Land Use - a term used to refer to the spatial distribution of land functions -- the actual purpose for which land is being used at any time.¹⁰

Footnotes

1. Neighborhood is defined by the Southwest Georgia Area Planning and Development Commission (Donalsonville, Georgia Neighborhood Analysis Prepared by the Southwest Georgia Area Planning and Development Commission (1970, p. 3) as a physical unit within which residents may all share the common services, social activities and facilities required in the vicinity of the dwelling unit.

The criteria generally used to delineate neighborhood boundaries are:
 - a. natural boundaries - small streams, creeks, rivers or ridge lines,
 - b. man made barriers, railroads, major thoroughfares, property lines and land lot lines,
 - c. community identity - geographical areas (school, church, shopping centers) or identifiable subdivisions whose community name has been generally accepted by local residents.
2. Donald F. Bogue, Principles of Demography (New York: John Wiley and Sons, Inc., 1969), p. 1.
3. United States Census of Housing, Kansas and Small Areas: 1960 (United States Department of Commerce, Bureau of the Census), Introduction XV.
4. State of Kansas Economic Development Planning and Programming, Design for a Study of a Demographic Informational System for Kansas (Prepared by the Wichita State University Department of Sociology and Anthropology), p. 37.
5. Ibid., p. 39.
6. Ibid., p. 39.
7. Preliminary Land Use Plan for the Topeka Shawnee County Regional Planning Area (Prepared by the Topeka Shawnee County Regional Planning Commission, August, 1962), Introduction II.
8. Ibid., Preface II
9. Ibid.
10. Ibid., Preface III.

Chapter II

REVIEW OF LITERATURE

The need for a school planning program has always existed. After World War II this need increased, mainly as a result of the backlog of school construction from 1930. Three reasons were attributed to this deficiency in school construction.¹

First, the depression years of the 1930's rendered it financially difficult for many school districts to provide the needed new facilities or to retire existing obsolete school buildings.

Second, World War II made it virtually impossible to secure building materials and skilled labor for non-military purposes.

And finally, a higher birth rate beginning in 1940 increased the need for the construction of more classrooms.

In order to overcome the shortage in school facilities, it was found that an increasing number of school districts began to engage in some form of long range programming for the building of schools. In some cities the superintendent was trained in planning for the school plant. Other cities hired professional school consultants to assist the school board in developing a long range study of building needs. In spite of this trend to study long range programming for school

construction, the Council of State Governments found, in a study entitled, The Forty Eight State School Systems, that only a few of the states had systematically projected the need for school facilities by means of thorough analysis of the existing school plant, supplemented by reliable estimates of school population and enrollment trends.²

In 1944, the American City reported of the 146 cities that had submitted information on various post war projects being planned, only twenty-one mentioned schools. In the same year a survey was made of cities over 100,000 to determine the extent to which school plant planning was part of overall community planning. Of the ninety-two cities to which questionnaires were sent, sixty-three replied. Of these sixty-three cities, twenty-five reported no joint planning, twenty-seven reported a close relationship between the school board and the planning commission and eleven admitted to informal working relationships.³

Because of its magnitude, planning for schools calls for information which is difficult and time consuming to gather. Correctly done, it employs or consults population and other data used in comprehensive planning.⁴

One of the main reasons why school planning programs have been ineffective is that school authorities normally do not use all available information for making enrollment projections to determine building needs and the location of new schools.⁵

It was indicated that many school planning reports have assumed in making enrollment estimates, that a trend in the area under study will continue for a period of time. Such an assumption may not be valid. For example, there may be facts relative to the neighborhood or to a larger area of which it is a part which would indicate a reversal of a trend or the development of a new trend. In the absence of consideration of all available information, assumptions based upon past experience alone may well lead to errors in determining the school building needs of a particular area.

One result of not considering all available information when making assumptions about enrollment estimates and the subsequent building needs can be clearly demonstrated in documentation made by the state of New York of the areas where most under-utilized school buildings were located.⁷ These were in areas that:

1. Had been expected to develop into residential areas but did not.
2. Had changed from residential to commercial or industrial neighborhoods.
3. Had been developed with owner-occupied homes after the First World War and many were no longer inhabited with school age children.
4. Had undergone a change in the type of housing; for example, from single family houses to small apartments.

5. Had been subject to a steady or sudden out-migration of population.

6. Had been affected by a new parochial school or addition to existing parochial schools.

The Commission also emphasized that future enrollments should be affected by many local conditions, such as the percentage of young families, housing developments, stability of employment, population shifts, utility of land, highway and street development and economic conditions. It was emphasized that the importance of these local conditions must be studied in conjunction with the school planning program for each community.⁸

Thus, for example, in judging whether or not a given level of births is likely to continue, consideration must be given to these local conditions as well as the more general conditions of age, size of population, distribution of population, marriage trends and family size. Data on all these factors furnish important clues as to what might happen to future enrollments. Few lend themselves to accurate prediction, but study and a recognition of the probability that some of these conditions will effect local enrollments often will lead to more realistic assumptions.⁹

It is known from past experience that error cannot be completely eliminated in estimating enrollment for school building purposes. Many assumptions are involved in estimating school enrollment and new developments can occur during the

life of a school building. Studies on demographic patterns of growth can help reduce error in estimating school enrollment. This is because such studies examine these factors which produce change in existing enrollments. To be effective, studies on the demographic patterns of growth should be undertaken well in advance of planning for a school building.

The findings of the State of New York Commission on School Buildings show that the margin of error in both the short and long range estimates on pupil enrollment can be reduced by basing assumptions upon all relevant data.¹⁰

Why Have School Authorities Not Used Demographic Data

School authorities have not normally used data on demographic patterns of growth to project enrollment. This can be attributed to two main reasons.

First, there is usually no legislation which forces local school authorities to coordinate the school plan with the comprehensive community plan. This is largely due to the fact that the public education function in most states lies outside the control of municipal government. This suggests that the local planning agency usually has no regulatory powers in the school planning function.

In addition, this legal arrangement normally minimizes contact between the local school authority and the local planning agency. Such contact can be especially valuable to the school authority since they can be assisted by the planning agency in the collection of demographic data as it relates to the school plan.

In the State of Kansas, the area of concentration of this study, public education is both a state and local function. However, the most that could be required by actions of the planning commission as it relates to school planning is a two-thirds overriding vote by the board of education concerned. This suggests that school planning as a function of the planning commission must be primarily advisory in nature.¹¹

Litigation in states other than Kansas in regard to such regulatory powers of the city as zoning has resulted in numerous decisions that public education is a state function lying outside the control of municipal governments. Such rulings strongly suggest that public education systems are not bound by any planning or regulatory activity of the city or county in which they are located.¹²

The second reason why school authorities do not normally use demographic data is that they usually don't have the expertise to evaluate or analyze such information, when application of it is needed to determine building needs and location of new schools. Neither can they, normally, afford the services of a full-time consultant who could assist them in the use of demographic data. From limited experience it seems school authorities often find it less troublesome to project pupil enrollment and subsequent building needs by the use of one or several ratio projection techniques or by making assumptions based on historical trends.

Generally, planning agencies are capable of taking an

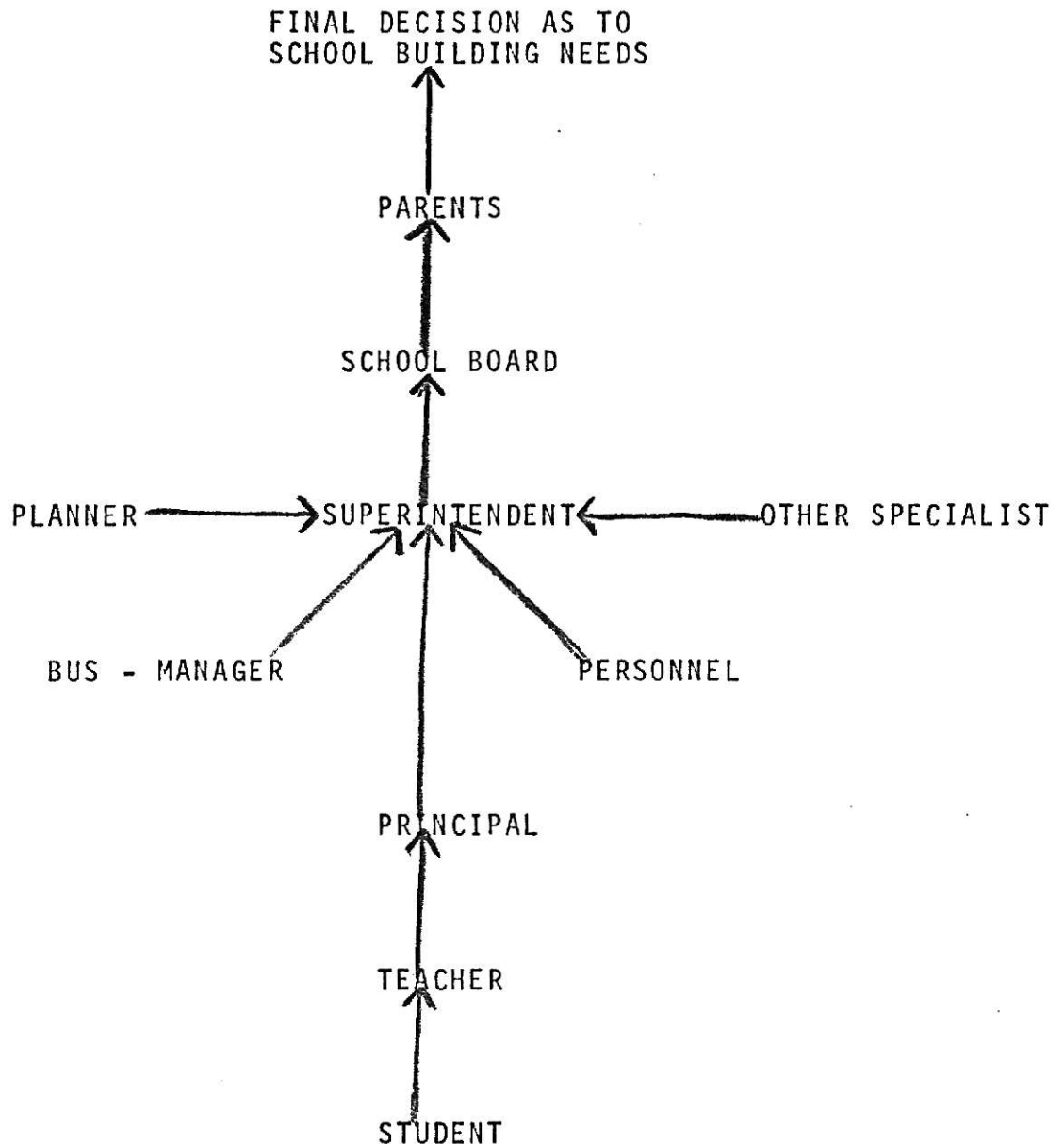
active role in school planning. This is based on two factors: first, planning agencies have direct access to pertinent information that could be used for school planning. Second, they have professional expertise in collecting, analyzing and evaluating demographic data which can be used as a basis for making decisions as to the utilization of buildings and location of new schools.

Figure 2 shows those parties who participate in the decision making process, as to the building needs and the location of new schools. This chart was formulated from an interview with Dr. Ken O'Fallon, Professor of Education at Kansas State University and Educational Consultant for the State of Kansas. Dr. O'Fallon indicated that it was the school boards' position to make the final decision regarding where a school is located or how it is utilized.

Dr. O'Fallon discussed briefly how school building decisions are reached by the school board. He said that the main communication is established between the board and superintendent. The superintendent theoretically acts in an advisory capacity in that the board can accept or reject the superintendents' recommendations. However, O'Fallon has found in most instances that the superintendent is most influential in his relationship with the school board.

Dr. O'Fallon concluded by saying that "too much dependence is placed on the decisions of the school superintendent and the school board and that in order to improve the decision making process, there is a need for direct participation by

Figure 2: PARTICIPANTS IN THE THEORETICAL DECISION MAKING PROCESS AS TO SCHOOL BUILDING NEEDS



additional parties who can contribute to the school planning function."

Those Influences Guiding the School Board's Decisions

There are many instances where the school board has no basis for determining the building needs and the location of new schools. Many times the board is influenced by other sources. Goldhammer points out several studies which were made on the influences affecting the School Board in the making of decisions.¹³

Holden showed that there was considerable communication between school board members and citizens of the community, as well as representatives of the school organization. He noted that this communication took place both within and outside school board meetings and that there was evidence in the decisions made by the school boards in both communities that the board members were affected by the pressures put upon them by the citizens in the community.¹⁴

Mattlin discovered that on twelve issues, studied in detail, upon which school boards in Nassau and Suffolk counties in New York had to act, considerable pressure was exerted by community groups. He concluded that school boards cannot reflect the thinking of the majority of citizens of the school district because their policy decisions are frequently determined by the political necessity to appease articulate minority groups. In rapidly growing communities, pressures were related primarily

to the provision of school facilities and school finances.¹⁵

Tucker's study of school board decision making in School Boards in South Carolina showed that community connections of board members which were personal, fraternal, social, professional, business and so forth formed pressures that had a definite bearing on how individual board members made their decisions. The evidence showed that some board members tended to ignore much of this influence while others were considerably swayed by it. Tucker concluded that there was more of an inclination of a school board to yield to pressures when it made its decisions on the basis of current issues, than was true when a board made some long range plans and adopted appropriate administrative actions. He was also of the opinion that some boards tended to act primarily in response to pressure as the result of their failure to adopt long range policies.¹⁶

On the basis of the evidence it is apparent that board members attempt to consider the perspectives of individuals in the community as well as their contacts with people in the school organization. There is evidence also to suggest that school board members are affected by the pressures and experiences of their own families. Information secured by a wife at a bridge club, by a husband at Rotary, or by children at the dinner table may be used at the next board meeting as the basis for making certain important decisions effecting the schools.¹⁷

Since board members are human, one cannot expect them to be indifferent to the pressures which normally are imposed upon individuals when they occupy official positions in the community. The informality with which most boards conduct their business is a further incentive to permit irrelevant information and uninformed pressures to guide or even determine the outcomes of the board's actions. The solution to the improvement of the boards decision making appears to be in the improvement of the deliberative process. Board members need to study the actual process which they employ in order to determine the extent to which they make decision making an emperical search for general principles, rather than a loose discussion group basing important decisions on evidence which may not meet the criteria of acceptability.¹⁸

What normally happens, especially in communities which are experiencing rapid growth, is that decisions regarding building needs and the location of new schools are made in response to crisis situations. School authorities are so busy getting construction under way that they have very little time to study how the proposed constructions will fit into the overall community patterns of development. School authorities also spend little time in studying how proposed facilities could be expanded or modified to meet the changing needs of the district. Their main effort usually seems directed toward looking for a school site which meets the minimum space requirements and presents no financial burden to the school district.¹⁹

Sources Influencing the Hypothesis

The hypothesis of this thesis was developed from several sources of information, the main one being the Topeka Shawnee County Educational Masterplan. This was used as a case study and showed that demographic patterns of growth can be determined, projected and used as part of the decision making data.

The demographic patterns of growth are important to the comprehensive planning process. Knowledge of this was acquired from experience and several reliable sources of information. Bogue pointed out, first, the importance of demography in understanding why population size, composition and distribution of a given community exist at a given time and why the conditions are changing. Second, he indicated how researchers regard the demographic facts as basic forces over which there is little control. He said, "they are fundamental explainers of political, social and economic events in the future." Bogue does not directly state the importance of changing demographic patterns to the comprehensive plan. However, it could be implied from some of his general statements that the use of demographic data would be important to the public comprehensive planning process.²⁰

If school planning is to be a part of the public comprehensive planning process it seems that data related to the demographic pattern of growth should be used as a fundamental part of the decision making data to locate new public

schools and designate the manner in which existing buildings may be utilized in the future.

Several types of data on demographic patterns of growth were collected and used as part of the decision making data as to the utilization of school buildings and the location of new schools. These were data on land use, social mobility, population characteristics, trends in population growth, economic conditions, housing, school age population, and traffic patterns.

Two main sources of information influenced the selection of data; they included Economic Planning for Better Schools and Enrollment Handbook (Classrooms for How Many). In the first publication, Handler studied a Michigan school building and its economics. He emphasized the effects that changes in school age, population, land use and social mobility had on the life of a school building.²¹

Changes in the school age population typically resulted in locational obsolescence of school buildings. These changes usually were brought on when the age structure in the school community changed. This would happen because of the aging population or the emigration from the area of families with children of school age. A school may become badly located because of changes in the use of land in the community. For example, the expansion of business and industry may frequently displace housing, or the shift from single family housing construction to apartment construction may displace families with school age children.²²

Handler concludes that the school is clearly a victim of social change, since changes in the character of the neighborhood drastically affect the original problem its school was designed to meet.

The authors of the publication Classrooms for How Many devote one section to the significance of major factors in estimating school enrollment.²³ They include, population characteristics, trends in population growth, migration of population, housing and economic conditions.

Data on population characteristics are significant in estimating school enrollment because it can determine the composition of the local population that may be expected from each constituent part as to the size of family and where the children will attend school.²⁴

Trends in population growth as manifested by the age distribution of the population are significant, because the distribution of the various age groups as they pass through the population cycle determines the number of persons of child bearing age at any time.²⁵

Information about the age distribution of population is essential, in order to determine if the present school age population will continue and how much of an increase or decrease is likely to be temporary.²⁶

Data on migration and housing are significant in estimating enrollment because it can determine what effect population movement and various unoccupied dwelling units

should have on both the number and composition of school age children.

Finally, data on economic conditions are significant because they can take into account the affect different periods of economic development have on the type of school attendance, shifts in population and number of births.

The next chapter gives a more detailed analysis of each source of data collected, how they were gathered, how they were used and why they were significant as decision making data.

Footnotes

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Chapter III

METHODOLOGY

This chapter is a detailed analysis of the sources of data collection. In conjunction with this chapter it would be meaningful to consult appendix A to determine those methods used to calculate population size, population characteristics and enrollment size in each of the study areas.

Sources of Data Collected

Eight sources of data were collected for this study.

They included:

1. Size of population,
2. Vital statistics,
3. Composition of population,
4. Employment data,
5. Land use data,
6. The number and type of housing,
7. The size of pupil enrollment,
8. Enrollment capacity of existing public schools.

For each source of data collected it was determined how each was gathered, how each was used and why each was significant.

Size of Population

Data on population size were gathered for the following areas.

1. The Topeka Metropolitan Area,
2. The Topeka School District,
3. The Seamen School District,
4. The Washburn Rural School District,
5. The Shawnee Heights School District,
6. The State of Kansas,
7. The United States,
8. The attendance areas in the Topeka School District.

The data collected on size of population from 1900 to 1960 in ten year increments for the Topeka Metropolitan Area, the city of Topeka and the State of Kansas are shown in Table This information was gathered from the U.S. Bureau of Census as reported in the Topeka Shawnee County Regional Planning Area (Preliminary Land Use Plan Document), prepared by the Topeka Shawnee County Regional Planning Commission, August, 1962. It was used to show long term trends of population size for the Topeka Metropolitan Area and the city of Topeka as well as determine new trends in population size which are likely to develop in these areas in the future.

Other data on population size were collected for the Topeka Metropolitan Area and the City of Topeka for 1965. These data were collected from state health records for the city and metropolitan area and were used to help calculate vital statistics for the Topeka SMSA.

The population data collected for the United States and Kansas were used only as a basis for comparing these larger

areas with those smaller ones under study in this thesis. Data on population size collected in the three outlying school districts were gathered for 1960 from the Population Census for selected area by census tracts. Accurate data on population size were not available for these districts prior to 1960. This was mainly because many of the townships in each district were not developed prior to 1960 and those which were developed were usually not operating as part of a consolidated school district.

Data on population size collected in the attendance areas of the Topeka school district as shown in Table were gathered for 1960 and 1968. The 1960 data were collected from the Topeka Shawnee County Regional Planning Area Master-plan Report Number 5 (Neighborhood Analysis), September, 1965, prepared by the Topeka Shawnee County Regional Planning Commission. The 1968 data were collected from the county assessors tax records by transferring information classified by ward and precinct to the corresponding attendance areas. A 10% sample of the recorded information was taken by the planning staff of Kiene and Bradley Partnership - Architects and Engineers (Kiene Bradley Partnership). Data collected on population size for each attendance area were primarily used to determine changing patterns of population size in the district and to assist in estimating pupil enrollment for each attendance area in the district.

Data gathered on population size in all areas of the metropolitan area were significant in determining population trends that are likely to occur in the future and in estimating

the approximate size of population in the city of Topeka, the three outlying school districts and the Topeka Metropolitan Area for 1970, 1975 and 1980.

Vital Statistics

Data collected on vital statistics included births, birth rates, deaths and death rates. It was collected for the Topeka Standard Metropolitan Statistical Area, the State of Kansas and the United States in yearly increments from 1960 - 1970.

The data were gathered from the Kansas Division of Vital Statistics - The Annual Summary of Vital Statistics, State Of Kansas and the United States National Center for Health Statistics Vital Statistics of the United States.

Data on vital statistics were used to calculate total population increase, natural population increase (births - deaths) net migration (population increase - natural increase) for each year from 1960 - 1967 in the Topeka SMSA and to analyze and determine current trends in births, birth rates, deaths and death rates.

The collection of vital statistics was significant in indicating future trends that are likely to develop in the number of births, birth rates, and of deaths and death rates in the Topeka Standard Metropolitan Statistical Area, and in estimating the preschool population in the Topeka metropolitan area for 1970, 1975 and 1980.

Composition of Population

Data collected on population composition included family size, parental age, population non-white and population by age group. These data were collected for the Topeka metropolitan area, the Topeka school district and the outlying school districts.

The population composition data collected for the Topeka metropolitan area only included the distribution of population by age groups in five year increments from under 5 to 65 and over. The information was gathered from 1940 - 1960 in ten year increments. Some information was available for 1930. However, because the data were incomplete they were not used.

The data were gathered from the Preliminary Land Use Plan Document and were used to both estimate and to project the future distribution of population by age group and size in the Topeka metropolitan area.

The data were significant in point out probable trends in the future school age population and how much of an increase or decrease is likely to occur in the school age population over the next ten years. They also assisted in determining the approximate number of women that are likely to be in the child bearing age groups (15-44). This is one indicator of the potential number of births.

The data collected on population composition in Topeka school district were gathered for the individual attendance areas. The data included the family size, parental age, population non-white and age groups -- under 5, 5-19, and over 65. The data on family size and age groups under 5 and

5-19 were collected for 1960 and 1968. The population non-white, and age groups over 65 were gathered for 1960 and the parental age information was collected for 1968. Variances in the collection periods were reflected in the fact that data were not available for both periods of time, and at the time of collection the data did not seem significant enough to use for both periods of time.

The data collected for 1960 were gathered from The Neighborhood Analysis and the information obtained for 1968 was gathered by:

1. Mail questionnaires - These were distributed to six of the 34 Topeka school district attendance areas which were thought by the planning staff of Kiene Bradley Partnership to be a representative cross section of all schools in the district. Since only 30% of all mail questionnaires sent out were returned they were used only to check samples taken from the tax records of the county assessor.

2. Tax records of the county assessor - Data were collected by transferring information classified by ward and precinct to the corresponding attendance areas. A 10% sample of the recorded information was taken from each ward and precinct by the planning staff of Kiene Bradley Partnership.

The population composition data for the Topeka school district were used to:

1. Analyze and determine patterns of change in the district and attendance areas in regard to those elements

which were collected for two periods of time.

2. Determine those elements which showed some degree of relationship in the various school attendance areas.

3. Determine future trends in the district and attendance areas in regard to those elements under study.

4. Calculate the number of pre-school and new school age children moving into each attendance area by grade level.

The data collected on social composition were significant in:

1. Pointing out patterns of population change that were occurring in the district and the various attendance areas between 1960 - 1968.

2. Indicating new trends in social composition that are likely to develop in the district and their attendance areas and its impact on the size of public school enrollment and the existing school facilities.

Data collected on population composition in the outlying school districts were gathered for individual attendance areas. The data included family size, parental age, age group - under 5, and the number of school age children per household categorized by grade level K-6, 7-9, 10-12, and over 12th. Over 12th grade indicates those children living at home that are older than normal school age (5-18).

All the data were collected only for 1968. There were, however, some 1960 census data available for attendance areas in the outlying school districts. The decision of the author

not to use this information was based on the facts that:

1. Most of these attendance areas were virtually undeveloped in 1960 and,
2. In most instances available data were incomplete.

The data collected in the outlying school districts on social composition were gathered by a 5% household survey taken by planning staff members of Kiene Bradley Partnership.

The data were used to:

1. Determine which social composition characteristics showed some degree of relationship in the various school attendance areas.
2. Determine future trends in the social composition characteristics for the outlying districts and their attendance areas.
3. Calculate the approximate number of pre-school and school age children moving into each attendance area of the district by grade level.

The data collected were significant in pointing out new trends in social composition that are likely to develop in the outlying districts and their attendance areas and its impact on the size of public school enrollment and existing school facilities.

Employment Data

Data collected on employment were gathered for the Topeka Metropolitan Area. It included the actual number employed in each industrial group for 1940, 1950 and 1960 and the

estimated number to be employed in each industrial group for 1965, 1970, 1975 and 1980. Total employment was also calculated for each of these five year increments. These data were gathered from the Preliminary Land Use Plan Document. They were used to determine current and future trends in both total level of employment and level of employment for each industrial group.

The employment data were significant because they make a useful index in estimating migration rates and in forecasting population for the Topeka Metropolitan Area.

Land Use

Three sets of land use data were collected. They include:

1. The existing land use pattern, 1962, a spatial distribution of land functions for the Shawnee County Regional Planning Area. The data collection consisted of information on the total number of acres in use for the planning area, the percent of the total land area it makes up and the percent of the developed land that is used for each residential, commercial and industrial use.

2. The updating of the 1962 data which was completed by the Topeka Shawnee County Regional Planning Commission in 1969.

3. The Preliminary Land Use Plan which shows the proposed 1980 spatial distribution functions and the number of acres which should be devoted to each residential, commercial and industrial use.

The existing land use data for 1962 and the Preliminary Land Use Plan data for 1980 were acquired from a masterplan report, Preliminary Land Use Plan Document which was prepared by the Topeka Shawnee County Regional Planning Agency, August, 1962. Information gathered from the updating of the 1962 data was acquired in a personal interview by the author with the Topeka Shawnee County Planning Agency Staff in July of 1969.

The land use data were used to:

1. Analyze and determine the different proportions of each land use (residential, commercial and industrial) as a percent of the total and developed area inside and outside the corporate limits of Topeka and for the total regional planning area.

2. Analyze and determine changing patterns of land use for the regional planning area and the city of Topeka.

3. To determine the impact of changing patterns of land use for future school enrollments.

These data were significant in:

1. Indicating general directions of population growth for the regional planning area.

2. Indicating the likely effects of each land use category on the population growth.

3. Indicating the likely effects of all categories of land use on school district and attendance area enrollment.

4. Indicating the probable impact of changing land use patterns on future school enrollment for each district and attendance area.

Housing by Type and Number of Units

Housing data were collected for the City of Topeka and the outlying areas of the metropolitan area in correspondence with each outlying school district.

The type of data collected for the city of Topeka included:

1. The number of dwelling units added and authorized by type of construction 1951 - 1967 (single family, duplex, multi-family).

2. Estimated number of yearly additions by type (single family, multi-family) for selected years 1968, 1970, 1975, and 1980. These years were selected because they coincided with those years where school enrollment was estimated and projected.

3. The number and percent of owner occupied and rental housing for each neighborhood, 1960. Complete information was only available for 1960. Those patterns observable in 1960 were still much in evidence in 1968 according to a limited visual survey done by the planning staff of Kiene Bradley Partnership.

The type of housing data collected for the outlying areas included the yearly number of additions for single family housing for 1960 and the estimated number of yearly single family additions for selected years 1968, 1970, 1975 and 1980.

Housing information was collected only for single family

units; first, because it was expected that this type of construction would be predominant in the outlying districts; and second, at the time of collection little data was available on future apartment construction for these districts. The data gathered through 1967 for the city of Topeka were collected from:

1. The Preliminary Land Use Plan Document.

2. The Neighborhood Analysis.

3. Information gathered from the telephone company on additional hookups. This information was obtained by a staff member of the Kiene Bradley Partnership in personal interview with a telephone official.

4. Housing Census for Selected Areas by census tracts.

Housing data collected for the city of Topeka from 1968 - 1980 was gathered by a staff member of the Kiene Bradley Partnership in personal interviews with real estate agents, apartment owners, insurance companies that finance apartments and a report entitled Multiple Family Housing Market Analyses, prepared by Consultants in Real Estate Incorporated, April, 1968.

Data collected for outlying areas for 1960 were gathered by the housing census for selected areas by census tracts. Information gathered from 1968 to 1980 were acquired from personal interviews with real estate agents, apartment owners and insurance companies that finance apartments.

The housing data collected for this study were used to analyze and determine trends in housing construction for each school district in the metropolitan area and to calculate the prospective number of new pupils moving into each school district and attendance areas for selected years (1968, 1970, 1975 and 1980).

The collection of these data were significant in:

1. Estimating and projecting population size for each district and attendance area.
2. Estimating and projecting enrollment size for each district and attendance area.
3. Determining the effect of unoccupied dwelling units on the future school age population for each district and attendance area.

Size of Public School Enrollment

Data collected on school enrollment were gathered for the Topeka School District, the outlying school districts (Washburn Rural, Seamen and Shawnee Heights) and each public school in the four school districts. Enrollment for parochial schools was also collected in order to study their impact on the public school enrollment.

The enrollment data collected were classified into:

1. Total enrollment in each planning area - The planning areas included the Topeka District, the Neighboring Districts and the Parochial Schools. The period of collection was from

1956 to 1968 in yearly increments. This information was specifically used to establish trend lines for each planning area. See Figure

2. Enrollment for each individual public school - The data collected in the Topeka school district were gathered for three periods of time, 1962, 1965 and 1968. These collection periods were used at the discretion of the author who felt that these increments were long enough to determine which schools were experiencing significant changes or fluctuations in enrollment. The data collected for the outlying school districts were gathered for 1962, 1967 and 1968. These periods were used only because they contained the most consistent and accurate data made available to the author by each school.

3. Enrollment for each grade organization level (K-6, 7-9 and 10-12). These data were calculated from the collection of enrollment size of each public school.

The data were gathered by attendance records, personal interviews with principals and other officials in charge of pupil count from each school in the four districts under study. These interviews were conducted by two planning staff members of the Kiene Bradley Partnership.

The information obtained was used to:

1. Analyze and determine trends in enrollment for each school district, the various grade levels and the various attendance areas within each district.

2. Estimate and project future size of pupil enrollment

within each district grade level and attendance area.

3. Analyze and determine patterns of enrollment change in each district, grade level and attendance area.

4. To calculate the percent of enrollment each public school represents of the total district enrollment.

5. Compare trends of parochial and public school enrollment.

The enrollment data were significant because they could be used as a basis for determining the building needs and location of new schools.

Enrollment Capacities

Data on enrollment capacities were collected for each school in the four school districts. They showed both effective and emergency capacities as of 1968.

The data were gathered from personal interviews with the principals of each of the schools under study. These interviews were conducted by two staff member of the Kiene Bradley Partnership, and were used primarily to determine the differences between enrollment (existing and projected) and the effective capacity of each individual school.

Data on enrollment capacities were significant in determining the future building needs, the general areas where new schools should be located in each district and attendance areas, and the general time period when these facilities would be needed.

In Chapter VI recommendations are made in regard to the number, type and time frame and the generally desirable location of new public schools for each district.

Chapter IV

DEMOGRAPHIC INFLUENCING ELEMENTS

This chapter is concerned with those characteristics which are significant to school planning. Emphasis is placed on those elements which influence the demographic patterns of growth.

Residential Development

There are nine characteristics which should be taken into consideration when studying the influence of residential development on the demographic patterns of growth.

Topography

Topographic features influence the development of elements which are important determinants for residential growth. They are: major traffic thoroughfares, total street systems, public facilities (water plants and sewage disposal systems), and gravity flow requirements of various utility systems as well as natural drainage.

Availability of Utilities

The growth of a community is often related to the availability of utilities. This includes the ease with which water, sanitary, and storm sewers and electricity, gas and telephone can be provided.

Commercial Centers

These are centers of employment and shopping which are linked to residential areas. Access and proximity to commercial areas by good transportation routes is an important determinant in influencing residential growth.

Place of Employment

One of the goals of a masterplan is usually to locate places of employment within reasonable proximity of a residential area. Since employment opportunities attract people, residential growth should take place in close proximity of major employment centers (industrial plants and service centers).

Cost of Land

This is an important determinant in influencing both the rapidity of residential growth and the type of people who will buy land. For example, if the cost of land is low, development will generally saturate faster. There is also a tendency for less established families to be attracted to an area where the cost of land is low. This is because new families usually do not have a favorable financial background so they are not able to buy a home in an area where land is expensive.

Availability of Land

This is an essential element in residential development. Land which is capable of being developed into residential use,

will most likely result in population growth. Several items must be considered before undeveloped land can be converted to residential use. These are the extension of water and sewer lines and the availability of street systems.

Community Facilities

The construction of community facilities usually follows the development of a residential area. People are likely to be attracted to an area where provisions are made to provide adequate community facilities such as fire and police protection, sewerage, recreation, health services, and schools. This is mainly because residents like the convenience of these services to their home.

Transportation Facilities

The accessibility of transportation facilities to commercial centers, places of employment, and leisure influence residential development. The most important element to consider when assessing the impact of transportation facilities on population growth is the traffic pattern. This includes the effect that arterial streets and major thoroughfares have in tying together population centers.

The Land Use Plan

This is the most important tool for influencing the development of a residential area. It can establish the general direction of future development, if it is properly

enforced by the governing body. The plan takes into consideration such elements as location of employment and commercial centers, drainage patterns, availability of land, and population growth. Knowledge of these elements can help establish goals for residential development.

Economic Development

The production and distribution function related to the economy of a particular area creates employment opportunities which attract people to that area. The composition of people that are attracted to an area normally depends on the nature of the economy and the types of employment that are affected. The patterns of development of an area are controlled by the extent and character of its production or income producing activity and the general health of the economy.

The state of the economy thus can influence the amount of land development that occurs. The rate at which land will be developed is normally conditioned by the vitality of the economy.

Residential Mobility

There are two components of residential mobility: local moving or the changing of residence from one part of a community or neighborhood to another; and migration, the changing of residence from one community to another. In order to make it easier to collect statistics concerning mobility, it has become customary to define as a migrant any

person who changes his residence from one county to another and as a local mover any person who changes residence within the same county.

By comparing the place of residence at the time of enumeration with the place of residence at some specified earlier date, it is possible to determine what percentage of the population is migrant (living in a different county), what percentage is local movers (live in a different house in the same county), and what share is non-mobile (living in the same house).

Migration usually involved the complete break of a person's economic and social ties with the community he leaves. It can change the size or composition of a particular population rather quickly. Such changes can result from a mass exodus of people, a mass invasion of people, or a large scale interchange of people with other areas.

Local moving can change the internal distribution of population within a community and can cause particular neighborhoods to undergo changes within a comparatively short time.

The influence of residential mobility on the demographic patterns of growth is normally dependent upon patterns of movement, the time of movement, the characteristics (social and economic) of the people who are moving, and the geographic structure of the area.

Population Characteristics and Vital Statistics

There are six major elements which must be taken into consideration when studying the influence of population and vital statistics on the demographic patterns of growth.

Family Size

A family is a group of two or more persons residing together who are related by blood, marriage, or adoption. The size of a family is a good indicator as to its characteristics. For example, smaller families (under three people) are often characteristics of unmarrieds, young married people without children, or elderly people whose children have grown up and left home.

The number of children that a family bears is usually related to two factors. These are the religion of the family and how much emphasis is placed on the religious doctrine as it relates to child bearing and the socio-economic status of the family.

Parental Age

A significant correlation can usually be made between parental age and both age of children and location of residence. The oldest parents (45 and over) usually locate in established neighborhoods; their children are most characteristic of the high school and college age groups (14 and over). Middle-age parents (35-45) locate in both established neighborhoods and newly developing residential areas. Their

children are most characteristic of the junior high and high school age groups (12-17). The youngest parents under 35 usually locate in newly developing residential areas. However, many young parents live in some of the oldest sections of a city. This is because the level of rent is usually lower. Their children are most characteristic of the pre-school and elementary school age group (0-11).

Migration

This is the change of residence which involves the movement of people between communities. Three other concepts must be defined as prerequisite to an understanding of the principles of migration.

Net migration - the net resultant of the redistribution processes of in-migration and out-migration.¹

Gross migration - a measure of the total volume of population turnover that a community is experiencing.²

Migration rate - the relative frequency with which the event of migration occurs. Projected migration rates are based on what is known about previous and present migration trends in an area.³

Migration may occur as a result of two factors. These are: A search for an opportunity to improve one's lot in life, and a flight from undesired social or economic conditions.

Those factors which are characteristic of the former are:

1. The economic vitality of the community. This includes, the opportunities for employment in one occupation or to

enter a preferred occupation and opportunities to earn a larger income.

2. Opportunities to obtain desired specialized education or training, such as college education.

3. A preferable environment and living condition, such as climate, housing, schools and other facilities.

4. Lure of new or different activities, environments, or people, such as cultural, intellectual, or recreational activities of a large metropolis for rural and small town residents.

Those factors of migration which are characteristic of movement from undesirable social or economic conditions:

1. Retreat from a community because it offers few or no opportunities for personal development, employment, or marriage.

2. Retreat from a community because of catastrophe, flood, fire, etc.

3. Loss of employment resulting from a decline in need for a particular activity or from mechanization or automation of tasks previously performed by more labor intensive procedures.

4. Decline in a national resource, decreased demand for a particular product, or the services of a particular industry.

Birth Rate

There are several indicators of birth rate.

The crude birth rate - the number of births per 1,000 total population in any one year. Some of the important factors

which affect the crude birth rate are the social and economic conditions of an area, the proportion of women in the child bearing ages as related to the total population, and the number of men who are making themselves available for marriage and reproduction. In addition, attitudes toward birth and the outbreak of war or catastrophe have a tendency to affect the crude birth rate. Bogue feels the crude birth rate is an inadequate indicator of births. This is because it takes into consideration a large number of children and a substantial number of adults who are not exposed to child bearing.⁴

The general fertility rate - the number of births that occur in a year per 1,000 women of child bearing age. It specifies those who are actually exposed to the risk of child bearing. The age margin that is specified as the child bearing years is usually defined as 15-44.

The age specific fertility rate - the number of births per 1,000 women of a particular age group. It is a useful measure of births for two purposes:⁵

1. The rate of child bearing is not unique throughout all ages and the age specific fertility rate reveals the pattern and extent of this age differential.

2. It permits the study of fertility in terms of real cohorts of women, tracing out their fertility behavior as they pass through life.

Birth rates have an impact on age composition. If they fall, children tend to comprise a smaller proportion of the total population. This increases the proportion of people

in the adult and older age groups. A rise in birth rates has the opposite effect.

Death Rate

There are two indicators of death rate.

The crude death rate - the number of deaths per year per 1,000 residents. According to Bogue, this is not considered an adequate indicator when assessing the impact of deaths on a particular city. The reason being it does not compute the differential death rates of males and females, specific age groups or various racial and ethnic groups.⁶

Specific death rate - computes the death rate for particular subgrouping of the population. For example, a death rate can be computed separately for males and females, for each of several age groups, or for each of various racial or ethnic groups.

National death rates have been changing very slowly for the last twenty years. In most communities they have remained relatively stable. However, a changing death rate can have an impact on the population age structure. For example, a decline in death rates at any age has the effect of passing on to the next age class a larger proportion of individuals of the given age than was the case in the preceding years.

A differential decline in death rates has the direct effect of increasing the proportion of people in particular ages where the decline in death rates was greatest and also

of increasing it in all later ages. A rise in death rates for any age group has the opposite result.

Changes in death rates for persons who are younger than forty years of age also has an indirect effect upon age composition. It influences the number of persons who will be eligible to marry and bear children.

Age Composition of the Population

This is the analysis of the age structure which indicates what proportion of the total population is in each stage of the life cycle, how these proportions have been changing, how they differ from place to place, and what factors are responsible for a change in age composition.⁷

The age composition of a population states certain basic principles about the components of growth (births, deaths, and migration) without complete proof.⁸

All three components of population growth tend to be heavily concentrated at particular stages of the life cycle. Every person must enter a population at age zero. He may die at any phase of the life cycle from a moment after birth to more than a century after birth. The span of life over which a person lives affects the age composition. If the person lives to reproduce, both the age at which he does and the number of offspring he bears have an important effect upon maintaining or changing the age composition. If he migrates, he moves one person from his age group in one place and adds one to his age group in another. Thus, short and long term

fluctuations in birth, death and migration rates are reflected in the age composition.

Age composition also provides important information about specific age groups. Those age groups which are most significant to analyze for the purposes of this study include the following:

1. Population under age 5 - this is an indicator of the number of pre-school age children.
2. Population between ages 5-14 - this is an indicator of the number of school age children.
3. Population between ages 5-9, 10-14 and 15-17 - this is an indicator of the number of elementary, junior high and high school age children respective to the above age groups.
4. Population over 65 - this is normally an indicator of the degree of economic mobility in an area in that those areas with a higher percent of people over 65 generally have less economic mobility as opposed to those areas with a lower percent in this age bracket.
5. Female population 15-44 - this is an indicator of the potential number of births which can result from women of child bearing age.

Morphology

The concept of morphology as it applies to this thesis refers to the patterns of change as an area goes through its evolutionary process.

This thesis is concerned more particularly with the morphology of a metropolitan area and the changes in the demographic patterns as the various stages of development evolve.

According to Robert Havinghurst's concept of metropolitan development, all metropolitan areas should grow in five stages.¹⁰ They include,

1. The beginning - a town begins to grow as a trade center. The center grows over a period of years to a medium sized city.

By this time the city has a fairly well defined structure that is related to incomes and social statuses of people who live there. In one part of the city the well-to-do people live. In the other part the city becomes a slum area with small old run-down houses.

2. The structured city - if the city in Stage I is located in a strategic place with respect to water and transportation and markets, it attracts large numbers of people who come there to work. Soon it develops industries and grows to be a center of several hundred thousand. By this time the areas near the center of the city become industrialized. Their houses deteriorate and their owners move away from the center of the old town. Slum areas develop, and choice residential areas appear on edges of the growing city.

3. Central city and suburbs - this stage can be characterized by several laws of city growth. The most popular

being Burgesses' concentric zone concept. This concept pointed out that as the city grows it forms shells or rings growing out from the center.

The first shell around the business center consists largely of warehouses, industry, and run-down dwellings. The nicer houses are torn down and replaced by warehouses or they are converted to apartment and rooming houses.

The second shell consists of nice residential areas that housed middle class people for a couple of generations. The houses become obsolete as the middle class people move further out to a new shell leaving their houses to be sold or rented to the growing number of workers who are often moving into the city. New shells are formed as the city grows. The outer shells are usually physically withdrawn from the central city and considered suburbs. The people who move there are economically mobile.

4. Appearance of the metropolitan complex - the rapid growth of suburbs is a characteristic of this phase of development. Two things combined to give the suburbs their rapid growth. First, there are better opportunities for children. Second, decentralization of industry takes place. Many working class people tend to follow industry as it decentralizes, therefore, moving out of the central city.

This stage produces a metropolitan complex in which earlier distinctions between central city and suburb are not clearly evident.

5. Urban renewal - urban renewal is an outgrowth of metropolitan development and the complexity of problems which are faced by central city and suburb. This stage of metropolitan development overlaps with Stage IV and Stage III in some of the smaller cities.

Housing Type

The type of housing that exists in a community can be correlated to the patterns of school enrollment. Information on the type of housing existing within a school planning area can benefit officials involved in formulating a school planning program. A study which was done by the American Society of Planning Officials entitled, School Enrollment by Housing Type gives an indication of the significance of housing information to the school planning function.

The study attempts to show the impact of various residential land uses on the size of school age population (elementary, junior, and senior high grade levels), the increases that can be expected from housing development, and additions to school facilities which may be required.

Some of the significant findings of the study were:¹¹

1. Single family housing has more students per housing unit than multiple family housing. (See Tables 1, 2, and 3)
2. Duplexes and townhouses appear to generate considerably more students than do apartments or mobile homes. The number of students per unit in duplex and town-house developments approaches the number of single family homes. (See Tables 1, 2, and 3)

3. The highest number of students per acre appears in the duplex and townhouse categories indicating that rezoning for these uses has the greatest impact on school facilities. (See Tables 1 - 4)

4. As the number of bedrooms per apartment unit increases, both the number of children per housing unit and the number of students per housing unit increases. (See Figure 3 and Tables 5 and 6)

5. As the rent level increases, family size decreases.

6. As apartments age, the number of students per unit increase. High rents attract small families and the general desirability of new apartment buildings allow the owner to be highly selective in choosing tenants. Usually this means that he will discourage occupancy of families with children. As the building gets older on the other hand, its desirability declines along with the relative rent level. This process reduces the selectivity of the owner and at the same time attracts families with children and moderate incomes who find the reduced rents within their means.

7. The relative size of specific age groups within the student population varies slightly among housing types. From 53 to 63% of the students fall in the elementary school age group while 37 to 47% are junior high and high school age. (See Table 1)

The identification and use of the various sources of demographic data as it relates to the school planning function

TABLE 1

PUBLIC SCHOOL ENROLLMENT PER HOUSING UNIT AND
NET RESIDENTIAL ACRE BY ZONING DISTRICT

Zone	Type Unit	Housing Units per Acre	Students per Housing Unit				Students Net Residential Acre			
			Elem.	Jr.	Sr.	Total	Elem.	Jr.	Sr.	Total
R-A	SF Detached	.40	.80	.30	.20	1.30	.32	.12	.08	.52
R-E a	SF Detached	.90	.80	.30	.20	1.30	.72	.27	.18	1.17
R-R a	SF Detached	1.50	.80	.30	.20	1.30	1.20	.45	.30	1.95
R-R b	SF Detached	1.57	.80	.30	.20	1.30	1.26	.47	.31	2.04
R-R c	SF Detached	1.65	.80	.30	.20	1.30	1.32	.50	.33	2.15
R-150	SF Detached	2.00	.80	.30	.20	1.30	1.60	.60	.40	2.60
R-90 a	SF Detached	2.90	.80	.30	.20	1.30	2.32	.87	.58	3.77
R-90 b	SF Detached	3.00	.80	.30	.20	1.30	2.40	.90	.60	3.90
R-90 c	SF Detached	3.10	.80	.30	.20	1.30	2.48	.93	.62	4.03
R-60	SF Detached	4.20	.80	.30	.20	1.30	3.36	1.26	.84	5.46
R-40	Duplex	8.50	.80	.30	.20	1.30	6.80	2.55	1.70	11.05
R-T	Town Houses	12.00	.50	.30	.20	1.00	6.00	3.60	2.40	12.00
P-R-C	Pl. Ret. Com.	10.00	.00	.00	.00	.00	.00	.00	.00	.00
R-30	Garden Apts.	14.20	.35	.15	.10	.60	4.97	2.13	1.42	8.52
R-20	Garden Apts.	21.30	.27	.12	.08	.47	5.75	2.55	1.70	10.00
R-10	H-R Apts.	42.50	.20	.09	.06	.35	8.50	3.83	2.55	14.88
R-H	H-R Apts.	42.50	.05	.02	.02	.09	2.13	.85	.85	3.83

TABLE 2

STUDENTS PER HOUSING UNIT AND PER ACRE BY HOUSING TYPES
Fairfax County, Virginia

Zoning Districts	Units per Acre	Students per Dwelling Unit			Students per Acre				
		Total	Elem.	Inter.	Secondary	Total	Elem.	Inter.	Secondary
<u>Single-family det.</u>									
2 acre	.45	1.08	.59	.18	.31	.49	.27	.08	.14
1 acre	.8	1.08	.59	.18	.31	.86	.47	.14	.25
1/2 acre	1.6	1.08	.59	.18	.31	1.73	.94	.29	.50
17,000 sq. ft.	2.0	1.08	.59	.18	.31	2.16	1.18	.36	.62
12,500 sq. ft.	2.5	1.08	.59	.18	.31	2.70	1.47	.45	.78
10,000 sq. ft.	3.5	1.08	.59	.18	.31	3.78	2.06	.63	1.09
<u>Duplex</u>	9.0	1.08	.59	.18	.31	9.72	5.31	1.62	2.79
<u>Townhouse</u>	10.3	.65	.35	.12	.18	6.69	3.60	1.24	1.85
<u>Mobile home parks</u>	10.0	.37	.23	.07	.07	3.70	2.30	.70	.70
<u>General Comm'l.</u>	30.0	.31	.12	.03	.06	6.30	3.60	.90	1.80
<u>Garden Apartments</u>	20.0	.21	.12	.03	.06	4.20	2.40	.60	1.20
<u>H-R Apartments</u>									
Medium density	20.0	0.09	.03	.03	.03	1.80	.60	.60	.60
High density	40.0	0.09	.03	.03	.03	3.60	1.20	1.20	1.20

TABLE 3
STUDENTS PER HOUSING UNIT BY
HOUSING TYPE

Public School Students per Housing Unit (Grades K-12)										
Zoning Districts	Bloomington, New Jersey	Fairfax County, Virginia	Falls Church, Virginia	Montgomery Cnty., Virginia	Nassau County, New York	North York Twp., Ontario	Philadelphia, Pa. (suburban)	Skokie, Illinois	Stanford, Conn.	Mean No. Students per Housing Unit
Single-family Detached		1.08	0.71	1.30			0.50	1.10 ¹		0.94
Duplex		1.08		1.30						1.19
Townhouse		0.65		1.00						0.82
Mobile Homes		0.37								0.37
Garden Apts.	0.21	0.21	0.47	0.47 ²	0.24		0.22			0.30
H-R Apts. (elevator apts.)		0.09	0.06	0.09 ³		0.16	0.02 ⁴		0.13	0.08
General Multi-Family (all apts.)					0.19			0.42		0.30

¹ Figure is for 6.66 housing units per acre; higher density single-family (9.16 housing units per acre) had 0.66 students per housing unit.

² Figure is for 21.3 housing units per acre; lower density garden apartments (14.2 housing units per acre) had 0.60 students per acre.

³ A 0.35 figure is also listed for the same density (42.50 housing units per acre). The figure is applicable to a different zoning district.

⁴ High-rent apartments only.

TABLE 4

STUDENTS PER NET RESIDENTIAL ACRE BY HOUSING TYPE

Zoning District	Assumed Number of Housing Units Per Acre	Public School Students (grades K-12) per Net Residential Acre by Housing Type									
		Bloomington, New Jersey	Fairfax County, Virginia	Falls Church, Virginia	Montgomery Cnty., Virginia	Nassau County, New York	North York Twp., Ontario	Philadelphia, Pa. (suburban)	Skokie, Ill.	Stanford, Conn.	Mean Number of Students per Acre
Single-Family Detached	3.5		3.78	2.48	4.56			1.92	3.85		3.36
Duplex	8.5		9.72		11.05						10.38
Townhouse	11.0		6.69		11.00						8.84
Mobile Homes	10.0		3.70								3.70
Garden Apts.	20.0	3.36	4.20		9.40	4.80		4.80			6.13
High-Rise Apts.	40.0		3.60	2.40	3.60		6.40	0.80		5.20	3.67
General Multi-Family	16.0					3.04			6.72		5.04

TABLE 5

NUMBER OF CHILDREN AGE 0 TO 18 PER UNIT FOR ONE-,
TWO-, AND THREE-BEDROOM APARTMENTS IN SELECTED COMMUNITIES

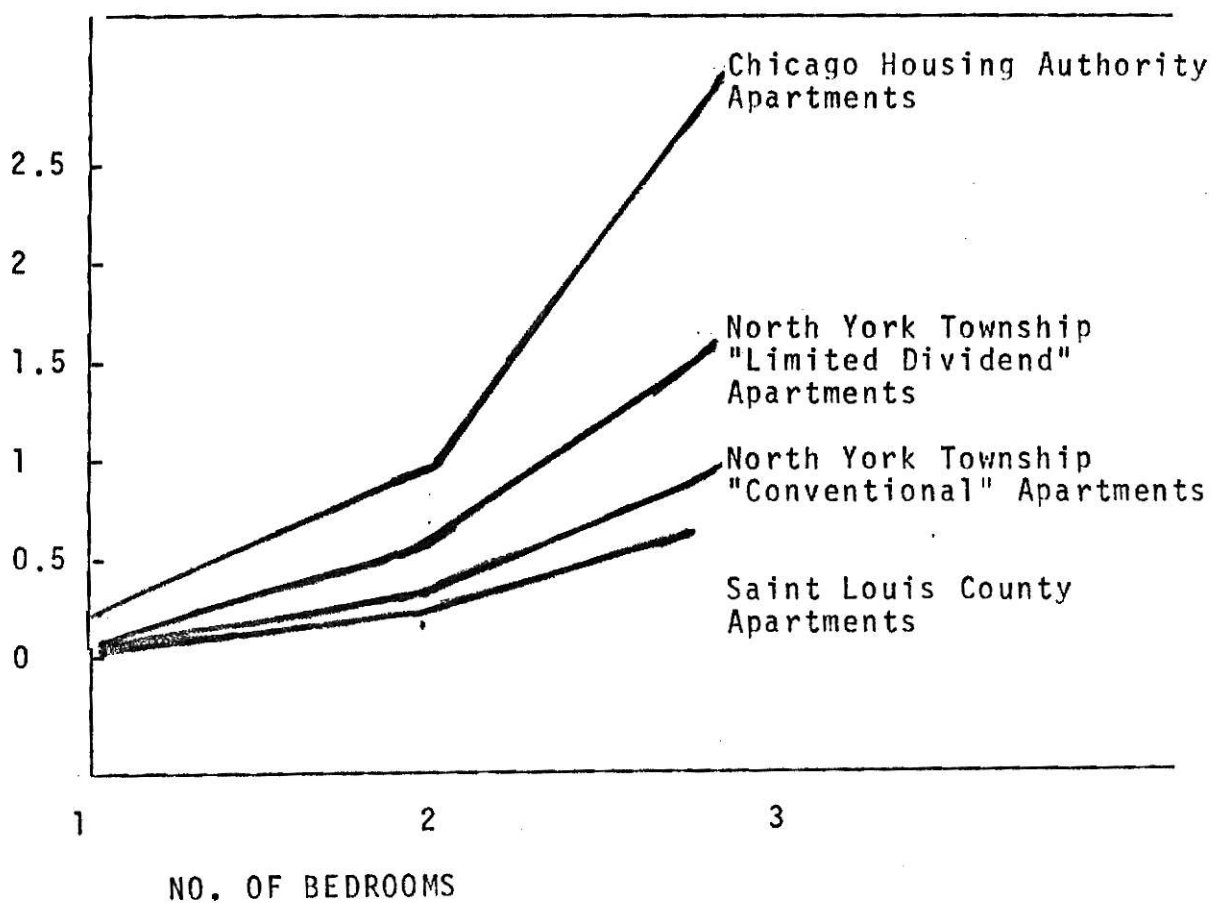
Community	Children Age 0-18 per Unit		
	1 Bedroom	2 Bedroom	3 Bedroom
Montgomery County, Maryland, American Elevator Apartments	0.01	0.26	0.89
North York Twp., Ontario "Conventional"	0.07	0.55	1.17
North York Twp., "Limited Dividend"	0.34	1.40	2.32
Chicago Housing Authority	0.75	2.25	4.21

TABLE 6

NUMBER OF CHILDREN AGE 5 TO 18 PER UNIT FOR ONE-,
TWO-, AND THREE-BEDROOM APARTMENTS IN SELECTED COMMUNITIES

Community	Children Age 5-18 per Unit		
	1 Bedroom	2 Bedroom	3 Bedroom
Saint Louis County, Missouri	0.03	0.18	0.70
North York Twp., Ontario "Conventional"	0.02	0.28	0.92
North York Two., Ontario "Limited Dividend"	0.09	0.60	1.48
Chicago Housing Authority	0.24	1.02	2.64

Figure 3: STUDENTS PER HOUSING UNIT BY
NUMBER OF BEDROOMS AND RENT LEVEL



has been discussed in this chapter.

The next few chapters will show how demographic data are evaluated and used in making decisions as to the utilization of school buildings and the location of new schools in the Topeka Metropolitan Area.

Footnotes

1. Donald J. Bogue, The Population of the United States, (The Free Press, Glencoe, Illinois, 1959), p. 8.
2. Donald J. Bogue, Principles of Demography (John Wiley and Sons, New York, 1969), Chapter 3.
3. Ibid.
4. Ibid.
5. Ibid.
6. Ibid.
7. Donald J. Bogue, The Population of the United States (The Free Press, Glencoe, Illinois, 1959), p. 92.
8. Ibid., p. 93.
9. Ibid., p. 93.
10. Robert Havinghurst, Education in Metropolitan Areas (Allyn and Beacon Company, Boston, Massachusetts, 1966), Chapter 2.
11. American Society of Planning Officials Planning Advisory Service, School Enrollment By Housing Type, Report 210, May, 1966.

Chapter V

EVALUATION OF DEMOGRAPHIC PATTERNS OF GROWTH

This chapter will examine the demographic patterns of growth and those elements influencing them in the Topeka metropolitan area and each of the four school districts under study.

Topeka Metropolitan Area

Population Characteristics

Three major categories of population characteristics were studied in examining the demographic patterns of growth in the Topeka metropolitan area. They included; size of population, composition of the population and spatial distribution of the population.

Size of population

A study done by the Topeka Shawnee County Planning Department in 1962 ranked Topeka sixth with respect to population growth when compared to thirty-three other standard metropolitan statistical areas. The accompanying table on population growth shows that from 1950-1960, the Topeka metropolitan area grew at a more rapid pace than at any other time in the past. Also shown in this table are the high growth rates for the nation, state and city of Topeka population from 1950-1960.

TABLE 7

POPULATION GROWTH AS PERCENTAGE INCREASE 1900 TO 1980
CITY OF TOPEKA, TOPEKA METROPOLITAN AREA, KANSAS, THE UNITED STATES

Year	City of Topeka	Topeka Met. Area (Shawnee County)	Remainder of County (Excluding City of Topeka)	Kansas	United States
1890-1900 ^b	8.4	9.3	10.7	3.0	22.5
1900-1910 ^b	30.0	15.2	9.6	15.0	21.0
1910-1920 ^b	14.5	11.8	5.2	4.6	14.9
1920-1930 ^b	28.2	23.1	10.2	6.3	16.1
1930-1940 ^b	5.8	7.1	11.1	-4.3	7.2
1940-1950 ^b	16.2	15.3	13.7	5.8	14.5
1950-1960 ^b	51.6	34.0	-18.1 ^a	14.3	18.4
1960-1968 ^c	10.4	13.7	32.6	4.0	12.0
1968-1975 ^c	4.2	12.7	49.5	---	
1968-1980 ^c	8.6	22.9	87.8	---	
1975-1980 ^c	3.1	8.1	40.5	---	

^a Declining rate due to annexations.

^b US Bureau of Census.

^c Estimates and projections made by Kiene Bradley Partnership.

The national, state and local growth rate between 1960-1970 were not as high when compared to the previous ten year period 1950-1960. This could be attributed mainly to declining birth rates. However, the declining growth rate for the Topeka metropolitan area was also affected by lower rates of growth in the city of Topeka. (See Table 7)

According to Table 7 the growth rate for the Topeka metropolitan area between 1968-1975 should approximate the previous seven year period between 1960-1967. This should be mainly due to the continued trend of a high immigration of people from surrounding counties and other rural areas in the state of Kansas.

Finally, the metropolitan area should continue to experience a high growth rate over the period from 1975-1980. (See Table 7)

The area that is designated in Table 7 as the remainder of the county should experience the highest growth rate between 1968-1980. This should be mainly due to the construction of large subdivisions in the area. By 1980 it is likely that some of this area designated as the remainder of the county will be annexed into the city of Topeka.

The question of first importance concerning the future population of the metropolitan area is the future birth rate. The birth rate depends not only on how many children married couples decide to have, but also depends upon when they have those children within their married life. A natural trend shows that women are delaying child bearing for a longer period

TABLE 8

SHAWNEE COUNTY POPULATION

	1960	1968	1970	1975	1980
Shawnee County					
Topeka Metropolitan Area	141,286	160,739	165,705 ^a	181,217	197,608
Topeka - City of	119,484	131,808	133,227 ^b	138,993	143,266
% of Total County	85%	81.5%	80.4%	76.7%	72.5%
Remainder of County	21,802	28,931	32,205	42,224	54,342
Shawnee Heights	6,339	7,834	8,808	11,249	15,318
% Remainder of County	33.9%	31.6%	31.8%	31.2%	32.4%
Washburn Rural	6,186	8,164	9,084	12,053	15,885
% Remainder of County	33.1%	33.0%	32.8%	33.0%	33.6%
Seaman	6,152	8,755	9,804	13,222	16,075
% Remainder of County	33.0%	35.4%	35.4%	35.8%	34.0%
Total 3 School District	18,677	24,753	27,696	36,524	47,278
% of Total County	85.5%	85.5%	86%	86.5%	87%
Portion of the county not included in study	2,125	4,178	4,509	5,700	7,064

^a1970 Federal Census figures for county - 155,322 - County Assessor figure for 1969 approximately 167,770.

^b1970 Federal Census figures for city - 125,011 - County Assessor figure for 1969 - 136,407.

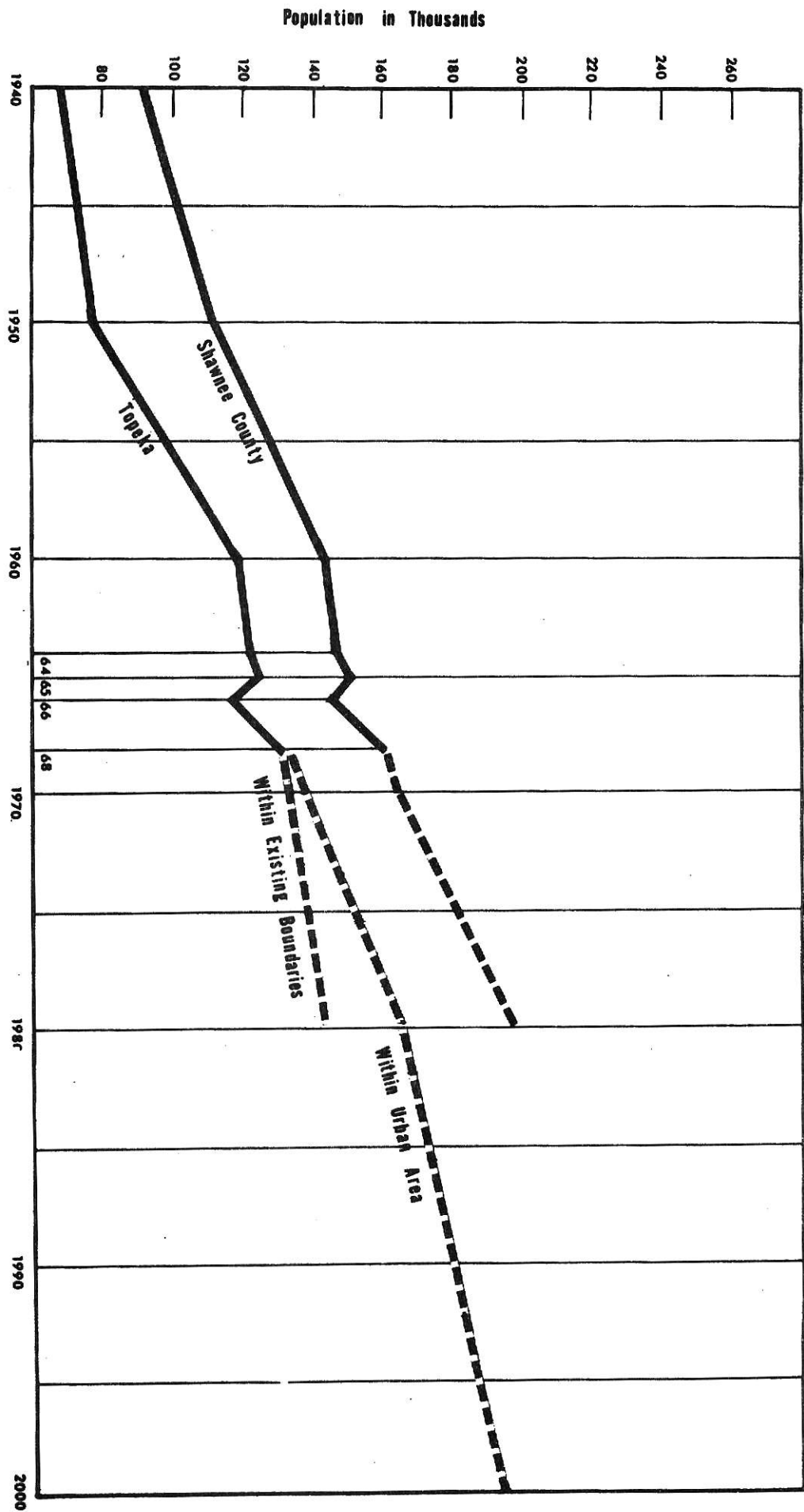


Figure 4: **Population Forecast**

than in the past.¹ Whether they expect to have as large a family as their recent predecessors is a question that cannot be answered yet.

The birth rate in the metropolitan area that had been 29.0 per 1000 population in 1960 declined to 27.0 in 1962, 24.0 in 1964 and 18.0 in 1967. The birth rate in 1967 was lowest since the early Forties. Birth rates are declining for all ages of women and the process is nationwide.² (See Table 9). The death rate from 1960-1967 has stayed somewhat constant. In 1960 there were 3,956 live births in the Topeka metropolitan area as opposed to 1,277 deaths, providing a natural increase of 2,679. In 1967 the live births decreased to 2,722 and deaths to 1,214 with a natural increase of 1,508, a reduction of 1,171 from the 1960 figure. (See Table 9 and Figure 4).

If these figures are used as a basis for population projections, then growth should increase slightly over the next ten years. However, these figures could be deceptive because the large number of babies born after World War II are now entering marriageable age and becoming parents. This could indicate a higher birth rate per 1,000 population. According to the population projections in 1970 there should be approximately 6,000 more women of child bearing age (15-44) in the Topeka metropolitan area than there were in 1960. In 1980 there should be approximately 15,000 more potential mothers than in 1960. (See Table 11) Also the present trend in Topeka is toward marriage at younger ages. In 1967 the most popular

TABLE 9

VITAL STATISTICS, TOPEKA SMSA

	1960	1961	1962	1963	1964	1965	1966	1967	1960-67 Yearly Average
Births	3956	4105	4007	3792	3514	3159	2752	2722	3500.07
Birth Rate	29	29	27	26	24	21	19	18	24.01
Deaths	1277	1248	1318	1279	1257	1227	1258	1214	1259.06
Death Rate	9	8	8	8	8	8	8	8	9.02
Natural Increase	2679	2857	2689	2513	2257	1932	1494	1508	2241.01
Net Migration		4497	-1001	-1654	- 501	1937	-8003* 0a	3293	204.00 940a
Total Population Increase		7176	1688	859	1756	3869	-6509 1494a	4801	2698.06 3091a
Kansas Birth Rate	23.8	23.3	27.0	21.2	19.4	17.8	16.3	15.6	20.5
U.S. Birth Rate	23.6	23.4	22.4	21.6	21.0	19.4	18.5	17.9	20.9

* 1966 Tornado.

a Assuming 0 net migration.

marrying age for women was 19 years; while for men the most frequent age at marriage was 21. The number of marriages performed in 1967 also represents the highest number since 1948.³ Earlier marriages can mean earlier childbearing. However, this generally depends on the attitudes of the couples toward having children and their ability to provide economically for a family.

On the basis of a limited collection of data, a trend toward younger and more marriages could develop in the Topeka metropolitan area. If this happens, Topekans should be marrying in their adult life earlier and going through the reproductive cycle faster. This could mean a higher birth rate beginning in the 1970's and lasting over a ten to fifteen year period in spite of a trend toward a smaller family size.

From 1960 to 1967 the rate of natural increase for the Topeka SMSA declined from 20 per 1,000 to 12 per 1,000. (See Table 9). This significant change was due to a declining birth rate. However, based on population projections in Table and other general information about changing birth rates, there is an indication that the average annual natural increase rate from 1968-1980 should increase to between 13 and 14 per 1,000 population (assuming an average birth rate of 21 to 22 and death rate of 8 per 1,000 population). This should attain an average annual natural increase level of approximately 2,400 and should provide a population of approximately 189,000 by 1980, (excluding in- or out-migration).

TABLE 10

ESTIMATED EMPLOYMENT FOR MAJOR INDUSTRY GROUPS TO 1980
TOPEKA METROPOLITAN AREA

Industry Group	Estimated Employment			
	1965	1970	1975	1980
Agriculture	1,035	1,020	1,001	980
Manufacturing	6,553	7,198	8,684	9,823
Mining	60	58	55	53
Construction	4,319	4,917	5,692	6,399
Transportation, Utilities and Communication	7,359	7,948	8,868	9,633
Wholesale Trade	1,898	2,083	2,354	2,578
Retail Trade	8,980	9,872	11,025	12,151
Finance, Insurance and Real Estate	2,878	3,203	4,228	4,929
Services and other, including government	<u>22,581</u>	<u>25,296</u>	<u>29,416</u>	<u>32,655</u>
Totals	55,663	61,595	71,323	79,201

Source: Topeka Shawnee County Regional Planning Commission.

then indicate from 1968-1980, a net average yearly increase of approximately 750 by in-migration. However, this figure may be somewhat conservative since it does not anticipate unusual industrial growth or sudden military increases at Forbes Air Force Base.

Composition of population

The population changes in Topeka are greatly affected by national and regional trends. However, the existing economic vitality and population makeup of a metropolitan area also operates individually often without experiencing the changes that a smaller rural oriented community in the same region would. In the last twenty years, while the small towns in rural areas lost population, larger urban areas gained. The problems of these small towns were further aggravated by the fact that those out-migrating were younger individuals of child bearing age, thus leaving behind an aging population without regeneration process. Topeka, among other metropolitan centers in the region, absorbed these out-migrants, thus adding new vitality to their population.

From the viewpoint of shaping the course of future city and metropolitan growth, the characteristics of population, such as age, birth and death rates, sex, and marital status are as important as are changes in the total number of people residing in the area.

The most striking feature noted in the estimated 1965 age pattern is the sizable portion of young people. Over 40 %

TABLE 11

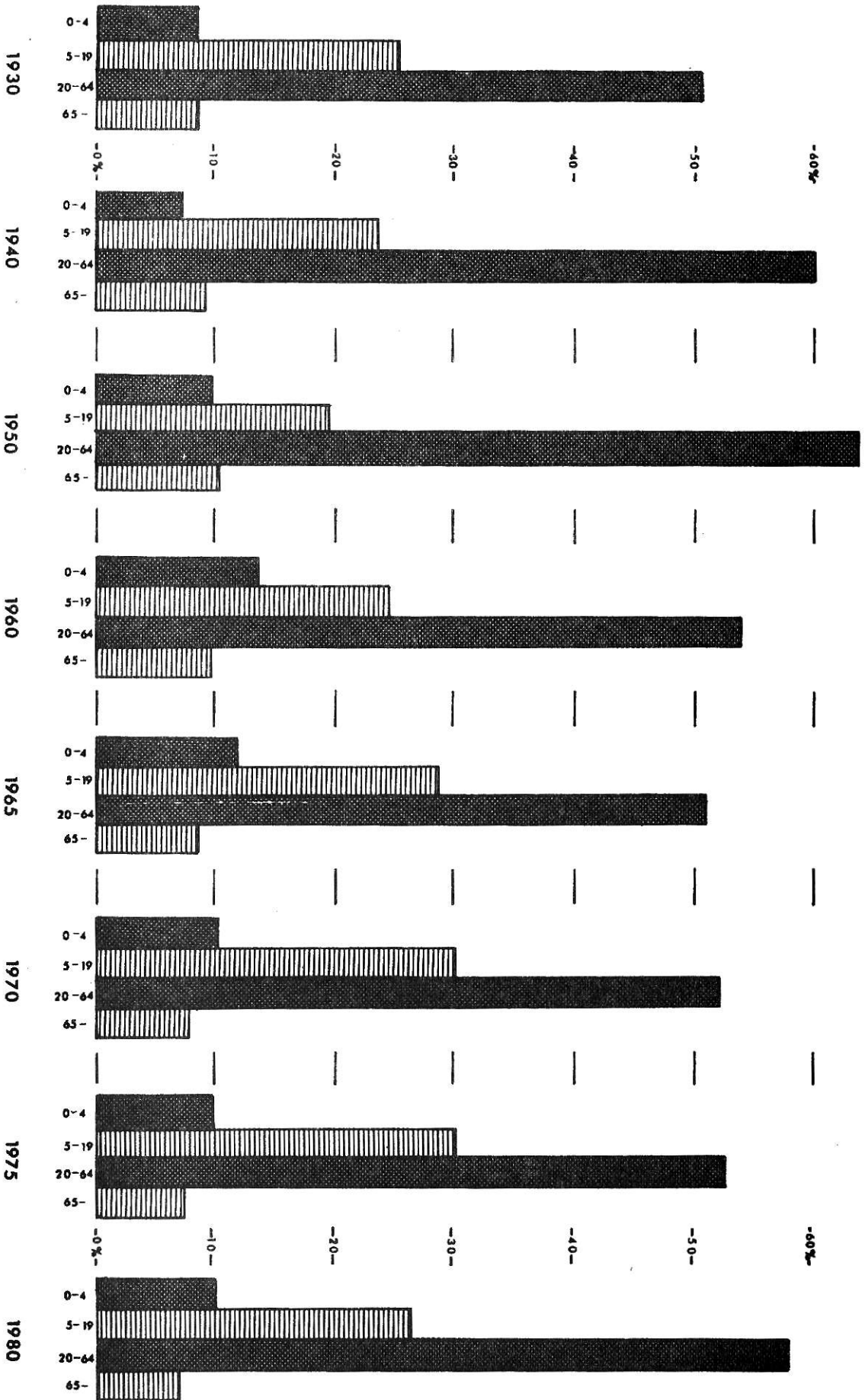
DISTRIBUTION OF POPULATION BY AGE GROUPS
TOPEKA STANDARD METROPOLITAN STATISTICAL AREA 1950-1980

	1940	1950	1960	1965	1970	1975	1980
Under 5	5,979	10,533	17,615	17,912	16,548	18,095	19,599
5-9	6,297	7,863	14,190	17,746	18,587	17,123	18,667
10-14	<u>7,044</u>	<u>6,344</u>	<u>11,551</u>	<u>14,015</u>	<u>18,021</u>	<u>18,860</u>	<u>17,393</u>
5-14	19,320	24,740	25,741	31,761	36,608	35,983	36,060
15-19	<u>8,845</u>	<u>6,667</u>	<u>9,095</u>	<u>11,487</u>	<u>14,395</u>	<u>18,461</u>	<u>19,236</u>
Under 19	27,165	31,407	52,421	61,160	67,551	72,539	74,895
20-24	7,606	8,352	10,956	10,721	13,457	16,465	20,557
25-29	7,192	9,272	10,248	12,165	12,272	15,005	18,008
30-34	7,287	7,633	9,828	10,350	12,709	11,731	15,541
35-39	6,979	7,042	9,714	9,375	10,340	12,696	11,713
40-44	<u>6,386</u>	<u>7,223</u>	<u>8,024</u>	<u>9,228</u>	<u>9,332</u>	<u>10,294</u>	<u>12,645</u>
20-44	35,450	39,522	48,770	51,839	58,110	66,191	78,464
45-49	6,093	6,704	7,166	7,324	8,953	9,241	9,977
50-54	5,435	6,304	6,816	6,252	6,335	8,448	8,710
55-59	4,577	5,810	6,501	6,112	5,869	6,437	7,013

TABLE 11 - continued

60-64	3,900	4,738	5,652	5,428	5,459	5,201	5,733
Over 65	<u>8,627</u>	<u>10,573</u>	<u>13,930</u>	<u>12,926</u>	<u>13,128</u>	<u>13,160</u>	<u>12,816</u>
	91,244	105,000	141,286	151,047	165,705	181,217	197,608
Median age	32.5	32.3	28.3	26.4	25.3	25.2	25.3

Figure 5: Percent Distribution of Population By Age Groups



were under 19 years. This is in contrast to the census years 1940 and 1950 when this age group accounted in each year for less than 30% of the total population. In the census year 1960 this age group accounted for 37%. (See Table 11 and Figures 5 and 6).

Another feature of major significance shown in Table 11 and Figures 5 and 7, are the small birth groups of 1935-1944 that were aged 15-24 and the higher birth groups of 1945-1954 that will be aged 15-24 in 1970. It has been estimated that these changing age groups should produce increases of 35 to 40% a decade among those aged 15-24 from 1960-1970, aged 25-34 from 1970-1980, and aged 35-44 from 1980-1990.

Population changes in those aged 15-24 are particularly significant, since these are the years in which the youth of each generation secure advanced education, perform military service and enter the labor force. They are also the ages of leaving home, living independently and most important, marrying and going through the reproductive cycle.

On the basis of such information it appears an increase in school age population in the Topeka metropolitan area over the next 20 years should depend on the attitudes toward family composition of those aged 15-24 in 1970.

Spatial distribution of population

Population distribution and growth patterns within the Topeka metropolitan area have gone through a number of changes in the last thirty years. As indicated in Table 7 from

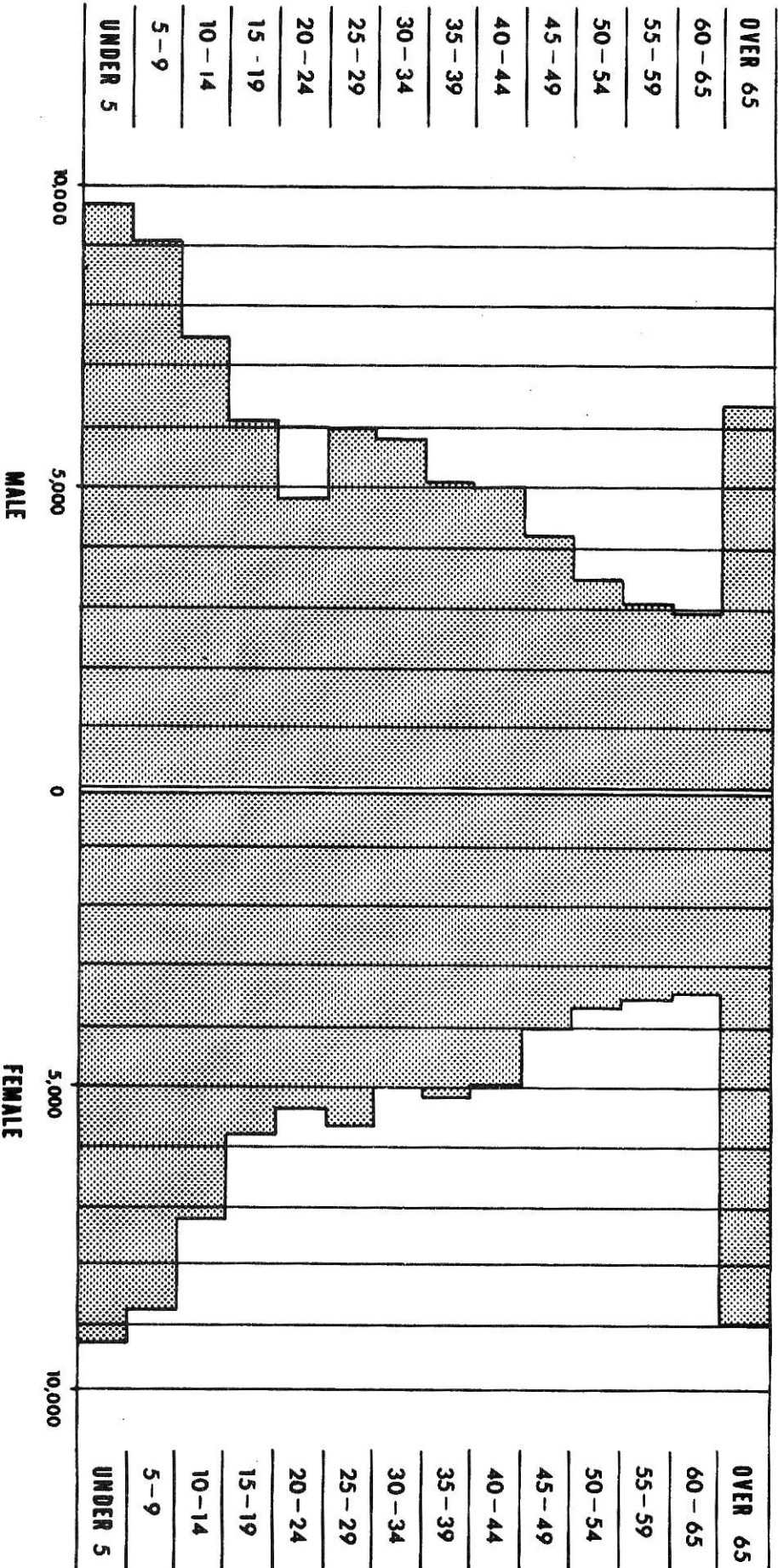


Figure 6: POPULATION ESTIMATE TOPEKA SMSA 1965

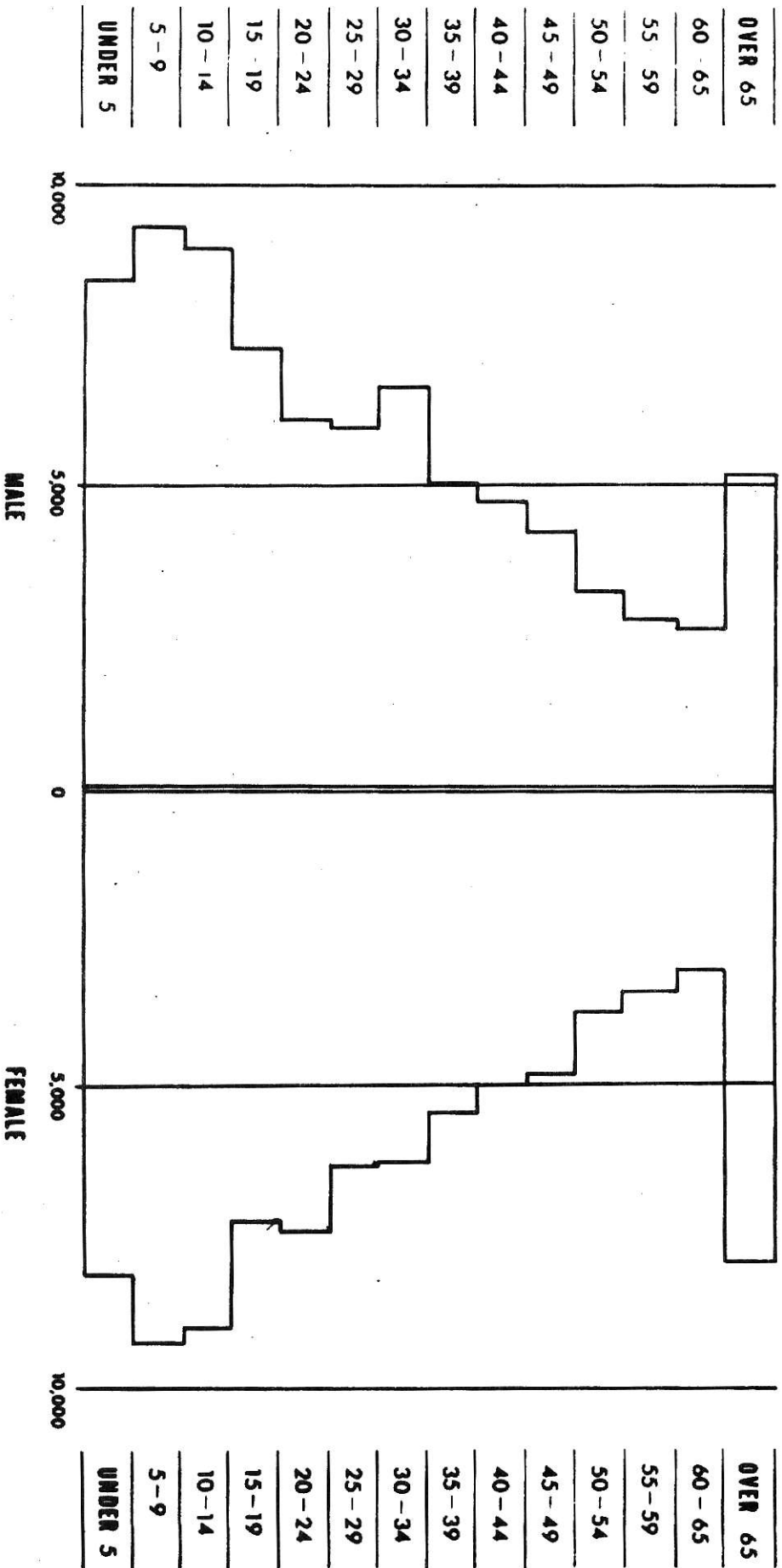


Figure 7: 1970

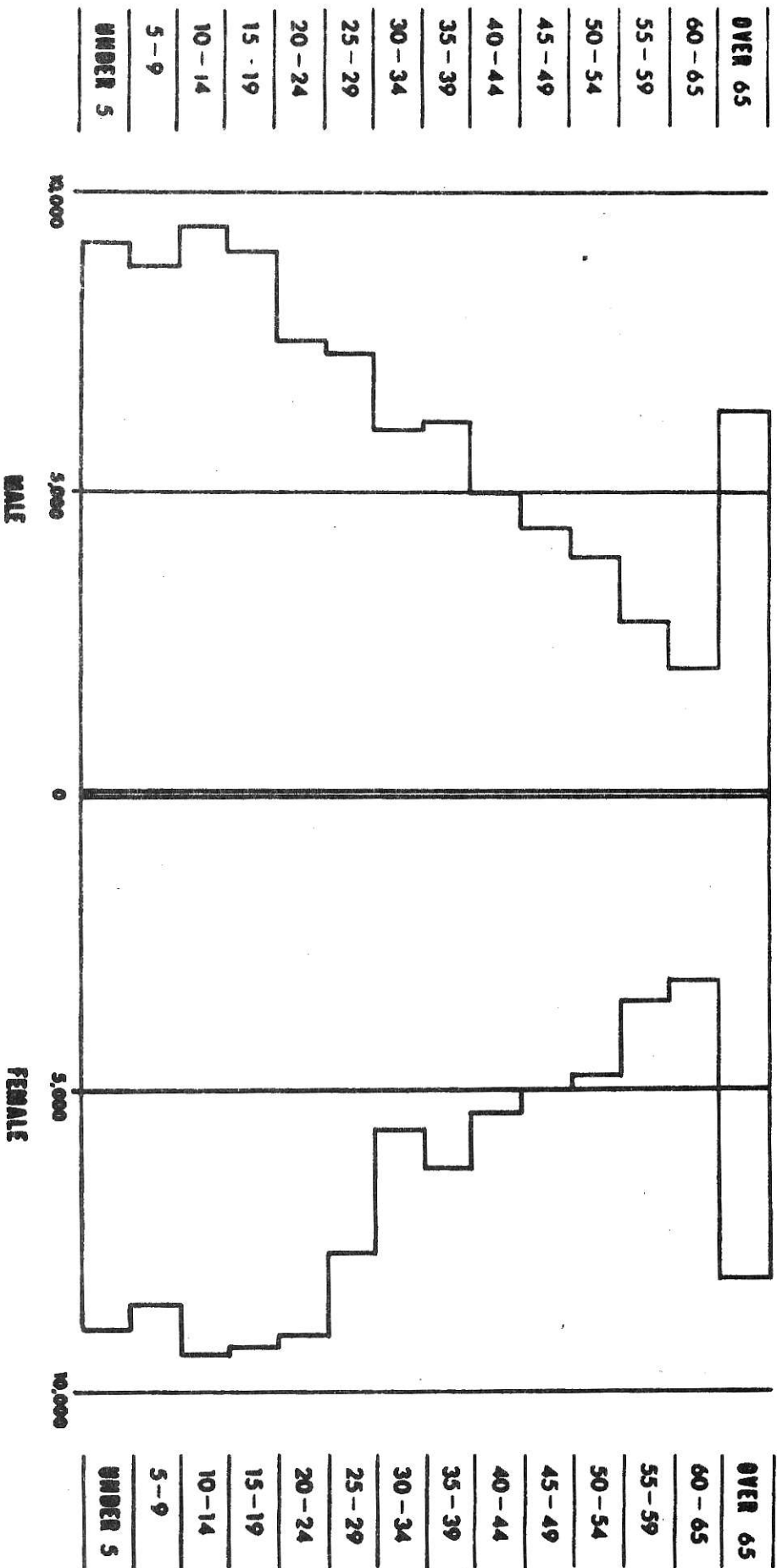


Figure 8: 1975

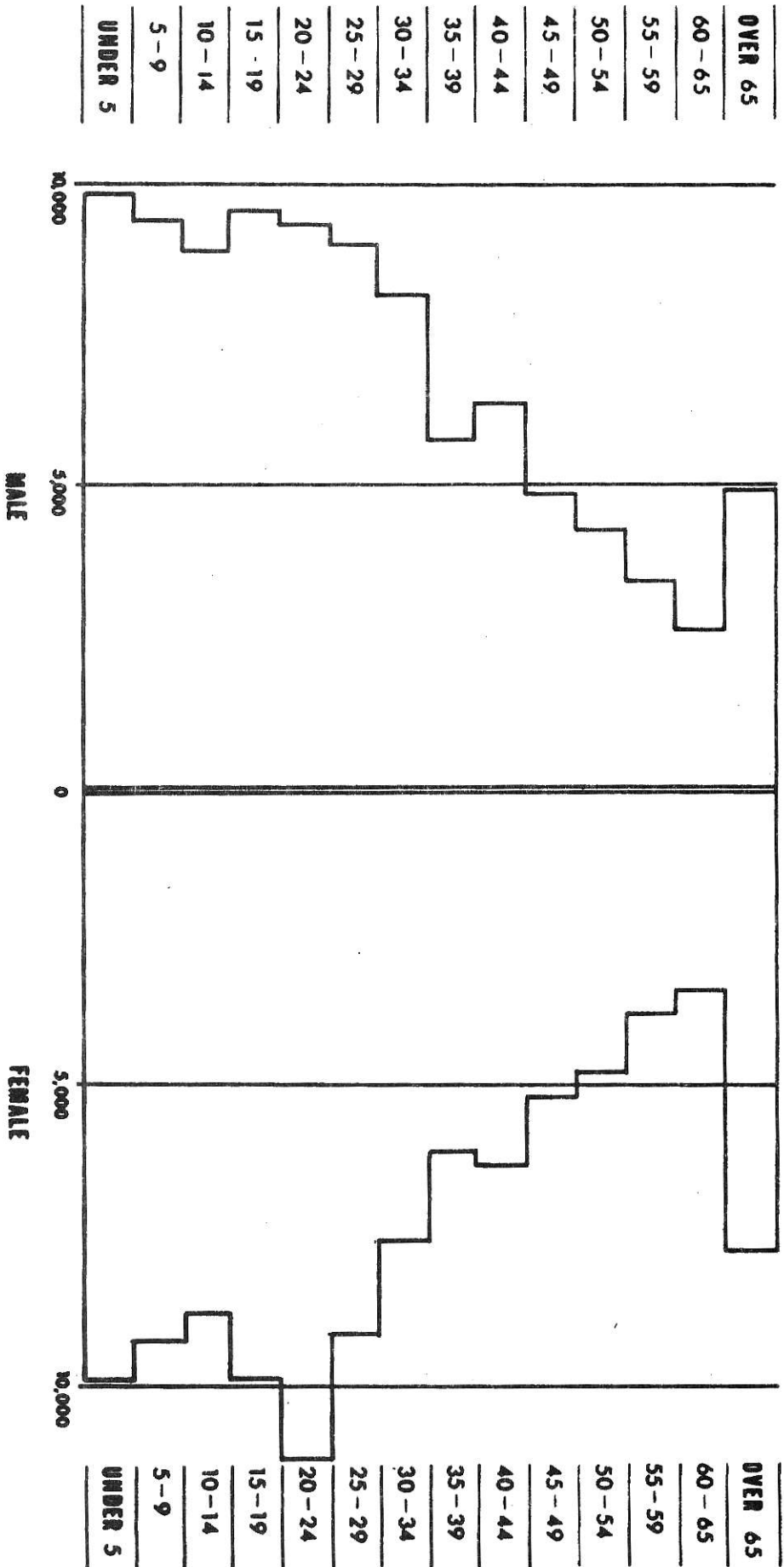


Figure 9: 1980

1940-1950 both the city of Topeka and the remainder of the county gained population. However, from 1950 to 1960 while the city of Topeka experienced a 51.6 percent population gain, the remainder of the county lost population (-18.1 percent). This could be attributed to a 30 percent decline in agricultural employment.

Since 1960 the Topeka metropolitan area has been going through a new process. As the city of Topeka continues to attract new people from surrounding counties and other rural areas within the state of Kansas, the population increase cannot all be accommodated within the existing city limits. New housing developments, as well as individual houses are being built in outlying areas at an increasing rate. The nature of such development has differed in the various outlying areas of the Topeka metropolitan area.

Residential population growth in most areas outside the city should continue in large subdivisions. In the southwest part of the county growth should be through individual houses and large subdivisions.

The Topeka metropolitan area should experience several physical and social problems in the future. The outlying areas should be concerned with how the area is physically growing. Since the city of Topeka has already experienced major growth they should be concerned with how the physical conditions and population characteristics are changing.

The city of Topeka in 1960 had 85 percent of the Topeka metropolitan area population. In 1968 this percentage was estimated to be 81.5 percent and is likely to continue to decrease. If the present boundaries for the city of Topeka remain the same in 1980 the projected population for the city should be approximately 143,300, an increase of approximately 11,300 over the 1968 population, indicating a growth rate of 8.6 percent; whereas the remainder of the county should gain approximately 25,400, nearly doubling the estimated 1968 population of 28,931, a growth rate of 87.8 percent. (See Table 8).

During the period from 1968-1980 the city of Topeka could be annexing more land. If all the developed land within a three mile radius surrounding the city were to be annexed, the estimated Topeka population should be approximately 160,000 by 1980, an increase of approximately 28,200 over the 1968 figure. If this would be the case the increase for the remainder of the county between 1968-1980 (outlying school districts) should be approximately 8,700. (See Table 8).

For the purpose of this study the existing city boundaries will be considered stationary, since to a great extent they coincide with the present school district boundaries. However, based on the Preliminary Land Use Plan Document, most of the growth and population increase in the next ten years should take place in the outlying school districts within a three mile radius of the city of Topeka.

The exact locations where residential areas should develop as was indicated in Chapter IV should be greatly influenced

by existing topography, availability of utilities, future transportation patterns, place of employment, commercial centers and the land use plan.

Elements Influencing the Population Characteristics

The economy

In order to understand the economic setting of the Topeka metropolitan area it would be meaningful to discuss the area's economic history.⁴

The Topeka metropolitan area's economic growth kept pace with the Nation until 1930. The depression years which followed saw Topeka's rate of growth fall to its lowest point in the history of the city. The Region's economic structure appeared to have settled into the typical pattern of a medium sized midwestern area dependent primarily on its agriculture base.

The second World War brought many changes to the area's economic setting. Although Topeka did not experience rapid industrialization as did many cities, the installation of an Army Air Base south of Topeka greatly accelerated the regional growth. In 1944 the economy was given another boost when the Goodyear Tire and Rubber Company built a major plant in North Topeka. These developments were considered by many to be nothing more than wartime necessities which would have little lasting effect on the area's economy. When the Army Air Base was deactivated after the war this view was reinforced. However, the impact of the Korean outbreak brought about the

reactivation of the Air Force installation and stepped up activity at these military installations.

The slow but steady growth in the area's employment subsequent to July, 1950, received a setback in July, 1951. This was due to a severe flood which caused the permanent closing of the Morrill Meat Packing Plant. After reaching a post war employment level peak of 7,200 in May, 1951, manufacturing employment dropped to 5,450 in September, 1951. This was principally due to permanent shutdown resulting from flood disaster. Small year to year gains in manufacturing employment since late 1951 have not been able to overcome the 1951 losses. In 1957 E. I. DuPont DeNemours and Company built a large cellophane plant near Topeka, which did boost manufacturing employment slightly.

From approximately 1940 to 1960 the regional area's economy began to transform from an agricultural base to one of less specialization. After 1960 this transformation was evident by the growth in the various sectors of the economy. National leadership in psychiatric research and treatment has been achieved through the Menninger Foundation in close cooperation with the State Hospital and the Veteran Administration Hospital. As a result of the state capital and county seat, Topeka has a high level of federal, state and local government employment. Railroads, tires, cellophane, mental health, grain storage, agriculture, wholesale distribution, retailing, printing and publishing and many other types of smaller industries and

businesses have combined to give the Topeka Shawnee County Regional Area a stable, healthy and diversified economy.

The future economy for the Topeka metropolitan area indicates that a steady growth should be experienced. Four major factors should contribute to this.

First, the increased interest of several industrial firms either to locate or expand their operations in the Topeka metropolitan area.

Second, the increase in governmental activities and the attraction of people from other parts of the state during the legislative sessions and conventions.

Third, the high increase of retail and wholesale sales, manufacturing output and bank deposits.

Fourth, a strong indication by Colonel Wilson, Commander of Forbes Air Force Base that the base will be expanding its operations beginning in the early seventies. This would be due to the increasing strategic location of Forbes to the local situation - that is if they change their air command from TAC Air Command to Military Air Lift.

Employment

Four generalizations appear to be most characteristic of employment trends in the Topeka metropolitan area.

First, population trends and the future population growth are directly related to new employment or to new economic opportunity. As such, the degree of future population growth will be dependent in large measure upon the future level of

employment opportunities available in the Topeka metropolitan area.

Second, the employment increase experienced by the Topeka metropolitan area during the 1950-1960 decade points to the substance of job attractions. Also, the fact that this increase would be supported by an adequate labor force is indicative of the high potential of the existing labor supply. (See Table 12).

Third, the employment changes which occurred between 1940 and 1960 did not materially alter the basic occupational and industrial patterns of the Topeka metropolitan area. Trade and service activities continued to stand out as a major source of employment. (See Table 12).

Fourth, the economy of the Topeka metropolitan area is composed of relatively small units engaged in varied activities. The metropolitan area's basic industry is represented in varying degrees by its manufacturing, trade and service activities. (See Table 12).

Table 10 shows the estimated level of employment in the Topeka metropolitan area in 1980 to be approximately 79,000. This would be a 5.5 percent increase over 1960 employment level. Table 10 also shows the forecasted 1980 employment total to the various major industry groups. These estimates are based on several assumptions.

First, the employment growth in the Topeka metropolitan area will be closely related to or affected by economic and employment changes in the state economic regions - the State,

TABLE 12
EMPLOYMENT BY MAJOR INDUSTRY GROUP
TOPEKA METROPOLITAN AREA, 1940, 1950, 1960

Industry Group	Number Employed			Percent		
	1940	1950	1960	1940	1950	1960
Agriculture	2,552	2,379	1,260	8.01	5.42	2.48
Manufacturing	4,056	6,023	5,836	12.76	13.72	11.47
Mining	113	68	54	.35	.15	.11
Construction	1,923	3,097	3,815	6.04	7.40	7.50
Transportation, Utilities & Comm.	4,987	6,714	6,931	15.65	15.29	13.62
Wholesale Trade	1,204	1,807	1,778	3.78	4.12	3.49
Retail Trade	5,454	7,223	8,099	17.12	16.45	15.92
Finance, Insurance & Real Estate	1,581	1,996	2,688	4.96	4.55	5.28
Services & Other	<u>9,981</u>	<u>14,594</u>	<u>20,417</u>	<u>31.33</u>	<u>33.25</u>	<u>40.13</u>
Totals	31,860	43,901	50,878	100.00	100.00	100.00

Source: U.S. Census of Population, 1940, 1950, 1960.

the West North Central geographic divisions, and the nation as a whole.

Second, no all out war or disaster will occur on a nationwide basis and no large scale disaster will occur within the Topeka metropolitan area or economic subregions.

Third, only moderate changes in employment level will occur instead of a cycle boom which was experienced after the depression.

If these assumptions hold true, Topeka can expect a healthy diversified economy that should attract a high level of employment.

Land use

Knowledge of how land is to be used as discussed in Chapter IV is an important determinant in the spatial distribution of various residential, commercial and industrial activities. Three documents were used to show the trend of spatial distribution of residential, commercial and industrial functions in the Topeka metropolitan area. They were: The Existing Land Use of the Regional Planning Area 1962, The Updating of the Existing Land Use, and the Preliminary Land Use Plan Document.

As in most American cities single family dwellings occupied a major portion of the developed land. Table 13 gives a summary of residential land use as of March 1, 1962. Within the city of Topeka the majority of single family dwellings were located within well defined compact areas. The major portion of single family units within a three mil area beyond the city limits were located in North Topeka, north of U. S.

TABLE 13

SUMMARY OF RESIDENTIAL LAND USE

MARCH 1, 1962

Area	Single-Family Residential			Multiple-Family Residential		
	Total Acres in Use	Percent of Total Area	Percent of Developed Area	Total Acres in Use	Percent of Total Area	Percent of Developed Area
Inside Corporate Limits	6,363.62	27.20	39.09	392.01	1.68	2.41
Outside Corporate Limits	<u>1,192.69</u>	1.86	13.67	<u>107.37</u>	0.17	1.23
Total Regional Planning Area	7,556.31	8.62	30.22	499.38	0.57	2.00

Source: Preliminary Land Use Document.

Highway 24. (See Figure 10).

Multiple family uses in the city of Topeka occupied less land (either on the basis of developed area or total area) than any other major land use with the exception of office and banks. The majority of multiple units were located in areas just outside the Topeka Central Business District. A large portion of the multiple dwellings located in this area were converted from older single family dwellings. There were, however, some newly constructed apartment buildings located in this area. (See Figure 11).

A summary of commercial land use in the Regional Planning Area of March, 1962, is shown in Table 14.

The largest single concentration of commercial development in the Regional Planning Area was the central business district of Topeka. In 1962 the CBD area accounted for approximately 12 percent of the total commercial land use. This is a considerable decline from 1942 when this area accounted for 39 percent of the total commercial land use. This decrease in land use was accounted for primarily as a result of the increase in outlying and fringe commercial development. (See Figure 12).

As shown in Figure 12, other concentrations of commercial development in the Regional Planning Area were found in the North Topeka Business District and in various pockets along Highway 75 and 29th Street. A scattered amount of commercial development was also found to exist in many older sections of the City of Topeka.

Figure 10:
**SINGLE-FAMILY RESIDENTIAL
LAND USE**
AS OF MARCH 1, 1962
TOPEKA - SHAWNEE COUNTY REGIONAL
PLANNING AREA

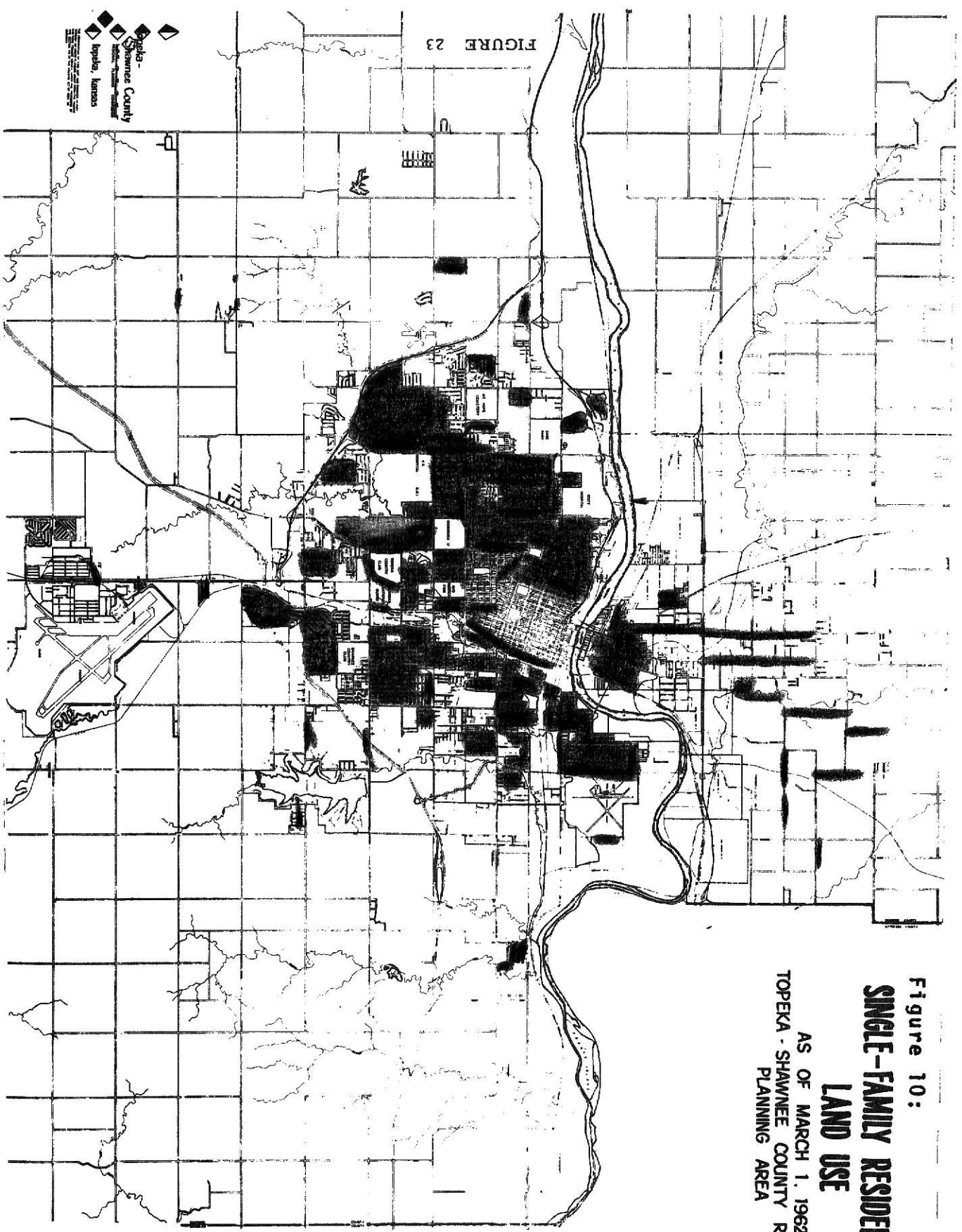


Figure 11:
MULTIPLE-FAMILY RESIDENTIAL
LAND USE
 AS OF MARCH 1, 1962
 TOPEKA - SHAWNEE COUNTY REGIONAL
 PLANNING AREA

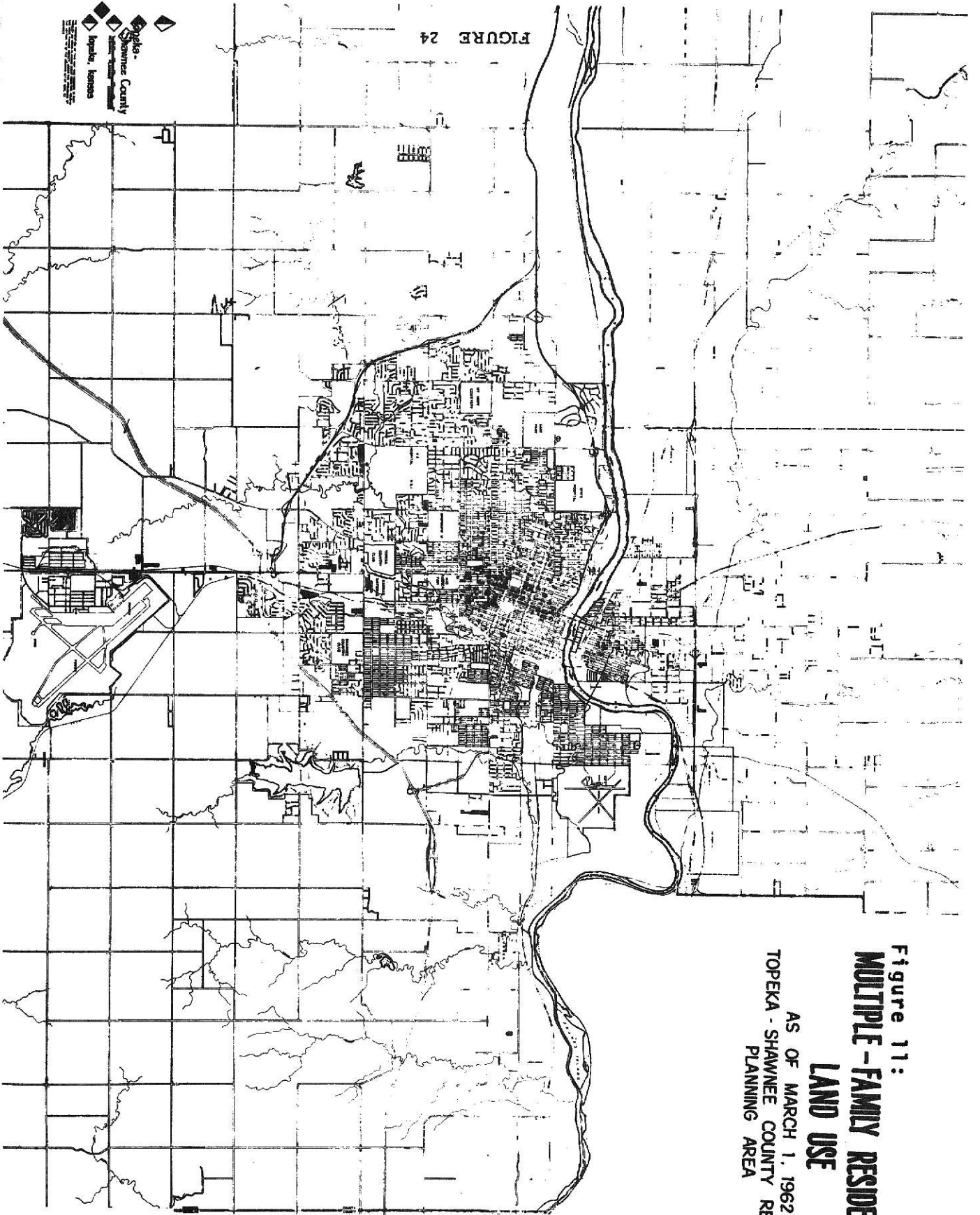


FIGURE 24

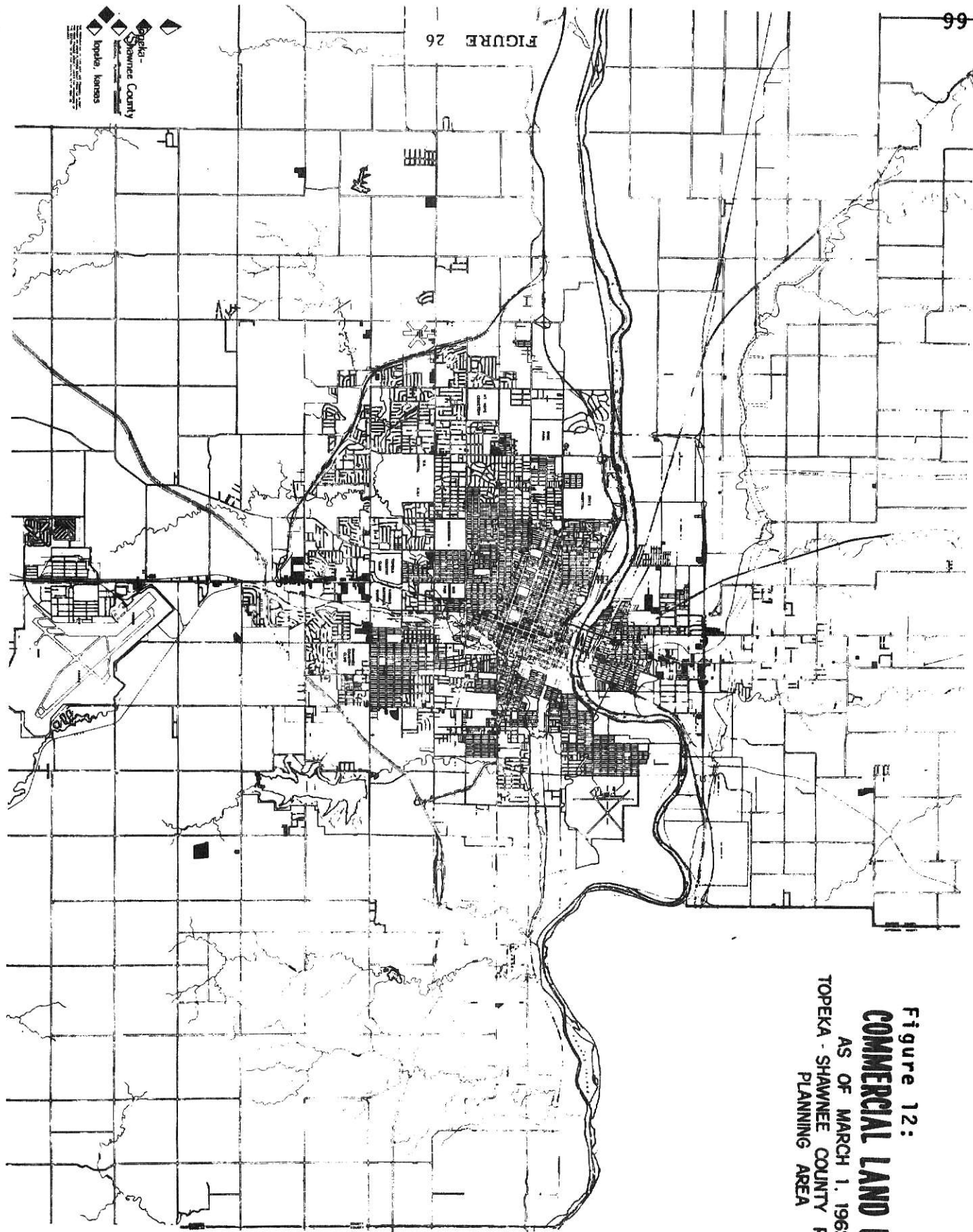
TABLE 14
SUMMARY OF COMMERCIAL LAND USE
MARCH 1, 1962

Area	Total Acres in Use	Percent of Total Area	Percent of Developed Area
Inside Corporate Limits	502.08	2.15	3.08
Outside Corporate Limits	<u>182.86</u>	0.28	2.10
Total Regional Planning Area	684.94	0.78	2.74

Source: Preliminary Land Use Plan Document.

Figure 12:
COMMERCIAL LAND USE
AS OF MARCH 1, 1962
TOPEKA - SHAWNEE COUNTY REGIONAL
PLANNING AREA

FIGURE 26



Legend:
Topeka - Shawnee County
Topeka, Kansas

As shown by Figure 13 and Table 15 the heaviest concentrations of industrial development in the Regional Planning Area were found in areas outside the corporate limits of the city. Three major industries, the Goodyear Tire and Rubber Company Plant, the Kansas Power and Light Company Power Plant, and the DuPont Cellophane Plant were located outside the Topeka city limits. Generally speaking, the southwest quadrant of the Regional Planning Area was almost completely devoid of industrial uses. This was mainly due to a lack of utility services in this area.

Study of the industrial pattern in the existing land use for 1962 revealed some industrial sites were virtually surrounded by residential and/or other land uses, making land acquisition for industrial growth difficult and extremely expensive. Additionally, congestion because of a lack of suitable street access, and a scarcity of vacant land contiguous to the site were found in some locations. However, the majority of existing industrial sites in the Regional Planning Area were favorably located for future expansion.

Since 1962 a larger amount of land in the metropolitan area has been devoted to multiple family residential use. The largest concentration of multiple family development has been in the fringe areas and areas outside the corporate limits of the city.

Construction of single family units have not been as predominant as multiple family units. The largest concentration

TABLE 15
SUMMARY OF INDUSTRIAL LAND USE
MARCH 1, 1962

Area	Total Acres in Use	Percent of Total Developed Acres	Percent of Developed Area
Inside Corporate Limits	592.72	2.53	3.64
Outside Corporate Limits	<u>1,009.11</u>	1.57	11.57
Total Regional Planning Area	1,601.83	1.84	6.40

Source: Preliminary Land Use Plan Document.

Figure 13:
INDUSTRIAL LAND USE
 AS OF MARCH 1, 1962
 TOPEKA - SHAWNEE COUNTY REGIONAL
 PLANNING AREA

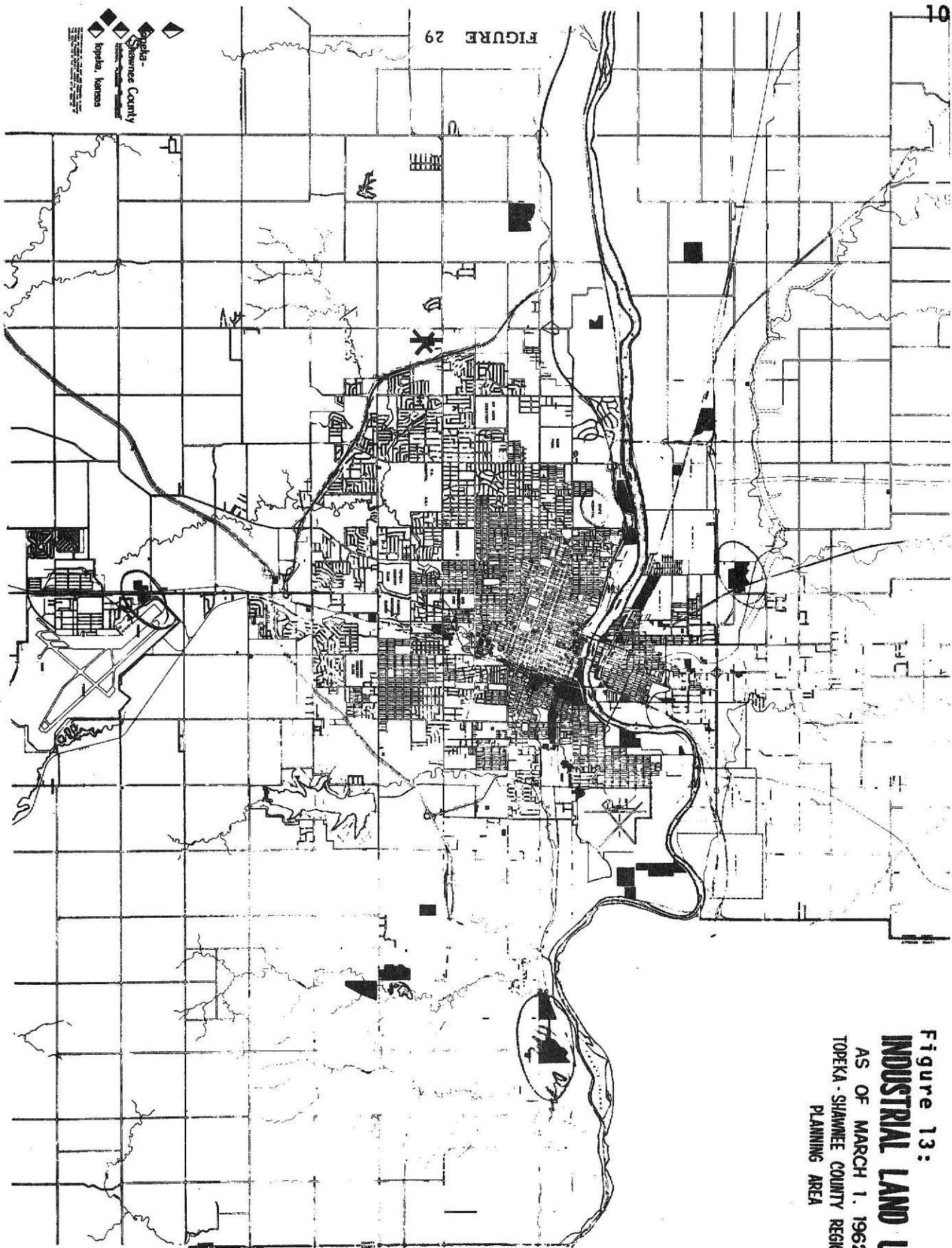


FIGURE 29

of single family development has been in areas outside the corporate limits of the city. (See Table 13).

There have been some considerable changes in the commercial activity of the metropolitan area. Most of these changes have taken place outside the city limits of Topeka. Smaller neighborhood type shopping centers were constructed and the larger shopping centers continued to expand their operations. As a result of this the CBD has continued to occupy a smaller percent of the total commercial land use. (See Table 14 and Figure 12).

Industrial land use has seen some minor changes since 1962. There were mainly the expansion of existing industrial plants and/or a statement of future plans to expand their operations.

Some industrial prospects have acknowledged interest in locating plants in the Topeka metropolitan area because of favorable site locations. The Preliminary Land Use Plan of 1980 is a document which is essentially an analytical study of the future arrangement of land uses in the Regional Planning Area. It is based on existing conditions of the regional planning area in 1962 and perceivable significant trends. The future arrangement of land uses and amount of land needed has been based primarily on the 1980 population forecast which is 224,257. This forecast was made by the staff of the Topeka Shawnee County Regional Planning Commission.

The areas in the Land Use Plan indicated for single family residential use were either predominantly single family resi-

dential in character in 1962, or had a potential for residential development.

It was estimated, based on the population forecast for 1980, that an additional 6,000 acres of land would be needed for single family residential purposes by 1980. This is a total space requirement of approximately 13,600 acres. The Preliminary Plan provided a total area of 17,800 acres for single family residential land use through 1980. (See Table 16). This was larger than the total estimated space requirement. The reason for this is to allow for land that will become available for development due to various implications.

The plan proposes a total of 1,704 acres for multiple family residential use by 1980 although the total space requirement estimate is only 697 acres. The additional acreage, as proposed in the Plan, results for intermingling of multiple family residential and single family residential in many of the older established areas of the city of Topeka. In these areas multiple family residential development has become scattered to such an extent that although very few blocks contain 50 percent multiple family, the single family residential character cannot be expected to prevail. The Plan indicated these areas as multiple family residential. However, it would be unwise to assume that these areas will ever develop multiple family residential in their entirety.

The Plan proposed multiple family residential areas in several locations in the outlying portions of the city and the

TABLE 16
ESTIMATED 1980 SPACE REQUIREMENTS
TOPEKA-SHAWNEE COUNTY REGIONAL PLANNING AREA

Land Use Category	Total Acreage in Use March 1, 1962	Total Additional Acreage Required by 1980	Total Developed Acreage 1980	Percentage Increase in Total Acreage 1962-1980	Percent of Total Developed Acreage 1980
Industrial	1,185.60	2,500.00	3,685.60	210.86	9.48
Railroad Right of Way	830.00	225.00	1,055.00	27.11	2.71
Commercial:					
Downtown Retail Dist.	43.24	30.76	74.00	71.14	0.19
Local Shopping Areas	153.20	183.19	336.39	119.58	0.87
Gen. Business Areas	576.56	264.40	840.96	45.85	2.16
Total Commercial	<u>773.00</u>	<u>478.35</u>	<u>1,251.35</u>	<u>61.88</u>	<u>3.22</u>
Residential:					
Single-family	7,556.31	6,026.00	13,582.31	79.75	34.97
Multi-family	499.38	193.00	692.38	38.65	1.78
Total Residential	<u>8,055.69</u>	<u>6,219.00</u>	<u>14,274.69</u>	<u>77.20</u>	<u>36.75</u>
Public & Quasi-Public:					
Parks & Rec. Areas	2,429.68	1,648.00	4,077.68	67.82	10.49
Schools	723.08	790.00	1,513.08	109.25	3.89
Other Public and Quasi-Public	<u>3,682.70</u>	<u>240.00</u>	<u>3,922.70</u>	<u>6.52</u>	<u>10.09</u>
Total Public & Quasi Public	6,835.46	2,678.00	9,513.46	39.17	24.47

TABLE 16 - continued

Streets & Public Rights- of-Way	<u>6,904.32</u>	<u>2,180.00</u>	<u>9,084.32</u>	<u>31.57</u>	<u>23.37</u>
Totals	24,584.07	14,281.50	38,865.57	58.08	100.00

Source: Preliminary Land Use Plan Document.

three mile area in keeping with the demands for multiple family land use in these areas.

Regarding the commercial development, the Plan shows desirable consolidation of business at intervals at major thoroughfare intersections. These are in areas not presently urbanized and where commercial development has not firmly established itself along major thoroughfares.

The objective of the Plan is to maintain the Central Business District and particularly the Downtown Retail District as the commercial heart of the Regional Planning Area. A reasonable expansion of the Downtown District was planned as well as provision of space within the Central Business District for warehousing and wholesaling offices, offstreet parking, public use and continued multiple family residential use. Both the CBD and the Downtown Retail District contain more land than is expected to be utilized by 1980. However, the Downtown Retail District is of sufficient size and of a compact scale to attract proper land use and encourage continued growth.

In regard to industrial development the Preliminary Land Use Plan proposes the creation of major industrial districts in areas containing level, well drained land with existing and proposed transportation and public facilities conducive and compatible with future industrial development.

Some expansion of existing industrial areas has been suggested to absorb contiguous land; thereby encouraging future

expansion of existing and related industrial uses. In addition, several large industrial districts were proposed in a variety of locations. They include the following areas:

1. An area immediately north of Forbes Air Base on U.S. 75. This area comprises over 900 acres with approximately 875 presently developed.
2. An area which lies east of Golden Avenue and south of the Phillip Billard Municipal Airport. This area contains over 600 acres of land with approximately 550 acres of land presently undeveloped.
3. An industrial district of almost 300 acres north of the Kansas River, lying east of Meriden Road between the Soldier Creek cutoff and the Kansas River.
4. An area containing 800 acres (700 were undeveloped in 1962) lying north of the Kansas River west of Vail Avenue. This area includes the Westgate Industrial District.
5. The Goodyear Industrial District had been expanded to include approximately 500 acres with more than 300 acres undeveloped.

To provide close-in locations for industry, the Plan proposes the retention and, in many instances, the expansion of the existing industrial areas lying adjacent to the existing railroad trackage extending north and south between the Kansas River and the Kansas Turnpike.

Other smaller industrial areas are proposed as shown in Figure 13. In all, over 4,700 acres were proposed for industrial land use in the Topeka Shawnee County Regional Planning Area

by 1980 including more than 2,600 acres of land which were undeveloped in 1962.

The Relationship Between the Economy, Employment and Land Use

The type of economy, the distribution of employment functions associated with the economy and the spatial distribution of land functions have influenced and should continue to influence the size of population, the age composition of the population and the spatial distribution of people in the Topeka metropolitan area. In reference to school planning these elements are significant in determining the size of the public school population, at various grade levels and the distribution of the school population in various attendance areas of the four school districts under study. Subsequently, they can provide important information in developing an effective school building program.

The first section of this chapter examined the demographic patterns of growth in the Topeka metropolitan area and how the various social economic and land functions influenced these patterns of growth.

This section will study similar demography data and how they are influencing growth patterns in the four school districts in the Topeka metropolitan area.

Topeka School District

Changing Population Characteristics

Five elements of population characteristics were studied

over two periods of time, 1960 and 1968. They include: family size, parental age, children under 5, population 5-19 and population over 65.

Family size

As shown in Table 17 and Figures 15 and 16 there was an overall increase in family size for the district between 1960 and 1968. The most significant patterns of change that occurred in family size were in the southwest and central portions of the city. In the southwest the size of family increased substantially. This could be attributed to the fact that residents of this area were becoming well established and were economically able to provide for larger families. In the central core of the city family size for most of the attendance areas declined substantially. This was mainly due to the large number of apartments that were built for the elderly, young singles, and young married people with no children. This pattern did not follow in all attendance areas of the central core. For example, Parkdale and Lafayette attendance areas had substantial increases in family size. This was mainly because of the large number of black families in the area, which are generally known to have a higher reproductive rate.

Moderate patterns of change in family size were experienced in the southeast portion of the city. However, as shown in Figures 13 and 14 changes in family size were particularly significant in the Hudson and Belvoir attendance areas only in relation to the other district attendance areas. The decrease in family size in the Hudson and Belvoir area were

TABLE 17
CLASSIFICATION OF SCHOOL ATTENDANCE AREAS
BY FAMILY SIZE, 1968

School	Family Size	Change in Family Size From 1960
State Street	5.42	+ 1.57
Lafayette	4.65	+ .75 HIGH
Potwin	4.38	+ .46
Crestview	4.30	+ .55
Parkdale	4.25	+ .28
Avondale Southwest	4.22	+ .34
Rice	4.22	+ .30 ABOVE AVERAGE
McClure	4.20	+ .20
Avondale East	4.18	+ .04
Highland Park Central	4.13	+ .43
McCarter	4.10	+ .35
Bishop	4.09	+ .54
Belvoir	4.04	- .05
Gage	3.97	- .14 AVERAGE
Highland Park South	3.94	- .01
Whitson	3.90	+ .37 MEDIAN
Linn	3.90	+ .14
Hudson	3.88	- .22
Quincy	3.87	- .34
Grant	3.87	- .08
Avondale West	3.86	+ .21

TABLE 17 - continued

<u>School</u>	<u>Family Size</u>	<u>Change in Family Size From 1960</u>
Highland Park North	3.85	+ .14 AVERAGE
McEachron	3.83	+ .02
Monroe	3.80	- .19
Lowman Hill	<u>3.77</u>	+ .12
Randolph	3.71	+ .24
Clay	3.70	- .18
Central Park	3.69	+ .15 BELOW AVERAGE
Lundgren	3.68	+ .04
Sheldon	3.66	+ .23
Stout	3.64	+ .09
Quinton Heights	<u>3.57</u>	- .03
Sumner	3.25	- .75 LOW
Polk	3.12	- .78

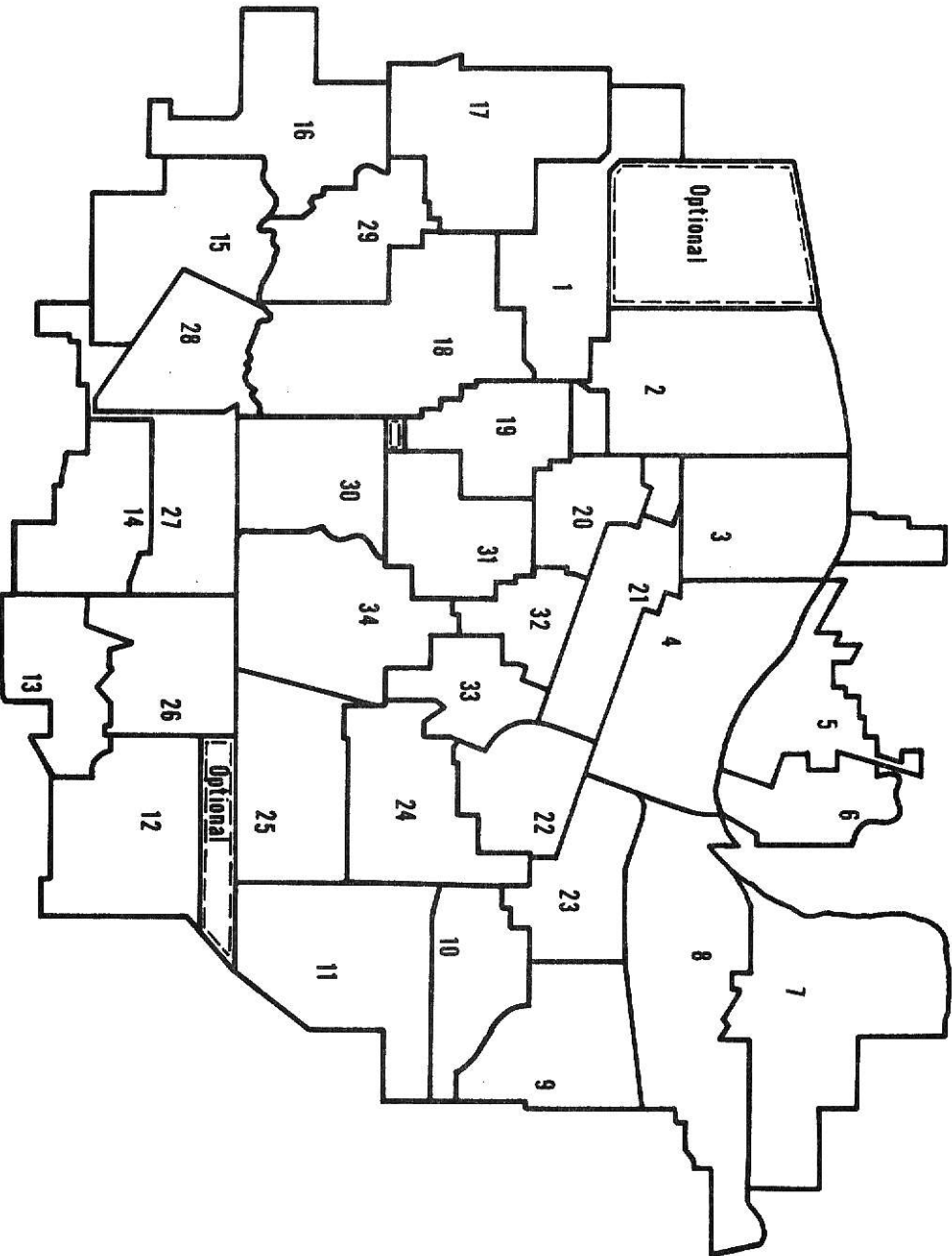


Figure 14:
Elementary
Attendance Area

1. SHELDON
2. GAGE
3. POTWIN
4. SUMNER
5. GRANT
6. QUINCY
7. LUNDGREN
8. STATE STREET
9. RICE
10. BELVOIR
11. HUDSON
12. HIGHLAND PARK SOUTH
13. LINN
14. AVONDALE SOUTHWEST
15. MCEACHRON
16. MCCLURE
17. MCCARTER
18. WHITSON
19. RANDOLPH
20. LOWMAN HILL
21. CLAY
22. PARKDALE
23. LAFAYETTE
24. HIGHLAND PARK NORTH
25. HIGHLAND PARK CENTRAL
26. AVONDALE EAST
27. AVONDALE WEST
28. BISHOP
29. CRESTVIEW
30. STOUT
31. CENTRAL
32. POLK
33. MONROE
34. QUINTON HEIGHTS

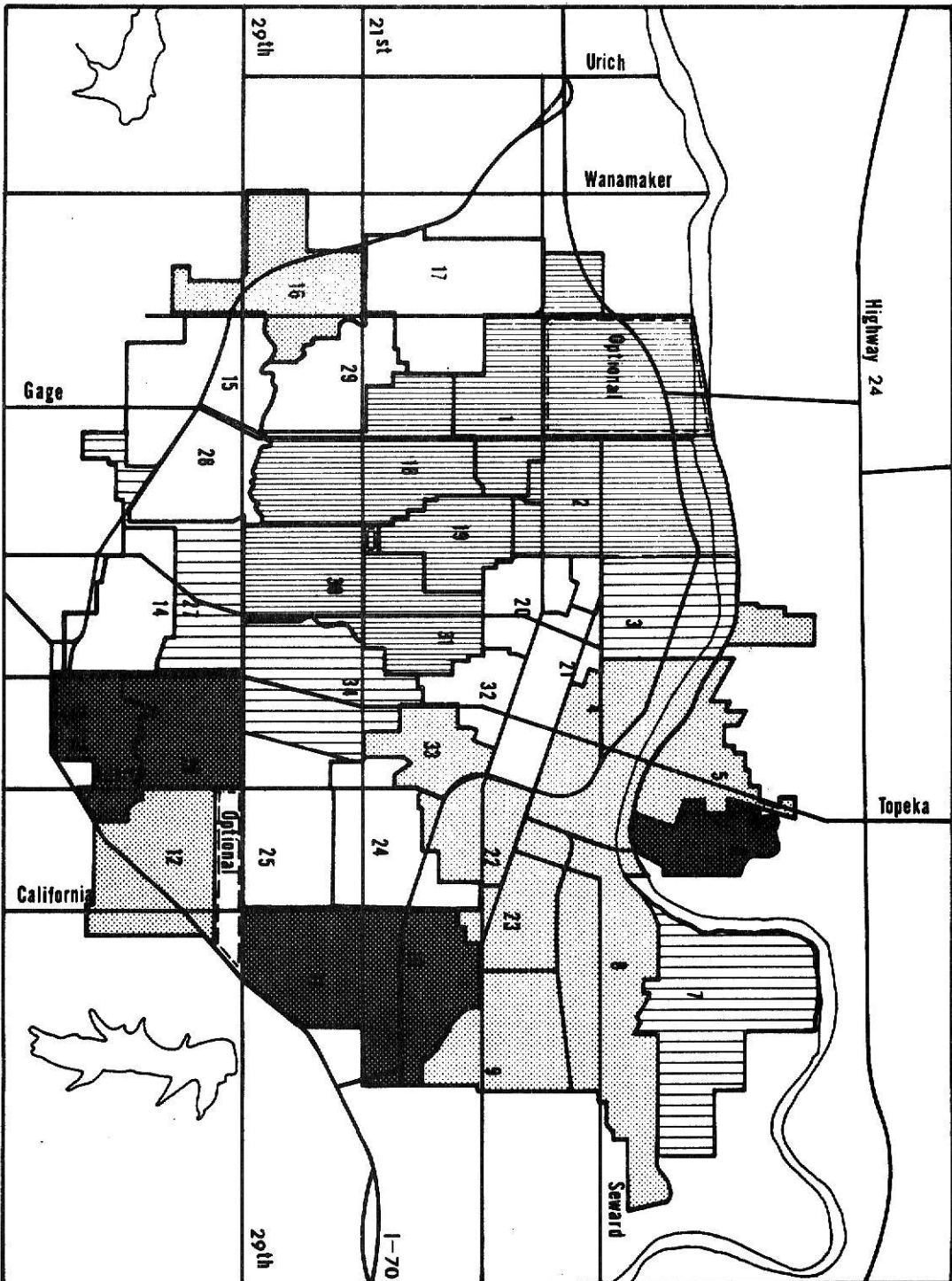


Figure 15:
Family Size
1960

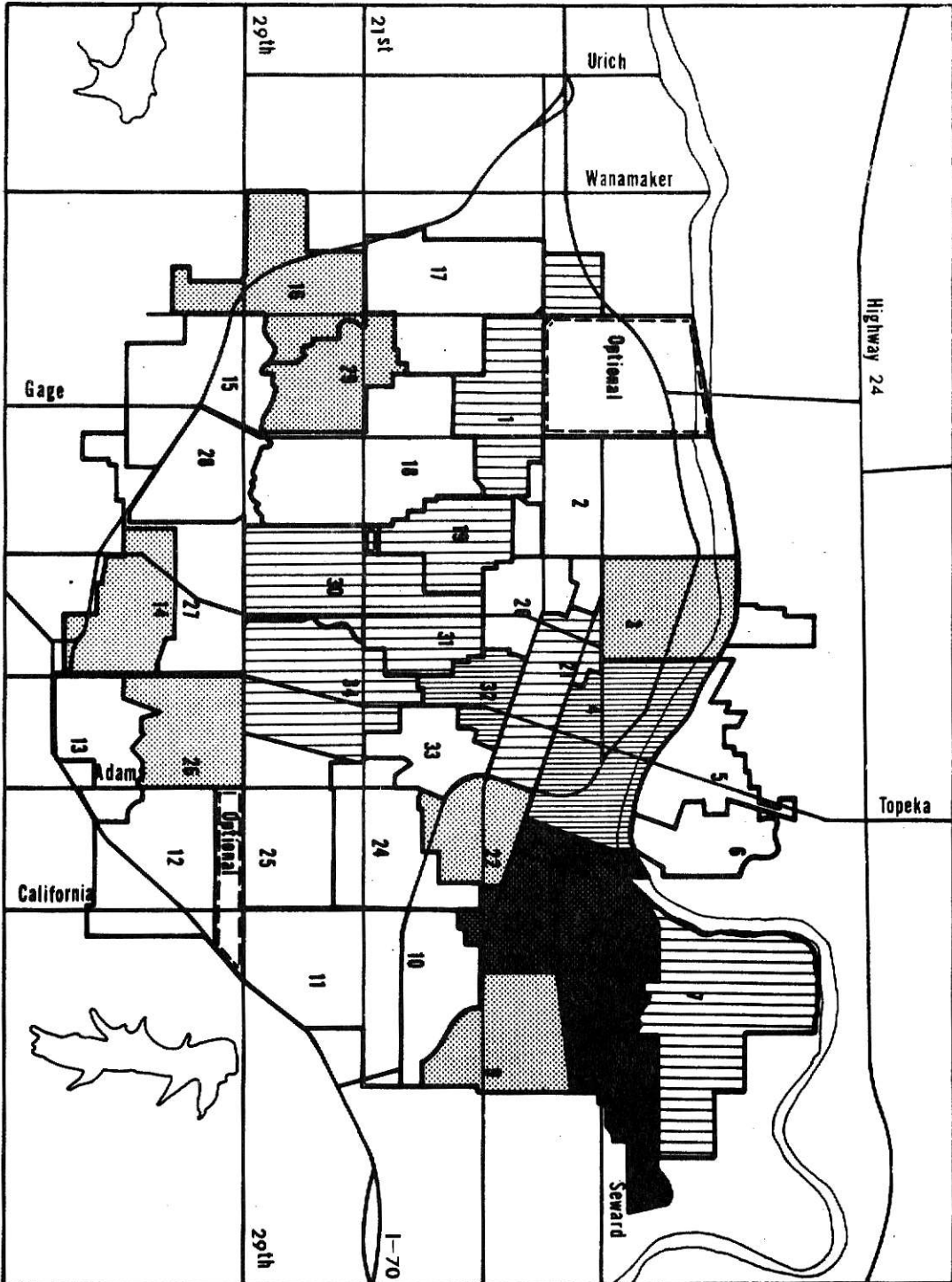
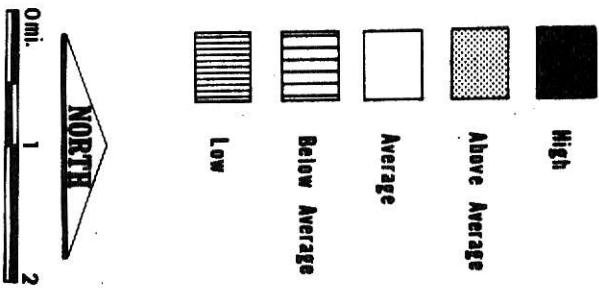


Figure 16:
Family Size
1968



mainly attributed to the large number of young newly established families that were being attracted to the areas by apartments and low rent housing.

Parental age

As shown in Table 18 and 22 and Figure 17 the youngest parents were found in the newer residential areas extending in a crescent from McClure in the southwest area of the city to Belvoir in the east. The oldest parents were found in established neighborhoods extending from the center of the city to the Whitson attendance area. Established neighborhoods in the north part of the city, like Grant and Lundgren also had older aged parents.

Population under 5

As shown in Table 19 and 22 and Figure 18 and 19 from 1960 to 1968 there was an overall decrease in size of population under 5. This was mainly attributed to a declining birth rate for both the city and metropolitan area and the immigration of younger residents to outlying districts.

In 1960 the highest population concentration under 5 was in the southern part of the city. Parts of the southwest also shared in this large concentration of population under 5.

The lowest population concentration under 5 was found in the central core of the city. This was mainly attributed to the fact that this area of the city had the highest percent residents aged 65 and over, thus a smaller proportion of residents who were potential parents. Other attendance areas that

TABLE 18
CLASSIFICATION OF SCHOOL ATTENDANCE AREAS
BY AGE OF ADULTS, 1968

School	Parental Age
Whitson	47.0 <u>HIGH</u>
Lundgren	43.3
Lafayette	43.2
RAndolph	42.6 ABOVE AVERAGE
Grant	42.6
Lowman Hill	42.5 <u> </u>
Cental Park	42.5
Quincy	42.3
Sumner	42.2
Polk	42.1
Clay	41.9
Sheldon	41.9
Highland Park Central	41.6
Quinton Heights	41.4
Parkdale	41.2
Monroe	40.9
Gage	40.5 - MEDIAN
Potwin	39.7 - AVERAGE
Highland Park North	39.2
State Street	39.2
Rice	38.8 <u> </u>

TABLE 18 - continued

School	Parental Age	
McCarter	38.8	
Crestview	38.2	
Stout	38.0	BELOW AVERAGE
Highland Park South	37.7	
Belvoir	37.4	
Hudson	36.9	
McClure	36.6	
McEachron	36.3	LOW
Avondale East	35.8	
Avondale Southwest	34.9	
Linn	34.9	
Bishop	34.7	
Avondale West	34.5	

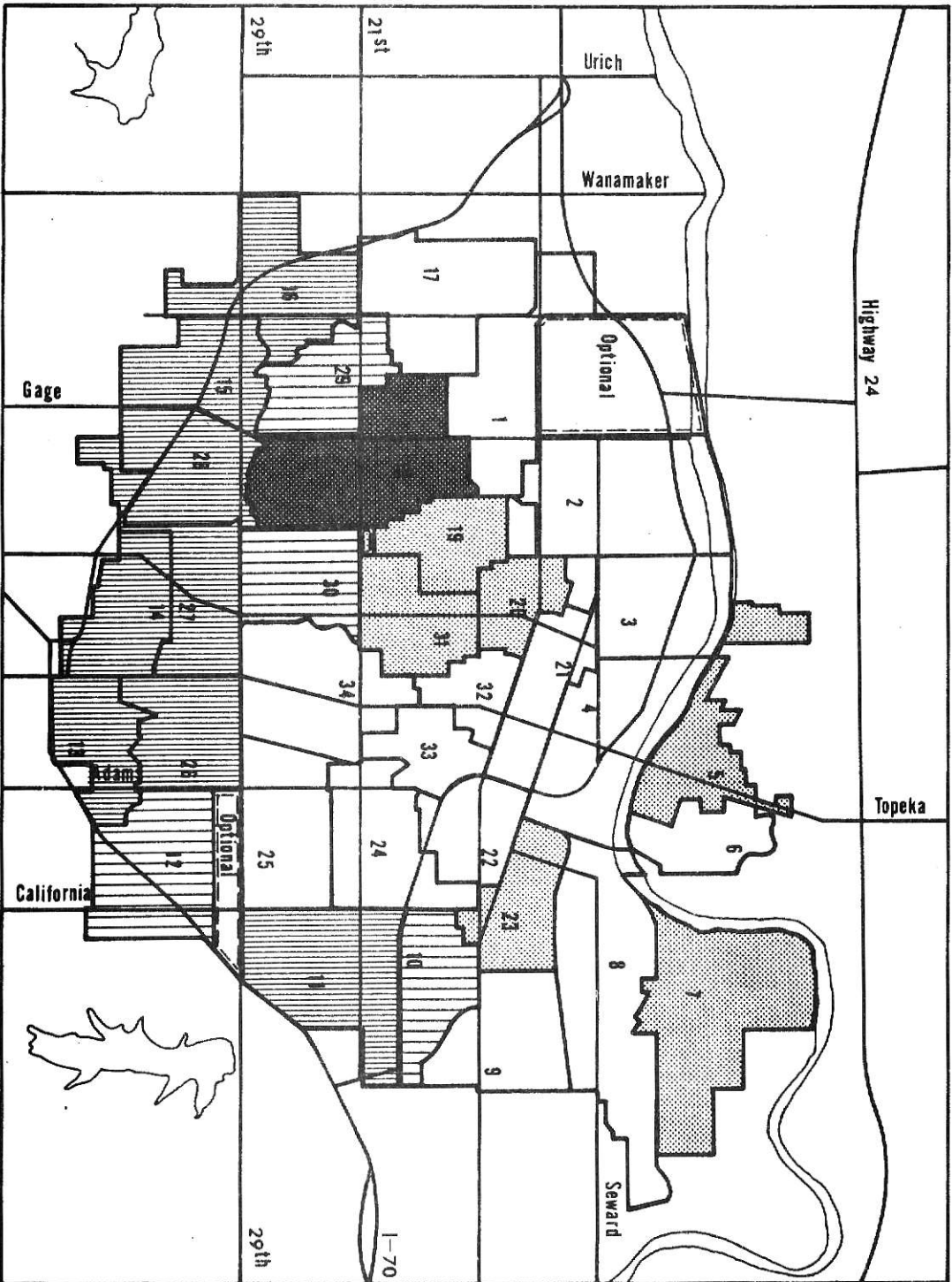


Figure 17:
Parent Age

1968

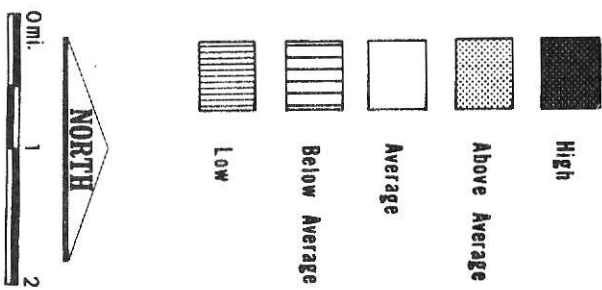


TABLE 19
CLASSIFICATION OF SCHOOL ATTENDANCE AREAS
BY PERCENT OF CHILDREN UNDER 5 YEARS OF AGE, 1968

School	Percent Under 5	Change in Under 5 Percent From 1960
Belvoir	13.6 HIGH	- 1.7
Highland Park North	11.7	- 3.1
Highland Park South	10.0	- 5.7
Avondale East	10.8 ABOVE AVG.	- 13.7
Rice	9.9	- 4.6
Hudson	9.6	- 6.0
Monroe	9.4	- 3.4
Crestview	9.3	- 5.7
Clay	9.2	+ 1.4
Parkdale	9.2	= 5.5
Gage	9.0 AVERAGE	- 3.3
Linn	8.9	- 13.9
Lowman Hill	8.9	+ 0.6
McClure	8.8	- 8.4
Avondale Southwest	8.7	- 12.0
Polk	8.6	- 1.4
Lafayette	8.4	- 5.8
Quincy	8.4	- 3.9
Lundgren	7.9	- 4.6
State Street	7.9	- 4.8

TABLE 19 - continued

School	Percent Under 5	Change in Under 5 Percent From 1960
Sumner	7.6	- 3.6
Avondale West	7.6	- 11.4
Central Park	7.4	- 2.9
Highland Park Central	<u>7.4</u>	- 2.9
McCarter	7.3	- 7.4
Bishop	7.2 BELOW	- 6.7
Stout	7.0 AVERAGE	- 6.0
Grant	<u>7.0</u>	- 6.1
Whitson	6.3	- 3.7
Sheldon	6.3	- 4.5
Potwin	6.3 LOW	- 6.8
McEachron	6.2	- 10.1
Quinton Heights	5.9	- 6.1
Randolph	5.5	- 2.9

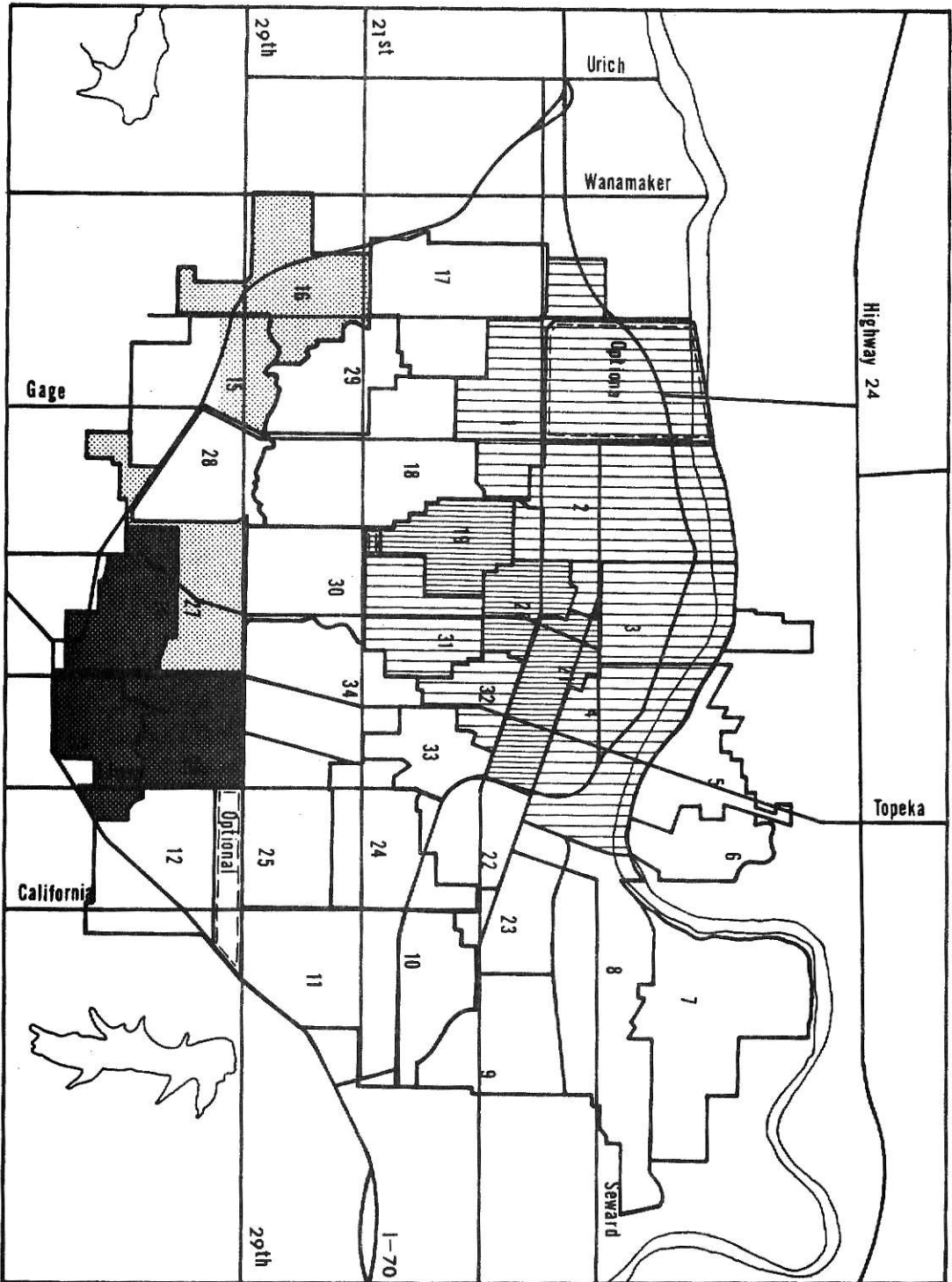
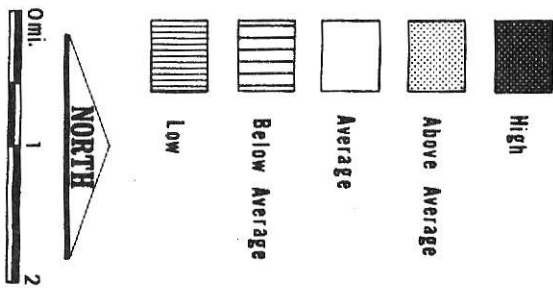


Figure 18:
Population
Under Age 5
1960



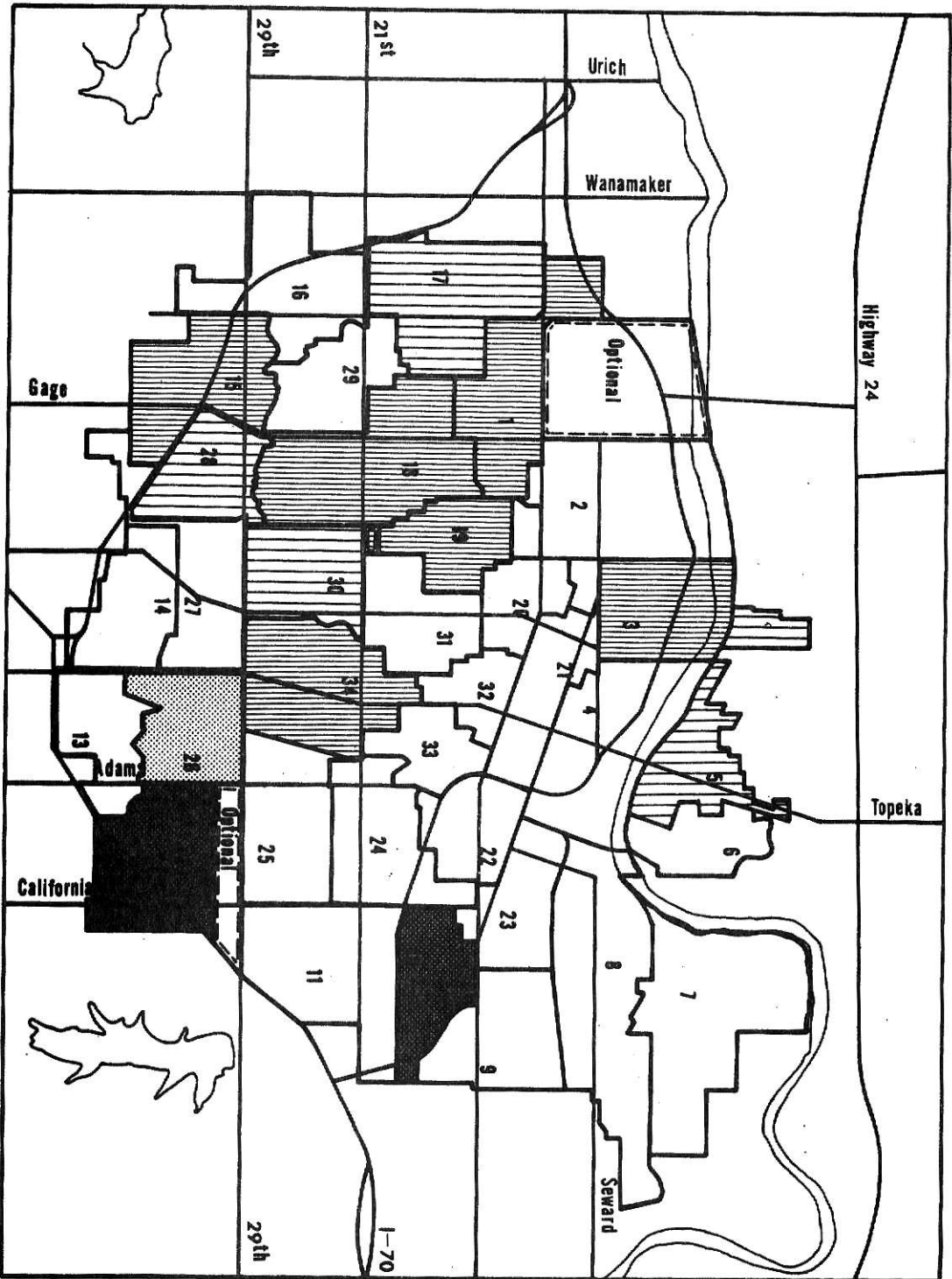


Figure 19:
**Population
Under Age 5
1968**

had a low percent of population under 5 were found extending from the central portion of the city to northwest sections. The low percent of children under 5 here did not seem to be affected as much by the large number of residents 65 and over.

In 1968 these patterns of population concentration changed significantly throughout the whole district. The most significant changes occurred in those attendance areas in the southern portion of the city. (See Tables 19 and 22 and Figure 17).

The highest proportions of population under 5 in 1968 were found in outlying attendance areas east of the central core of the city. Younger families with pre-school children were most likely attracted to these attendance areas by the availability of low income housing or rental single family units.

The lowest proportion of children under 5 were mainly found in those attendance areas extending southwest from the central core of the city. In these areas there was a high percent of older aged parents that were reaching the end of their reproductive years.

Population 5-19

As mentioned in previous chapters the population age range 5-19 was important because this group made up the vast majority of school aged children.

As shown in Tables 20 and 22 and Figures 20 and 21 there was an overall increase in size of population 5-19 between 1960 and 1968. All attendance areas shared in this increase.

In 1960 there were no extreme percent (no very high nor very low attendance areas) ranges of population between the

TABLE 20
CLASSIFICATION OF SCHOOL ATTENDANCE AREAS
BY PERCENT OF CHILDREN 5-19 YEARS OF AGE, 1968

School	Percent 5-19	Change in 5-19 Per- cent From 1960
Lafayette	45.4	+ 20.5
State Street	44.2 HIGH	+ 15.2
Parkdale	43.5	+ 17.8
McCarter	41.2	+ 11.8
Potwin	41.2 ABOVE	+ 14.7
Rice	40.3 AVERAGE	+ 13.6
Avondale Southwest	40.2	+ 14.2
McClure	40.0	+ 10.5
McEachron	39.2	+ 9.8
Randolph	38.7	+ 17.8
Avondale East	38.4	+ 12.9
Whitson	38.2	+ 12.1
Bishop	38.2	+ 16.8
Linn	38.1	+ 10.5
Lowman Hill	37.8	+ 14.2
Hudson	37.8	+ 14.0
Sheldon	37.2 MEDIAN	+ 11.7
Sumner	36.7	+ 14.3
Belvoir	35.5	+ 10.2
Avondale West	36.2	+ 10.3

TABLE 20 - continued

School	Percent 5-19	Change in 5-19 Per- cent From 1960
Crestview	35.7 AVERAGE	+ 7.7
Monroe	35.5	+ 15.1
Highland Park North	35.0	+ 6.7
Highland Park South	35.0	+ 8.0
Highland Park Central	34.8 BELOW	+ 13.8
Lundgren	34.8 AVERAGE	+ 13.8
Central Park	34.8	+ 13.8
Quincy	34.6	+ 10.0
Grant	34.5	+ 8.0
Gage	34.4	+ 9.8
Clay	32.8	+ 13.8
Polk	32.8	+ 14.0
Stout	32.7 LOW	+ 11.2
Quinton Heights	31.5	+ 10.0

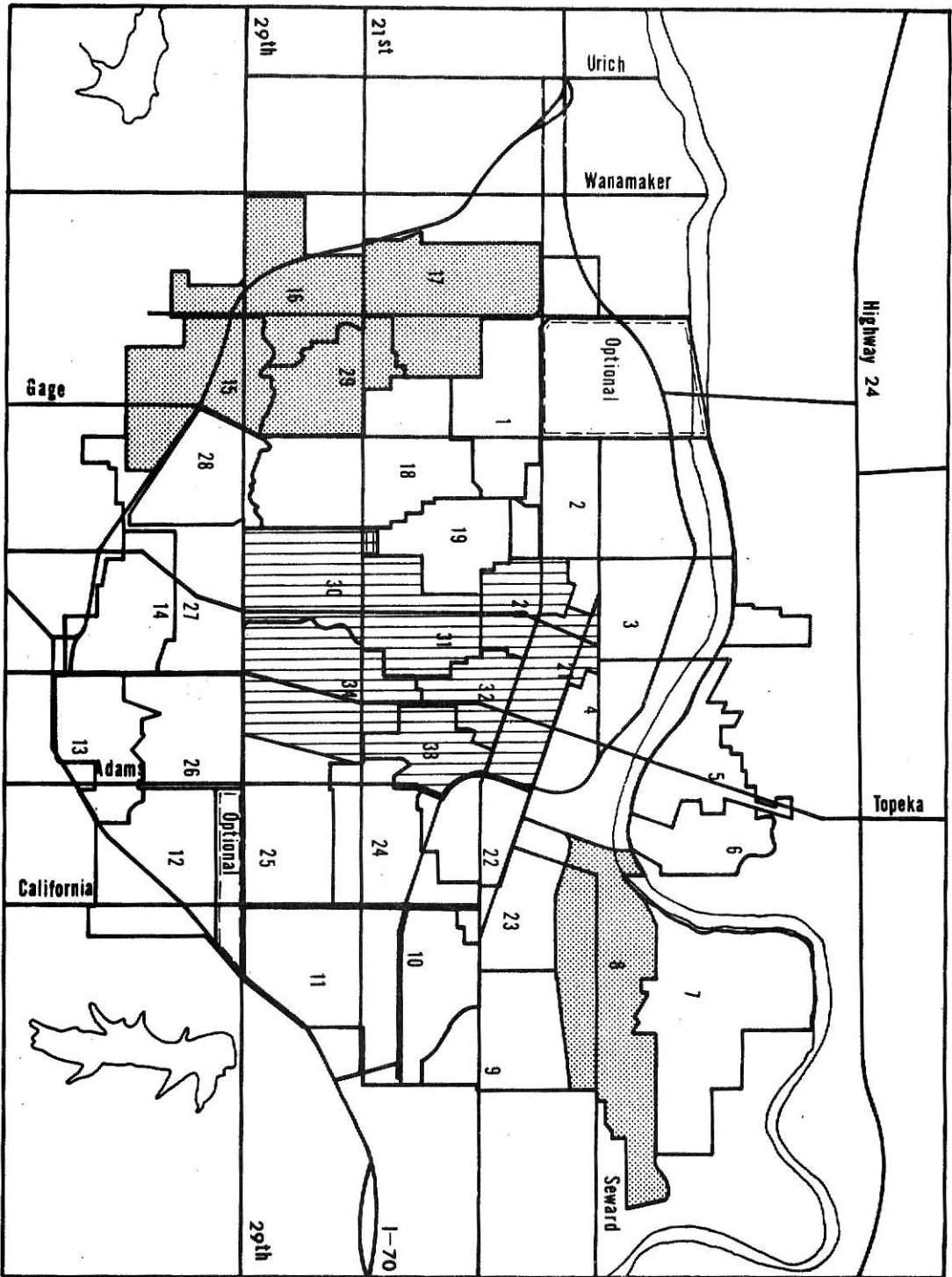
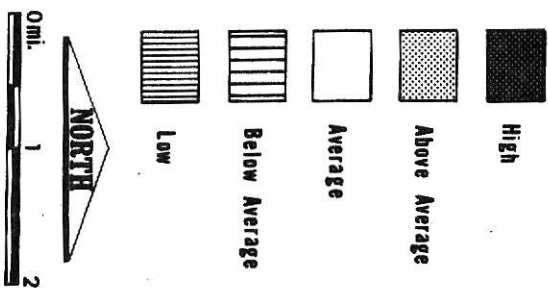


Figure 20:
Population
Ages 5-19
1960



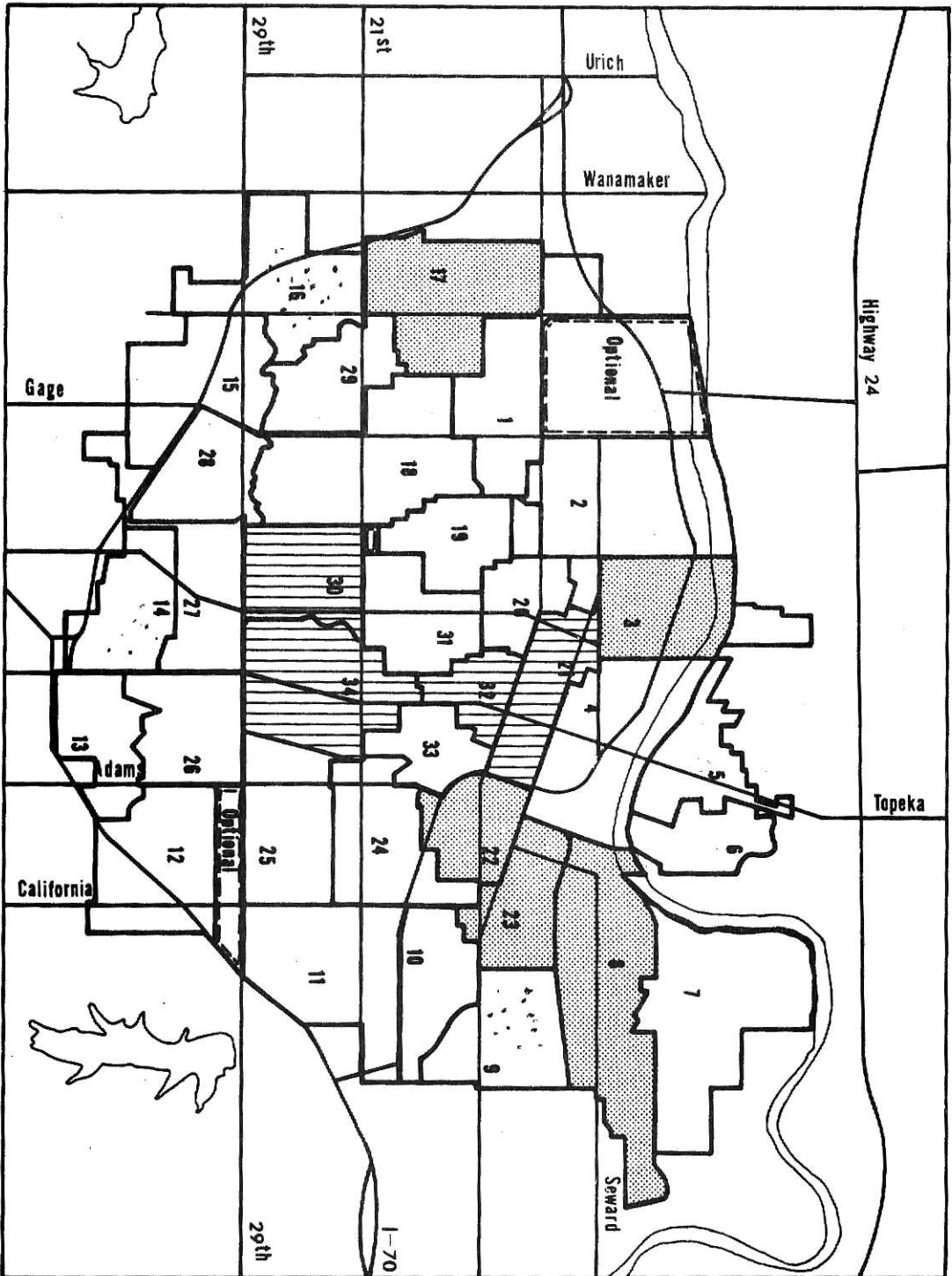
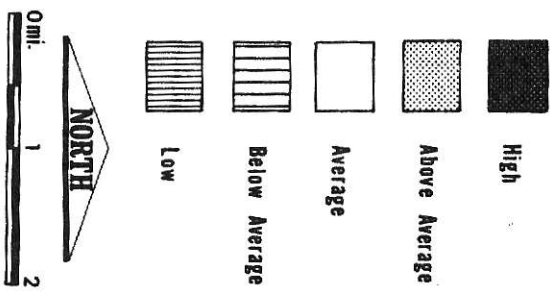


Figure 21:
Population
Ages 5 - 19
1968



ages of 5-19 in the Topeka School District. The highest concentrations of school age population as shown in Figure 20, were in the western outlying areas. Here newly developed residential areas generally attracted a high proportion of young established families with school age children. The lowest proportion of population 5-19 were found extending from the central to the southcentral areas of the city. This section of the city generally had a higher proportion of elderly people 65 and over and older aged families, many of whose children had already left home.

As shown in Table 20 the most significant changes in the population 5-19 from 1960-1968 occurred in the Bishop, Lafayette, Loman Hill, Monroe, Parkdale, Potwin and State Street attendance areas. As was demonstrated in 1960 there were no extreme percent ranges (of very high nor very low attendance areas) of population 5-19 when comparing all attendance areas of the district.

The highest concentrations of population 5-19 in 1968 were generally found to be in the northeast sections of the district. However, other attendance areas did share in this high percent of population 5-19. No specific reasons could be attributed to those areas having a higher concentration of school age children, except to note that the parental age in these attendance areas generally ranged from average to low. (See Figure 21).

Population over 65

An analysis of population over 65 is not usually significant to a school planning study. However, an analysis of this age group indicated some important growth patterns in the city.

The highest concentrations of those over 65 resided in the central core of the city. A second area of high concentration was established in a distinct ring around the central core of the city. A third ring was shown. This constituted an average concentration of people over 65. Finally in the outlying areas of the city there were a lower proportion of residents in the 65 and over age group. (See Table 21 and Figure 22). Although no tables or figures are shown for 1968, observations were made by the Planning Staff of Kiene Bradley Partnership concerning residential patterns of change of those 65 and over. They found from a limited household survey taken that a large proportion of people 65 and over were residing in rest homes and special housing for the elderly. These were located in areas forming a second and third ring around the center of the city. In the future, concentration of people 65 and older should be found in these areas where a step-up in the construction of housing for the elderly should be taking place.

School age children per housing unit

This data was significant to this study mainly because it gave an indication of the impact of potentially constructed

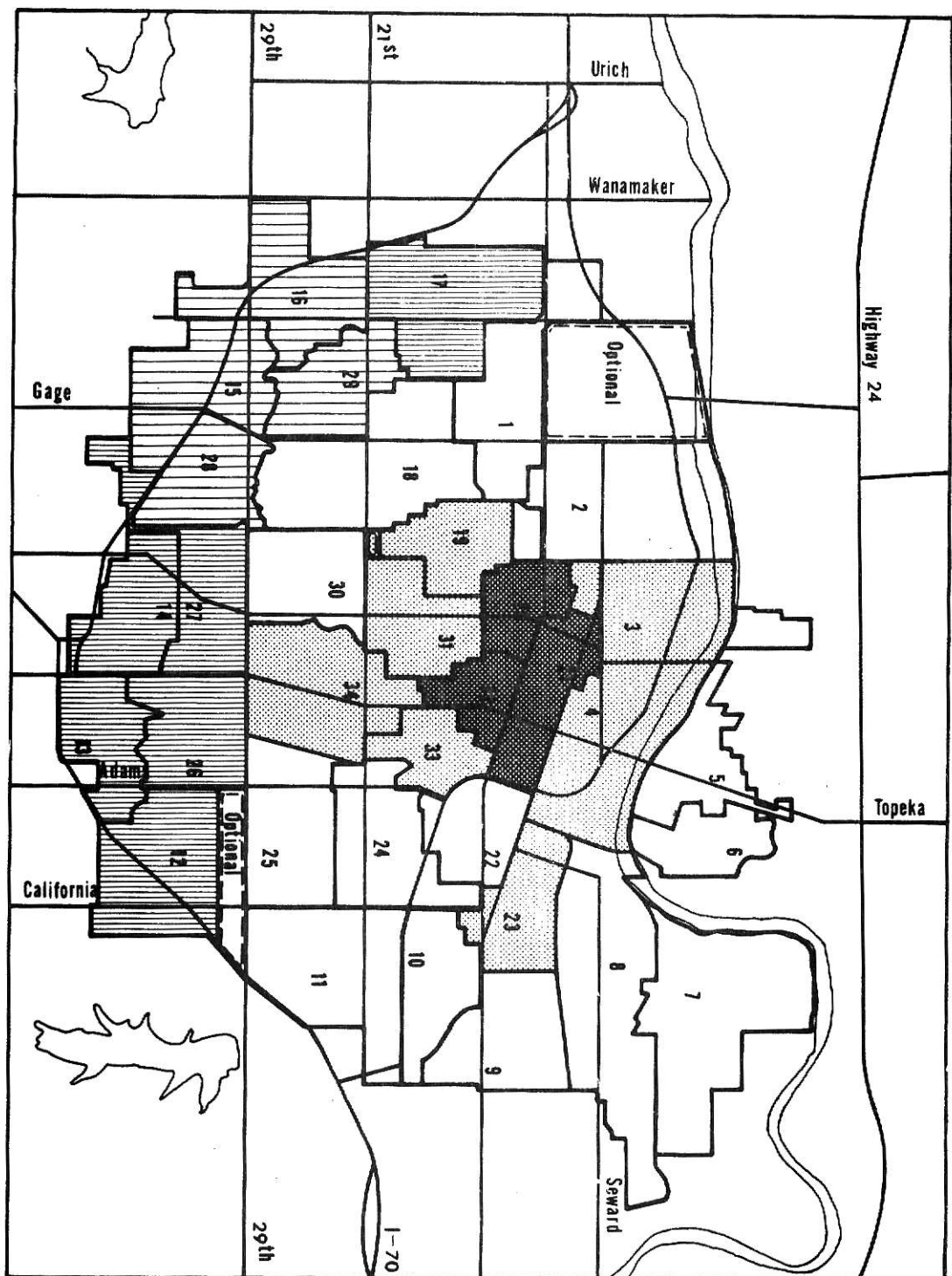
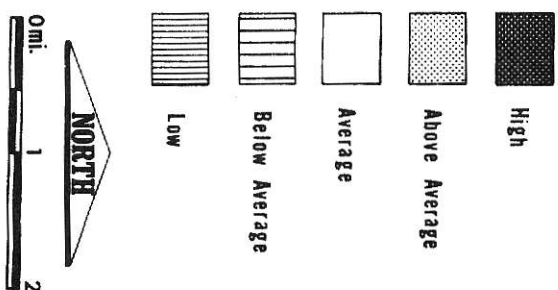


Figure 22:
Population
Over Age 65
1960



dwelling units in the future school age population for each attendance area and grade organization level in the Topeka School District. For example, an attendance area which has approximately 1.25 school age children per dwelling unit can expect to add approximately six school age children for every four new dwelling units constructed. This figure can fluctuate depending on the type of dwelling units that are being constructed. This concept was discussed in Chapter IV in a study done by the American Society of Planning Officials entitled School Enrollment by Housing Type. For further reference on this subject matter, consult Chapter IV of this thesis.

As shown in Table 22 the highest concentration of school age children per dwelling unit in the Topeka School District was generally found in the outlying attendance areas. This was mainly due to the large proportion of single family units in these areas. Single family units are generally known to attract a higher rate of school age children per unit. The lowest concentration of school age children per housing unit were generally found in those attendance areas in the central part of the city.

Two main factors attributed to this low ratio of school children per housing unit.

First, this area had a large concentration of apartment units which are generally known to generate a lower rate of school age children per unit. Second, newly developed apartment complexes were being constructed mainly to fit the needs

of young singles and marrieds who had no children. It was generally observed by the author that some families with school aged children were able to rent houses in the central areas of the city.

Population non-white

An analysis of racial categories is important because it can indicate trends in residential patterns of growth. The 1960 census was the only accurate information available since the scope of this thesis did not permit the computation of new data on the racial distribution of population in Topeka. However, some general observations were made in 1968 concerning racial residential patterns of growth. They were taken from the information gathered in limited household surveys administered by the Planning Staff of Kiene Bradley Partnership. The information obtained did point out new trends.

As shown in Table 21 and Figure 23 in 1960 the highest concentration of non-white residents were located in five school attendance areas east of the central core of the city - Monroe, Highland Park North, Lafayette, Parkdale and Belvoir. In 1968 a western shift in this residential pattern took place. More non-white persons were beginning to move into the Loman Hill, Central Park, Polk and Quinton Heights attendance areas, as well as a smaller proportion moving into the Avondale East attendance area.

Two general conclusions can be drawn from this shift in racial patterns of residence from 1960 to 1968. First, there

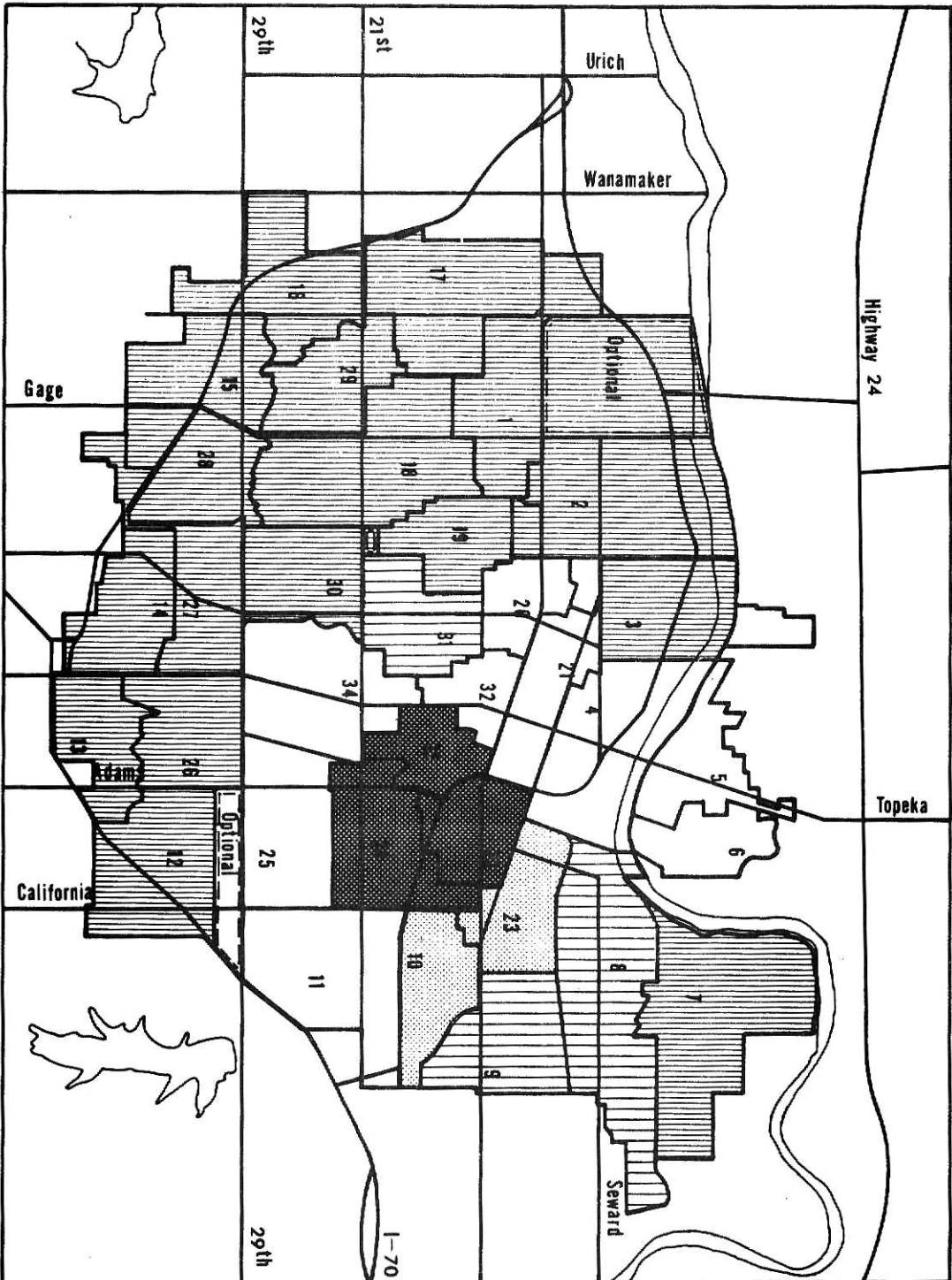


Figure 23:
Population
Percent Nonwhite
1960

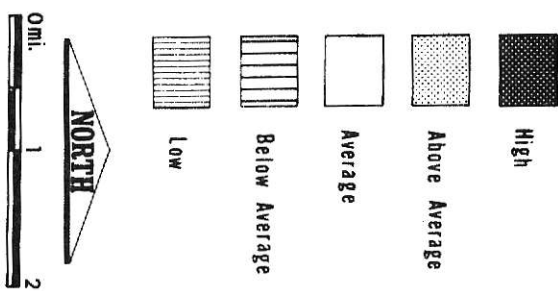


TABLE 21

1960 POPULATION CHARACTERISTICS IN ATTENDANCE AREA

	1960 Pop. in Attend. Area	Number Under 5	Percent Under 5	Number 5-19	Percent 5-19	Family Size	Percent Over 65	Percent Non-White
Avondale E.		24.5		25.5		4.14	0.7	0.2
Avondale SW.		20.7		26.0		3.88	1.1	0.2
Avondale W.		19.0		25.3		3.65	2.1	0.3
Belvoir		15.3		26.2		4.01	10.0	22.8
Bishop		13.9		21.0		3.55	5.1	0.9
Central Park		10.3		21.0		3.54	15.8	7.0
Clay		10.6		19.0		3.88	18.2	10.0
Crestview		15.0		28.0		3.75	3.7	0.6
Gage		12.3		24.2		4.11	11.6	2.5
Grant		13.1		26.5		3.95	11.0	15.0
Highland Park C.		10.3		21.0		3.70	6.7	10.0
Highland Park N.		14.8		28.3		3.71	7.1	30.0
Highland Park S.		15.7		27.0		3.95	2.7	1.0
Hudson		15.6		26.5		4.10	10.2	12.3
Lafayette		14.2		24.9		3.90	14.3	18.0
Linn		22.8		25.7		3.76	1.0	0.3

TABLE 21 - continued

Loman Hill	8.3	21.0	3.65	19.5	13.0
Lundgren	12.5	26.5	3.64	9.6	1.0
McCarter	14.7	29.6	3.78	2.4	0.4
McClure	17.2	29.6	4.00	3.3	0.2
McEachron	16.3	29.4	3.81	3.7	0.3
Monroe	12.8	20.4	3.99	14.1	26.1
Parkdale	14.7	25.7	3.98	8.9	30.0
Polk	10.0	18.8	3.90	16.6	18.0
Potum	13.1	26.5	4.24	13.3	0.2
Quincy	12.3	24.6	4.21	10.1	13.4
Quintan Heights	12.0	21.5	3.60	13.4	14.0
Randolph	8.4	20.9	3.47	14.2	0.5
Rice	14.5	26.7	3.92	8.3	5.5
Sheldon	10.8	25.5	3.43	6.2	3.2
State Street	12.7	29.0	3.85	8.3	4.0
Stoute	13.0	21.5	3.55	7.5	0.2
Sumner	11.2	22.4	4.00	12.4	12.0
Whitson	10.0	26.1	3.53	0.4	0.4
Total	116,421	14,627	28,756	24.7	3.72

TABLE 22

FAMILY CHARACTERISTICS OF TOPEKA ELEMENTARY SCHOOLS - 1968

	Family Size	Change From 1960	Parent Age	Children School Age	Number of Children Per Dwelling Unit	
					Under 5	K-6
Avondale East	4.18	+.04	35.8	1.37	.33	.88
Avondale Southwest	4.22	+.34	34.9	1.58	.36	1.05
Avondale West	3.86	+.21	34.5	1.29	.30	.78
Belvoir	4.04	-.05	37.4	1.34	.55	.79
Bishop	4.09	+.54	34.7	1.46	.30	.76
Central Park	3.69	+.15	42.5	1.07	.29	.63
Clay	3.70	-.18	41.9	.98	.29	.55
Crestview	4.30	+.55	38.2	1.31	.40	.70
Gage	3.97	-.14	40.5	1.23	.34	.63
Grant	3.87	-.08	42.6	1.23	.27	.72
H. P. Central	4.13	+.43	41.6	1.52	.32	.99
H. P. North	3.85	+.14	39.2	1.15	.43	.70
H. P. South	3.94	-.01	37.7	1.30	.39	.76
Hudson	3.88	-.22	36.9	1.35	.37	.85
Lafayette	4.65	+.75	43.2	2.24	.41	1.45
Linn	3.90	+.14	34.9	1.39	.34	.89
Lowman Hill	3.77	+.12	42.5	1.31	.33	.71
Lundgren	3.68	+.04	43.3	1.21	.34	.68
McCarter	4.10	+.33	38.8	1.66	.29	.93
McClure	4.20	+.20	36.6	1.50	.37	.92
McEachron	3.83	+.02	36.3	1.37	.24	.83
Monroe	3.80	-.19	40.9	1.17	.38	.58
Parkdale	4.26	+.28	41.2	1.82	.41	1.25
Polk	3.12	-.78	42.1	.97	.25	.45
Potwin	4.38	+.14	39.7	1.55	.36	.94
Quincy	3.87	-.34	42.3	1.22	.32	.65
Quinton Heights	3.57	-.03	41.4	.95	.25	.51
Randolph	3.71	+.24	42.6	1.36	.22	.87
Rice	4.22	+.30	38.8	1.62	.42	1.03
Sheldon	3.66	+.23	41.9	1.32	.23	.69
State Street	5.42	+1.57	39.2	1.99	.41	1.08
Stout	3.64	+.09	38.0	1.05	.28	.42
Sumner	3.25	-.75	42.2	1.03	.25	.52
Whitson	3.90	+.37	47.0	1.43	.22	.60
Average	3.97	+.25	39.7	1.35	.32	.79
Median	3.90		40.5			

TABLE 22 - continued

7-9	10-12	Number Under 5	Percent Under 5	Change From 1960	Number 5-19	Percent 5-19	Change From 1960
.20	.29	277	10.8	-13.7	1944	38.4	+12.9
.28	.25	262	8.7	-12.0	1206	40.27	+14.2
.24	.27	253	7.6	-11.4	1207	36.2	+10.3
.22	.32	322	13.6	- 1.7	860	36.4	+10.2
.45	.27	221	7.2	- 6.7	1169	38.2	+17.2
.30	.15	333	7.4	- 2.9	1574	34.8	+13.8
.19	.24	470	9.2	+ 1.4	1676	32.8	+13.8
.36	.25	487	9.3	- 5.7	1865	35.7	+ 7.7
.34	.22	450	9.0	- 3.3	1707	34.4	+ 9.8
.29	.22	450	7.0	- 6.1	691	34.5	+ 8.0
.30	.23	333	7.4	- 2.9	1865	34.8	+13.8
.24	.21	435	11.7	- 3.1	1368	35.0	+ 6.7
.32	.19	404	10.0	- 5.7	1409	35.0	+ 8.0
.26	.23	219	9.6	- 6.0	863	37.8	+11.3
.40	.39	325	8.4	- 5.8	1755	45.4	+20.5
.31	.19	250	8.9	-13.9	1066	38.1	+12.4
.29	.31	316	8.9	+ .6	1718	37.8	+16.8
.25	.20	284	7.9	4.6	1250	34.8	+ 8.3
.34	.39	268	7.3	- 7.4	1500	41.24	+11.8
.30	.26	361	8.8	- 8.4	1635	40.08	+10.5
.32	.22	188	6.2	-10.1	1186	39.29	+ 9.8
.28	.31	260	9.4	- 3.4	944	35.5	+15.1
.28	.29	199	9.2	- 5.5	939	43.5	+17.8
.16	.27	276	8.6	- 1.4	1043	32.8	+14.0
.26	.35	236	6.3	- 6.8	1527	41.2	+14.7
.23	.33	228	8.4	- 3.9	938	34.6	+10.0
.27	.17	264	5.9	- 6.1	1400	31.5	+10.0
.29	.20	332	5.5	- 2.9	2328	38.7	+17.8
.29	.29	224	9.9	- 4.6	910	40.3	+13.6
.35	.28	245	6.3	- 4.5	1429	37.2	+11.7
.44	.47	480	7.9	- 4.8	2678	44.22	+15.2
.35	.27	300	7.0	- 6.0	1397	32.7	+11.2
.27	.24	353	7.6	- 3.6	1701	36.7	+14.3
.34	.31	227	6.3	- 3.7	1413	38.2	+12.1
.29	.27	10,316	7.8	- 4.8	45,674	35.9	+11.2
			8.4			37.2	

is some indication of economic and geographic mobility of non-white people in the city of Topeka. And second, this is likely to cause changes in school age population in that non-white people generally have larger families with more children than do white people. The impact of these racial patterns of mobility on school enrollment will be examined in more detail in Chapters VI and VII.

Patterns of Mobility

Three patterns of mobility in the Topeka metropolitan area were generally observed by the author to be characteristic of Topeka residents. They included:

1. The movement from rural counties outside the Topeka metropolitan area to the city.
2. The movement from one part of the city to another.
3. The movement from the city to outlying school districts.

Movement from rural counties outside the Topeka metropolitan area to the city.

Those residents who have followed this pattern of mobility were generally observed to be most characteristic of the young newly established family. Most of these people were moving directly to the central areas of the city, mainly because they could rent an apartment or house here which was within their financial means. Those who had a more favorable financial background were likely to have moved either directly to outlying areas of the Topeka School District or to outlying school districts where they could buy their own home.

In the future, more of these rural migrants should tend to follow industry as it decentralizes. This is because of their desire to live closer to their jobs and to share in the tax benefits which industry normally brings. As a result of this, a larger proportion of rural migrants should be moving directly to outlying school districts.

Movement from one part of the city to another

Several patterns of mobility within the city were noted. They include:

1. Those residents who had rented their first house in the central areas of Topeka were moving through the various rings of the city. Recently this mobility pattern had begun to change. So instead they have been moving directly to outlying areas of the city. This was mainly the result of the changing land use functions (from residential to commercial use) and racial patterns in areas forming a second and third ring around the central city.

2. Young well established residents with a favorable financial background were moving out of the central areas of Topeka to outlying sections of the district. Most have bought homes or rented apartments in the more prestigious attendance areas in the southwest part of the city. Many were forced to move because of the changing physical conditions and social composition of their former neighborhood.

3. Many of the older residents whose children have grown up and left home have been moving to rest homes or low income

units for the elderly or have bought into condominium type apartments. Almost all of these type units have been built in areas close to the central core of the city.

4. Residents with larger families who were renting apartments in the central core of the city and could qualify for a federal rent subsidy were moving to areas where low and moderate income units were being built.

Movement from the city to outlying school districts

Two general patterns of mobility from the city to outlying districts were observed.

1. Established families who had originally rented in the central areas of the city were moving through the rings to outlying school districts where they have bought their first home. These are the type of families who for many years were probably saving money and accumulating enough equity to buy a home.

2. Those families who previously either owned a home or rented an apartment or house in the outlying areas of the city were moving to the outlying school districts. This was mainly due to the changing land use functions and social composition of their former neighborhood.

Land Use Patterns

As was stated in Chapter IV the land use plan can provide the city with a legal tool in which population growth can be directed. Areas which have been set aside by the plan for residential use should experience the highest concentration of

population. As shown in Figure 24 the city of Topeka has been experiencing some important transitions in its land use pattern. One of the most significant changes has been the decentralization of the central business district and the movement of commercial type activities to the south part of the school district. The major factor which has contributed to this change was the development of the White Lakes and Holiday Square Shopping Centers.

The changing function of some attendance areas in the south from residential to commercial use has had and should continue to have an impact on its size of school enrollment. This would be especially true at the elementary grade levels.

The commercial function of the central city has been declining and is becoming more mixed with multiple family and light industrial uses. If this trend continues, it is likely that the future function of the central city, in addition to the commercial character, will be to house large concentrations of population. If this happens, then those attendance areas whose boundaries coincide with the central city area could experience a high increase in public school enrollment.

As shown in Figure 24 patterns of development for industry have indicated a decentralization of major industrial operations to outlying districts. The Land Use Plan for 1980 has shown specific sections in the east part of the Topeka district zoned for heavy industrial use. However, there has been no indication of such development as yet. This area, however, could develop into light industrial use.

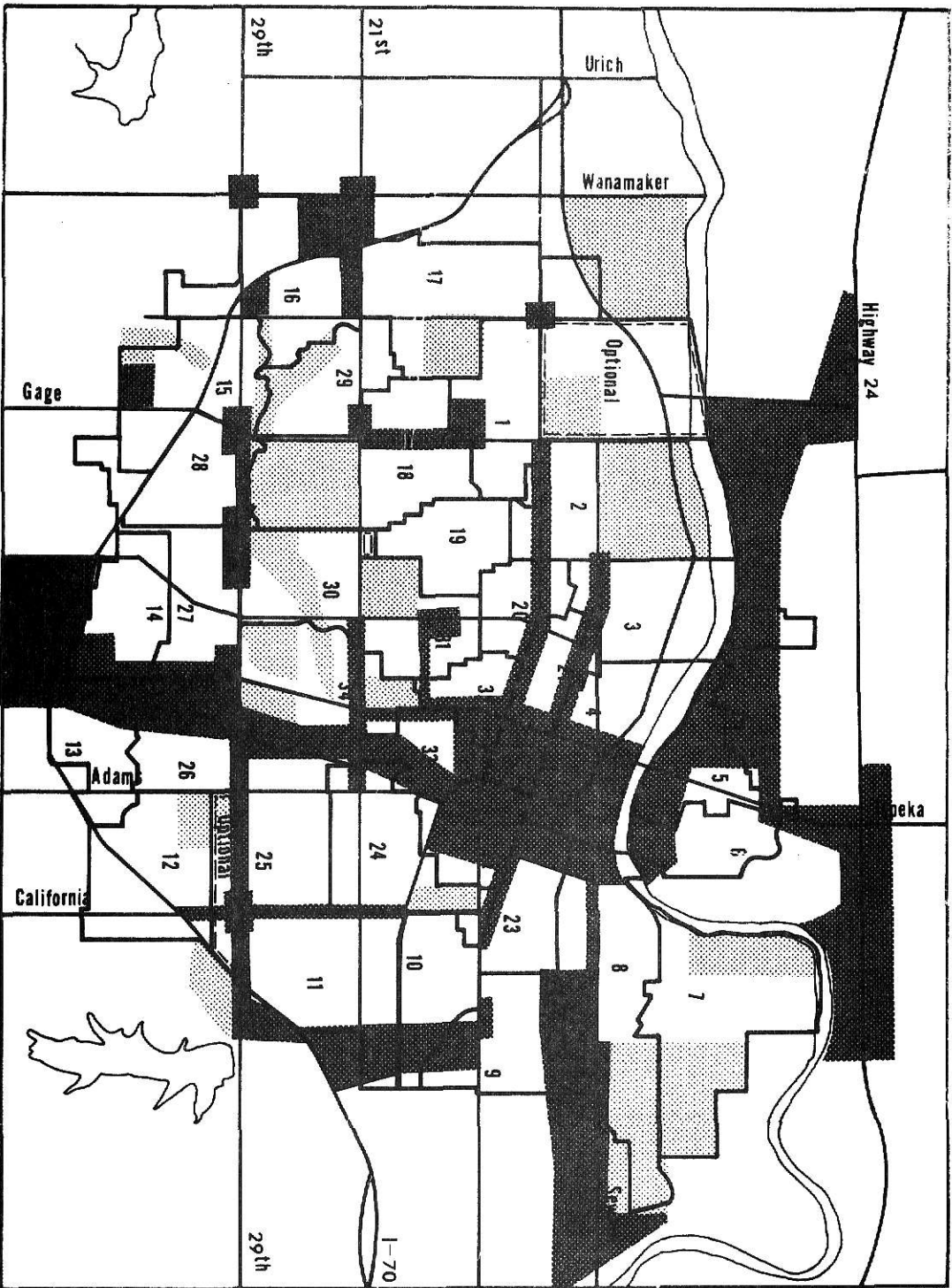
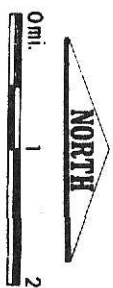


Figure 24:

**Non Residential
Areas - USD 501**

COMMERCIAL-INDUSTRIAL
PUBLIC



Patterns of Housing Type

From 1942-1960 the trend of housing construction in Topeka was predominantly single family units. As shown in Table 23 from 1960-1967, 829 building permits were issued for housing construction. Single family units averaged 468 units per year while multiple family units averaged 313. In the period from 1965-1967 single family units averaged 275 units per year or approximately 33.9 percent. For the same period multiple family units averaged 568 units per year or approximately 66.1 percent. It is likely that this trend in housing construction will continue for at least another eight to ten years. This should be mainly due to the large crop of war babies that have been marrying that are unable to afford the higher costs of home ownership. However, many young marrieds, usually those without large families that are able to sustain high incomes, still prefer the comforts that are afforded by apartment living. When this large crop of young married is able to earn a better living they should be able to increase their selectivity in housing type. Whether their preference will be to buy a home or rent an apartment is a question that is currently unanswerable.

Large families with children who are economically mobile normally prefer home ownership. Young recently married couples and elderly people who have completed their child rearing have increasingly chosen the convenience of renting apartments. This trend is generally known to be taking place across the country. However, it has been particularly observed in the Topeka metropolitan area.

TABLE 23
DWELLING UNITS AUTHORIZED BY TYPE OF STRUCTURE
IN CITY OF TOPEKA, 1951-1967

Year	All Units	Single Family	% of Total	Duplex	% of Total	Multi Family	% of Total
1951	384	350	91.2	34	8.9	0	0
1952	401	357	89.0	32	8.0	12	3.0
1953	548	414	75.6	8	1.5	126	23.0
1954	615	593	97.0	14	2.3	8	1.3
1955	560	544	97.1	12	2.1	4	0.7
1956	467	419	90.0	32	6.9	16	3.4
1957	786	665	84.7	38	4.9	83	10.6
1958	513	465	90.6	8	1.6	40	7.8
1959	863	715	82.9	44	5.1	104	12.0
Total 1951-1959							
	5137	4522	---	222	---	393	---
Yrly. Avg. 1951-1959							
	570	502	88.0	24	4.3	44	7.7
1960	1048	948	90.4	32	3.5	68	6.5
1961	1050	714	68.0	44	4.2	292	27.8
1962	990	611	61.7	232	23.4	147	14.8
1963	552	346	62.7	22	4.0	154	27.8
1964	449	302	67.2	6	1.3	141	31.4
1965	889	289	32.5	22	2.5	588	66.1
1966	829	235	28.3	18	2.1	576	69.5
1967	848	301	35.4	8	0.9	539	63.5
Total 1960-1967							
	6655	3746	---	384	---	2505	---
Yrly. Avg. 1960-1967							
	831	468	56.3	48	5.8	313	37.6
Total 1951-1967							
	11792	8268	---	606	---	2898	---
Average	694	486	70.0	36	5.3	170	24.5

Source: Permits issued for building construction.

TABLE 24

ESTIMATED YEARLY AVERAGE CONSTRUCTION FOR SINGLE
FAMILY AND MULTIPLE FAMILY UNITS 1968-1980 FOR
THE CITY OF TOPEKA

Single Family Yearly Average

1968-1970	275
1970-1975	250
1975-1980	200

Multiple Family Yearly Average

1968-1970	600
1970-1975	400
1975-1980	300

Total Estimated Construction

1968-1970	875
1970-1975	650
1975-1980	500

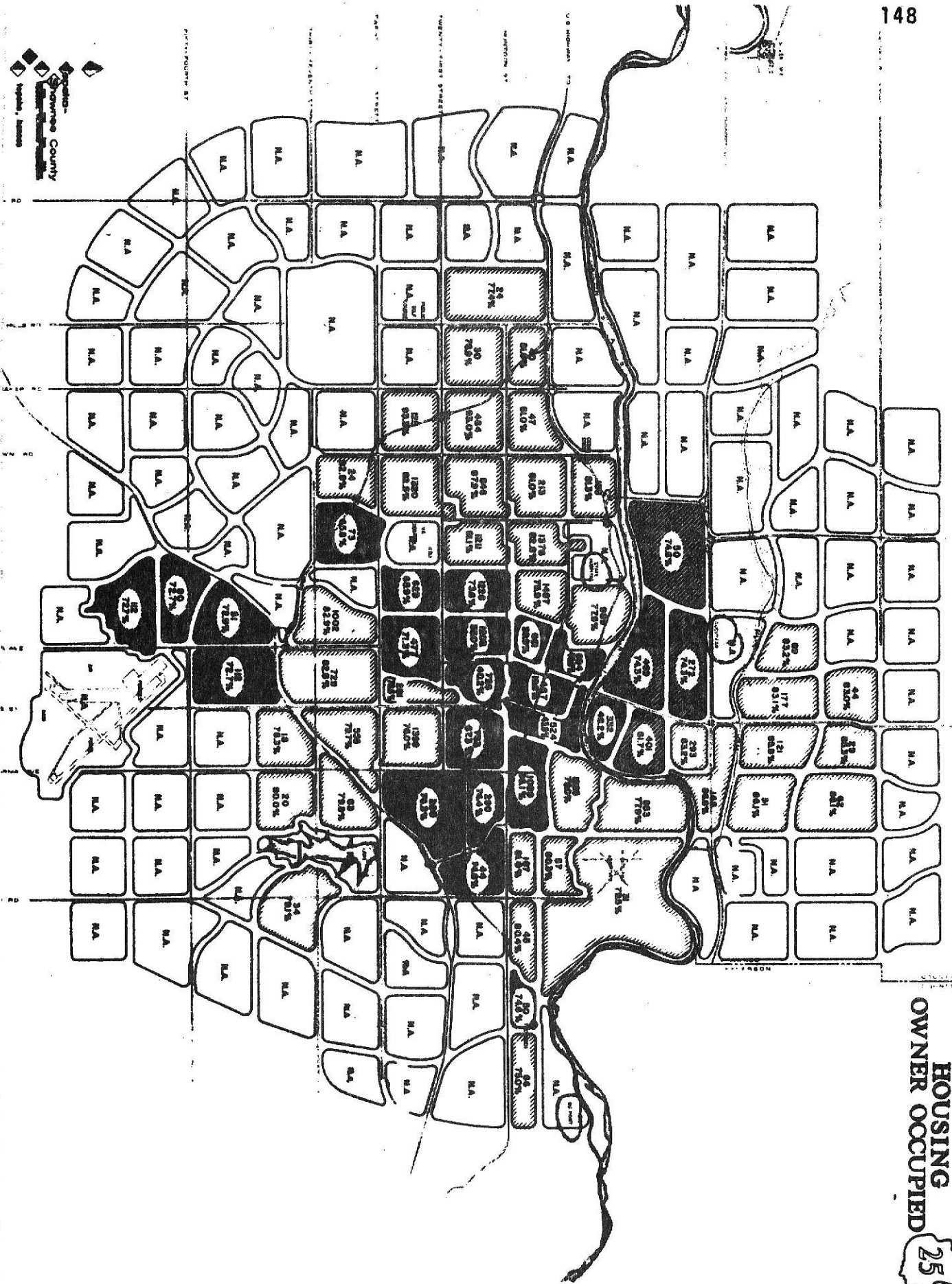
Source: Kiene Bradley Partnership.

There are some specific patterns of rental and home ownership housing which were observed in the city of Topeka. The data collected on this subject matter were gathered for 1960. However, limited research done on this subject matter by the planning staff of Kiene Bradley Partnership showed that these housing patterns were still much in evidence in 1968.

Figure 25 and 26 show the geographic distribution of owner and renter occupied housing for 1960. The southwest and northwest section of the district had the highest percent of ownership housing in 1960. The central business district areas and the section just east of the central business district had the highest proportion of rental housing in the city and the lowest proportion of owner occupied housing.

In 1968 the southwest section of the district still had the highest proportion of owner occupied housing in the city. However, the northwest section has become more rental oriented. This was mainly due to the fact that an increasing number of older families have moved out of this area; but retaining ownership and renting to younger families, most of whom have recently migrated into the city.

The south and southeast sections of the district had also become more rental oriented. This was particularly true in the Avondale East attendance area. Here a large number of black families had begun to move into the attendance area, succeeding the out-migrating white families, and thus changing the original character of the neighborhood. As was previously mentioned,



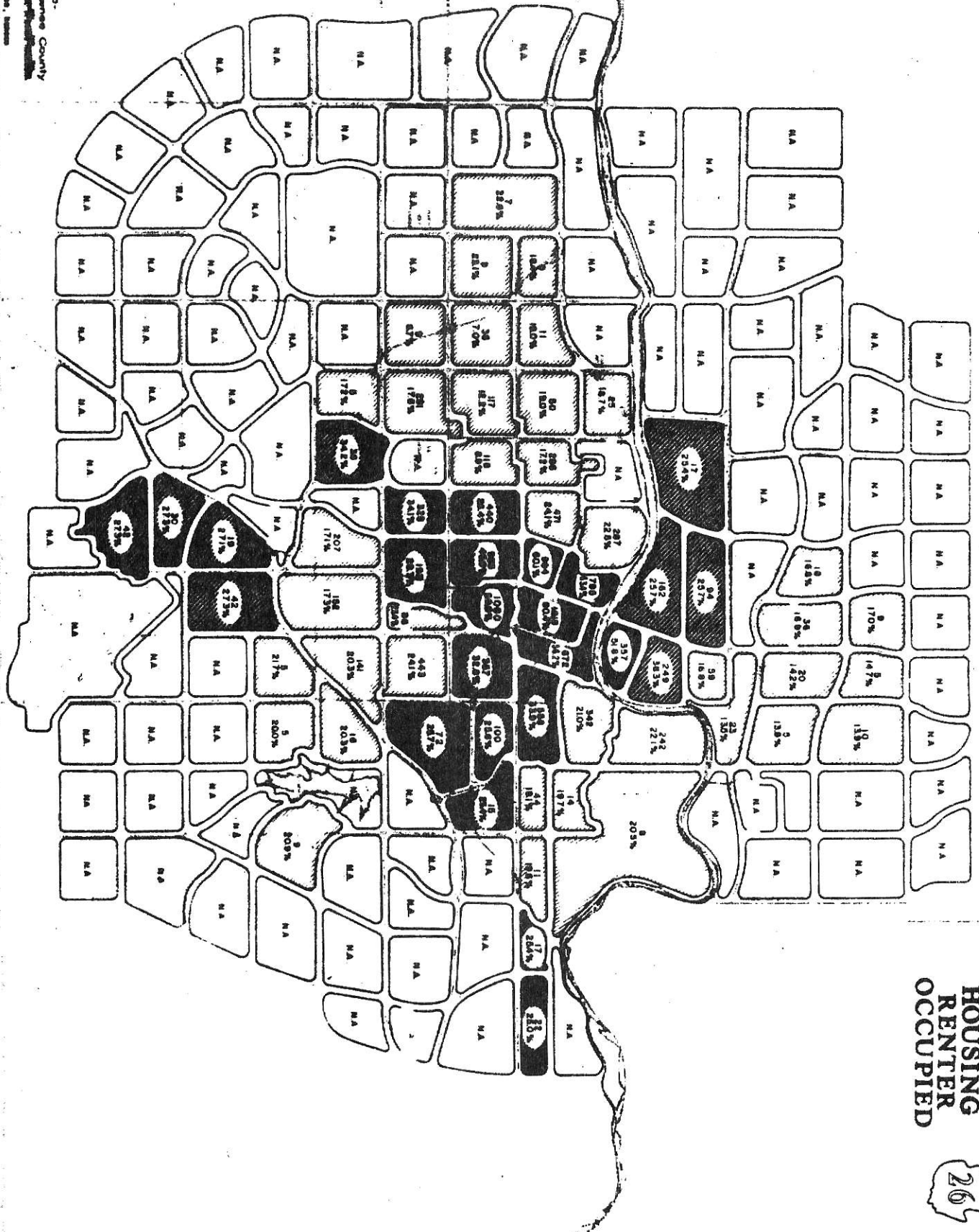


Figure 26:
HOUSING
RENTER
OCCUPIED

other attendance areas of the south and southeast sections of the district had begun to experience the development of several apartment complexes some of which were of the low and moderate income variety.

It is meaningful to point out that since Topeka has a high transitional population many of the housing patterns which are characteristic of other cities the size of Topeka are not necessarily true in Topeka. The large labor force which is employed by the government either at the state level or at Forbes Air Base is a major factor contributing to this high transitional population in Topeka.

After 1960 the median age of Topekans decreased as one traveled away from the center of the city to the west, southwest and to the south. The northern and eastern sections of the city basically remained stable. This was because there was normally less economic mobility in these areas.

In 1968 the central areas had changed their social character. Older residents were being replaced by young singles and young marrieds who were moving into rental houses and apartments. Younger residents still followed the pattern of moving through the rings. However, in the future as was discussed, more residents should be moving directly from the central areas to outlying regions beyond the Topeka School District. The outer rings within the Topeka School District should become older in age distribution as families remain and their children grow up. This should be especially true in areas of more expensive residences.

Relationship of the Demographic Influencing Factors

The changing population characteristics, the patterns of land use, housing type and mobility have been affecting the demographic patterns of growth in Topeka. They are also a function of the morphology of the city.

This subject was discussed in Chapter IV and was related to Robert Havinghurst's concept of metropoligan growth which states that as a city grows it develops unique features which are also shared by other cities. One feature is the growth of shells which surround the central business district. As a city and industry expands, the younger and wealthier population migrates to a second outer shell. This process continues with new shells developing gradually around older sections of the city. Each time the older shell finds itself in the midst of change with the younger and wealthier population migrating further away from the center city.

Shawnee Heights School District

Population Characteristics

Four elements of population characteristics were studied in the Shawnee Heights area for 1968. They included family size, average age of parents, number and percent of children under five and number of school age children per household by grade level.

Family size

The average family size for the total district was 4.5 people. Each family averaged between two and three children.

Those people who lived in the Berryton-Tecumseh South area averaged approximately five people per family; three of them were children. The Tecumseh North attendance area averaged approximately four people per family; two of them were children. (See Table 25).

The average size of family attracted to this district should continue to be large in the future. This should be mainly attributed to the development of single family housing units in the district, which are generally known to attract larger sized families.

Parental age

The average age of parents for the district was approximately 37 years. Both Tecumseh South and Berryton had younger parents. In the Tecumseh North area parents were of an older age group. (See Table 25.) This was particularly characteristic in those residential sections of the area which were well established. As new areas of the Tecumseh North attendance area begin to develop they should begin to attract a younger group of parents.

Children under 5

In 1968 there were approximately 1150 children under 5 years old residing in the district. This accounts for approximately 15 percent of the total population in the area. This percent should increase to 1980 as a result of the steady migration of young families into the district. (See Tables 25 and 26).

Number of school age children per household

In 1968 there were approximately 1.50 school age children

TABLE 25
ESTIMATED POPULATION CHARACTERISTICS, 1968
SHAWNEE HEIGHTS

Attendance Area	Family Size	Parental Age	Pre-school no. of children under 5
Tecumseh South	4.85	35.5	500
Tecumseh North	3.80	42.5	300
Berryington	4.86	34.3	350
Average	4.50	3.70	1150 = 15% of population

TABLE 26

ESTIMATED AND PROJECTED POPULATION UNDER 5
 NUMBER AND PERCENT OF POPULATION IN THE
 SHAWNEE HEIGHTS, SEAMEN AND WASHBURN RURAL DISTRICTS

	1968	1970	1975	1980
Shawnee Heights	1150 15.0	1450 16.5	1850 16.7	2325 15.2
Seamen	1450 16.6	1700 17.3	2050 15.5	2500 15.6
Washburn Rural	1650 20.0	1750 19.3	1950 16.4	2350 14.8
Total	4250	4900	5850	7175

per household in the Shawnee Heights school district. Of this number approximately 1.0 per household were made up of students in the K-6 age group and .27 and .23 were made up of junior high and senior high aged students respectively. (See Table 27). The highest ratio of school age per household was found in the Berryton attendance area. This was mainly due to attraction of a consistently larger group of young families than in the other attendance areas of the district.

Residential Growth Patterns

Residential development has been very sporadic. It has been platted in subdivisions. In the future residential growth should develop through individual houses and small subdivisions. This development should take place along major traffic arteries that will be tied with the city.

The major residential developments have been taking place around Lake Sherwood (Lake Shore Estates), the Lake Jivaro region, the Myers and Peck subdivisions, and in the 45th Street vicinity of Watson. Additional development should take place in the area extending from the Turnpike to 53rd Street in the south and possibly to Stubbs Road in the east.

By 1975 the completion of new and existing roads and utility systems should stimulate further residential development in the Myers, Peck, and Berggren subdivisions along 29th Street and Croco Road.

The Watson area should also experience an influence of people along Shawnee Heights Road, 45th Street, and the Lake

TABLE 27

ESTIMATED AGE CHARACTERISTICS OF CHILDREN IN
SHAWNEE HEIGHTS FOR 1968 - ESTIMATED NUMBER
PER HOUSING UNIT

	Number of Children per Housing Unit	Number Under 5	K-6	7-9	10-12	over 12
Tecumseh North	1.90	.21	.60	.17	.08	.81
Tecumseh South	2.85	.66	.99	.31	.29	.31
Berryington	2.86	.79	1.42	.33	.20	.10

Jivaro area. Lake Shore Estates and the areas developing around it can also be expected to experience major growth because of their proximity to shopping areas and to utilities.

By 1980 growth should follow development patterns previously set. New platting should occur and stimulate growth south of 45th Street from Adams Street to Shawnee Heights Road. If Clinton Reservoir is built by this time, Berryton should also experience some residential growth which could be in the form of additional mobile home parks in the southern portion of the district along Topeka Avenue.

In the ten year period from 1970-1980 the Tecumseh South attendance area should experience the major impact of residential growth. (See Table 28).

Elements Influencing Residential Development

Commercial growth

According to the Preliminary Land Use Plan Document, the Shawnee Heights District should not experience any major commercial growth through 1980. This would mainly be due to the direct competition offered by White Lakes, Eastboro, and Highland Crest Shopping Centers, which are in close proximity to the Shawnee Heights District. The Land Use Plan does, however, indicate the development of small neighborhood shopping centers at major intersections of the district.

Employment centers

Two industries, the Kansas Power and Light Company and DuPont, can be expected to attract a number of families into

TABLE 28
ESTIMATED NUMBER OF NEW HOUSES TO BE CONSTRUCTED
YEARLY, SHAWNEE HEIGHTS

	1968-1970	1970-1975	1975-1980
Tecumseh North	5	7	8
Tecumseh South	25	35	45
Berryington	5	8	12
Total	35	50	65

Source: Kiene Bradley Partnership.

the district. In the past, DuPont has not drawn many of its employees from the Shawnee Heights district. According to the Land Use Plan in the next ten years (1980-1980) additional industrial expansion should take place around I-70 and the Turnpike Interchange. This should be a major determinant in attracting a large number of families to this district.

The anticipated completion of major traffic ways should provide good access to major employment centers outside the district such as the government offices and service centers in South Topeka. This should also influence the migration of families into the district.

Land use and availability of land

Most of the district will be zoned for single family uses. However, sections of the north bounded by the Kansas River will be used for both light and heavy industrial development. This should affect expansion of residential development in the Tecumseh North area. The remainder of the district should be used almost exclusively for residential and recreational activity.

Availability of utilities

The topographic features in Shawnee Heights will be restricting the future expansion of sanitary sewers. This would be due to the ridge lines, which will serve as the boundaries of future sewer systems; 86th Street north of the Kansas River, Auburn Road west, 45th Street to the south, and Croco Road to the east.⁵

Areas beyond this perimeter would require expansive pumping stations and forced main systems or would necessitate septic tanks or lagoons. This would not be considered desirable for any major sized suburban development. (See Figure 28).

The accompanying figure on water districts (Figure 27) shows the Shawnee Heights district has been supplied with water facilities. Two major districts have been servicing the different sections of Shawnee Heights: Number 8 North and Douglas County Number 3 South. These have been adequate to serve the population.⁶

However, as residential growth should increase with higher densities, additional water facilities will be needed. Most of the areas closer to Topeka have been on water lines extending into Shawnee Heights. The district will soon be well cross-sectioned with water lines as the new water district which has been constructed recently will serve residents in the south portion of the Shawnee Heights area. It will be able to service 50 percent more patrons in the area as the demand increases.

Transportation facilities

As stated in Chapter IV the most important elements to consider when assessing the impact of transportation facilities on population growth is the traffic pattern. This is because it is an important determinant in tying population centers together.

In 1958 the city of Topeka Planning Commission adopted a masterplan for major traffic thoroughfares in the Regional Planning Area. It included a list of anticipated revisions in

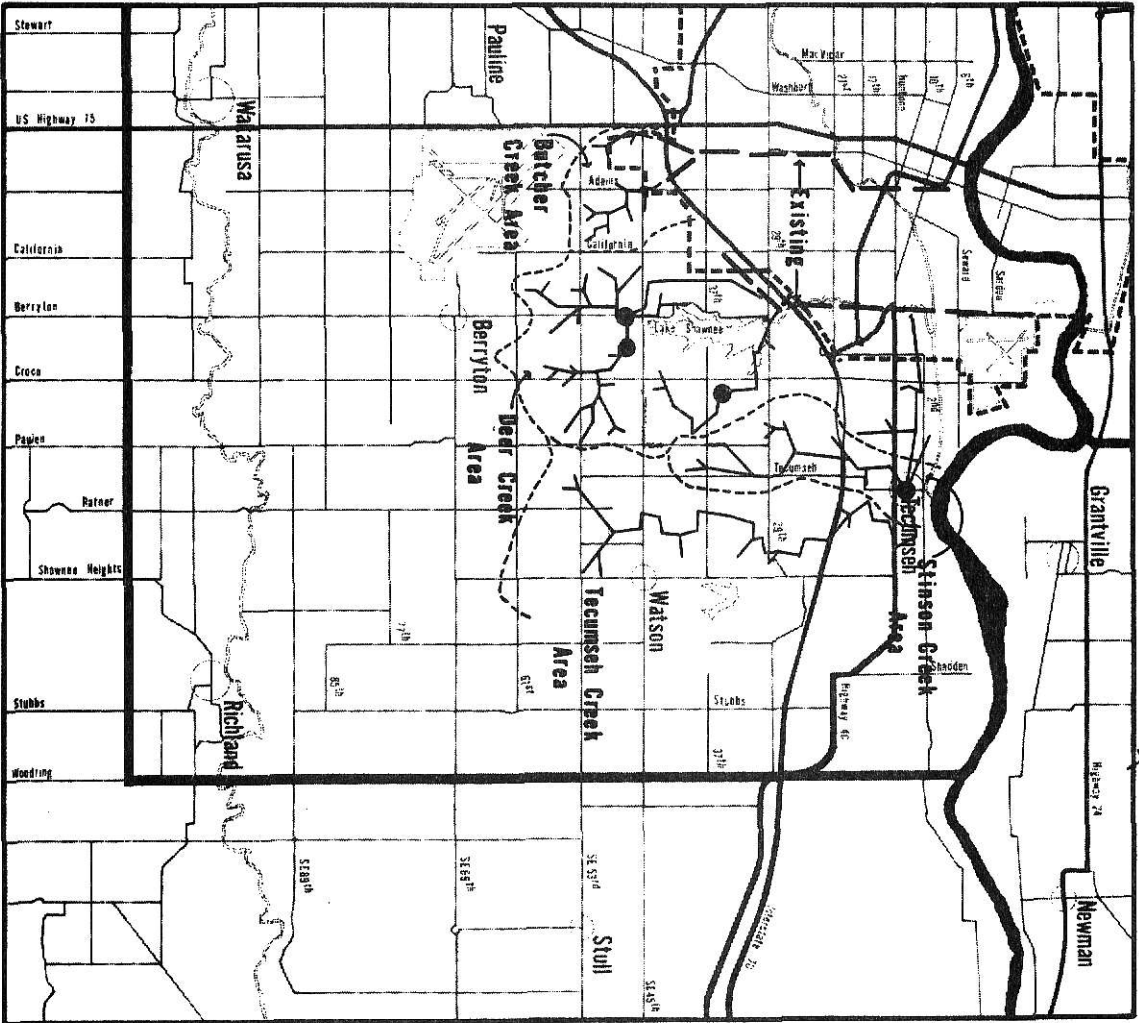


Figure 27:
USD 450

Proposed Sewers

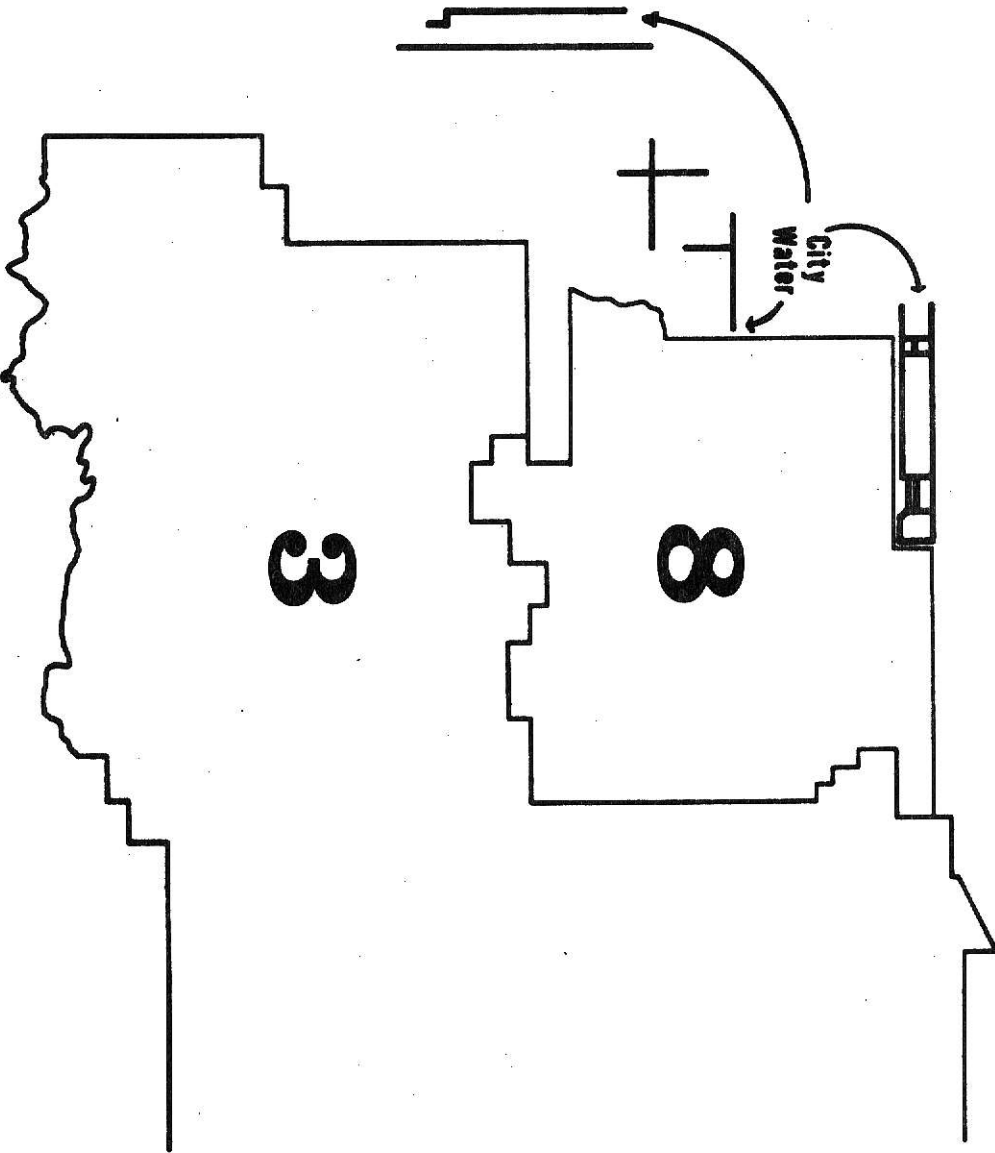


Figure 28:
USD 450
Water Districts

the traffic patterns for the future. (See Figure 29).

Several of the anticipated revisions in the traffic patterns for the Regional Planning Area which have been acknowledged by the Topeka Shawnee County Regional Planning Commission should directly affect residential growth patterns in the Shawnee Heights district. (See Figure 29). They include:

1. Berryton Road. In the future (five to ten years) it will extend from Lake Shawnee to 89th Street.

2. Burlingame Trafficway. In the future (three to five years) it will extend south paralleling Highway 75. It will have an interchange on 89th Street, which, in turn, will go to Clinton Reservoir.

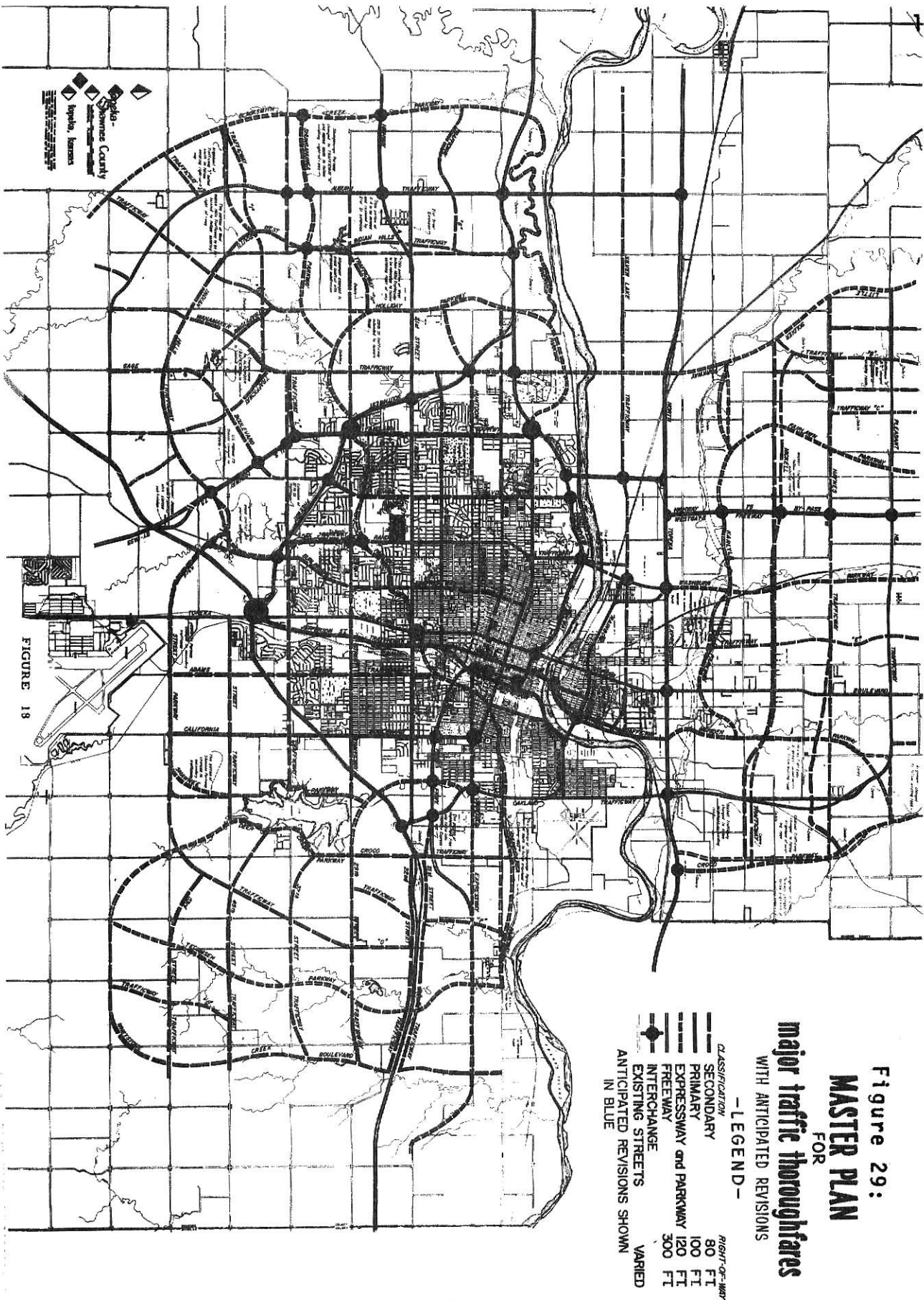
3. California. In the future (five to ten years) it will be more important as it will connect Berryton to the main commercial areas of the district.

4. Croco Road. In the future (1975-1980) it will be widened and have interchanges on the new I-70 extension as well as the Turnpike. It will extend south to 89th Street and connect with the Clinton Reservoir Road.

5. Kansas Turnpike. In the future (1975-1980) it will become a freeway with an interchange connecting the secondary roadways with the freeway.

6. Oakland Expressway. In the future (three to five years) it will extend from Highway 24 south to the Turnpike and 29th Street with an interchange there.

7. Shawnee Heights Road. In the future (five to ten years) it will be widened and connect Highway 40 with 89th



Street. It will also have an interchange on the Turnpike.

8. Tecumseh Road. In the future it will be widened for easier traffic flow.

9. 29th Street. In the future (five years) it will extend effectively to Shawnee Heights Road and be widened from Croco Road east.

10. 37th Street. In the future (five years) it will be widened extending from Lake Sherwood to Lake Shawnee. East of the lake it will connect Lake Shawnee with Lake Jivaro, servicing the new golf course at Lake Shawnee and the new junior high.

11. 45th Street. In the future (depending on Clinton Reservoir) it will be four lane. This will be the main road to Lawrence, Kansas, and to the Clinton Reservoir.

12. 89th Street. In the future (1975-1980) it will connect with the Burlingame Trafficway and extend east across the district to the Clinton Reservoir, a main road south to the new reservoir.

Residential mobility

There has been and should continue to be a limited number of families moving out of the district. Generally speaking the majority of residents moving into the district can be classified into two groups.

First, the young rural migrants from outlying rural counties in the State of Kansas. In addition to those features already mentioned they have been attracted to the district generally,

by the low cost of land, the tax benefits shared from the wealth of industry - (DuPont/Kansas Power) the close proximity of the schools (The Tecumseh South Elementary School, Shawnee Heights High School and the new proposed junior high) to newly developed subdivisions and the accessibility of recreation centers (the new Lake Shawnee golf course and the proposed Clinton Reservoir) from all parts of the district and finally the rural environment.

The second group of residents moving into the district can be classified as people moving from the city of Topeka. Generally speaking they have been attracted to the district by the same amenities as the rural migrants. However, in addition to these features many of the Topeka migrants have sought to escape the social and physical conditions of the city and/or to live closer to their place of employment. In regard to the latter, many of these migrants have been blue collar workers at DuPont and Kansas Power and Light. In the future these patterns of mobility should continue and the population for the district should be expected to reach approximately 15,000. However, if the young migrating residents continue to increase their family size, the population of the district could reach higher than 15,000 by 1980.

Seaman School District

Population Characteristics

Four elements of population characteristics were studied in the Seaman School District for 1968. They included, family

size, average age of parents, number and percent of children under 5, and number of school age children under 5, and number of school age children per household by grade level.

Family size

The average family size for the district was approximately five people. Each family averaged approximately three children. The large sized families in this district could be attributed to two reasons. (See Table 29). First, there has been a large concentration of Catholic families. This has been especially true in the Elmont and West Indianola attendance areas. Second, a section of the district which takes in part of the city of Topeka (Lyman attendance area) has contributed more significantly to the district's family size than any other attendance area. The largest size families in the district were found in the Lyman and Indian Creek attendance areas.

In the future, the average size of family attracted to the Seman district should depend on the reproductive habits of the young families migrating to newly developed areas of the district.

Parental age

As indicated in Table 29, the average age of parents in the district was 36 years. The parental age of the Lyman and Kaw Valley attendance areas were the only ones which were significantly different from the rest of the district. Lyman's parents averaged 45 years which was in part due to those parents who lived in that section of the district located in

TABLE 29
ESTIMATED POPULATION CHARACTERISTICS
SEAMAN

Attendance Area	Family Size	Parental Age	Children Under 5
Capital View	4.00	37.0	29
Elmont	4.60	36.0	58
North Fairview	3.60	35.0	116
Indian Creek	5.70	37.0	246
East Indianola	5.20	34.0	145
Kaw Valley	5.00	29.0	15
Lyman	6.00	45.0	73
Pleasant Hill	5.20	36.0	261
Rochester	4.70	36.0	218
West Indianola	4.80	35.5	290
Average	5.00	36.0	1450 = 16.6%

Source: Kiene Bradley Partnership.

the city of Topeka. Kaw Valley's parents averaged 29 years. This was mainly attributed to the attraction of young families by low income rental housing in the area.

Children under 5

In 1968 there were approximately 1,450 pre-school aged children residing in the district. This accounted for approximately 16 percent of the total population in the area. The largest concentration of pre-school children were found in the West Indianola, Pleasant Hill and Indian Creek attendance areas. (See Table 29). These areas should continue to experience the largest concentrations of pre-school children in the future as new developments in these attendance areas continue to attract younger families.

School age children per household

In 1968 there were approximately 2.35 school age children per household in the district. Of that number, approximately 1.60 per household were made up of students in the K-6 age group and .45 and 30 were made up of junior high and senior high aged students respectively. (See Table 30). The highest ratio of school aged children per household was found in the Lyman attendance area. This is mainly because the oldest aged parents and the most well established families were residing in this area of the district.

Residential patterns of growth

Residential development has been strung out along major arterial streets. Development in the future should occur

TABLE 30

ESTIMATED AGE CHARACTERISTICS FOR CHILDREN IN SEAMAN FOR 1968

ESTIMATED NUMBER PER HOUSEHOLD

	Number of Children per Household	Number per Household School Age	Number Under 5	K-6	7-9	10-12	Over 12
Capital View	2.00	145	.50	.50	.50	.45	.05
Elmont	2.56	198	.40	1.70	.10	.18	.18
North Fairview	3.57	230	.85	1.48	.63	.19	.42
Indian Creek	3.10	301	.55	1.78	.68	.55	.14
East Indianola	3.40	220	.60	1.40	.60	.20	.60
West Indianola	3.05	217	.47	1.35	.53	.29	.41
Kaw Valley	3.00	195	1.00	1.62	.28	.05	.05
Lyman	4.40	244	.23	1.16	.69	.69	1.62
Pleasant Hill	3.20	213	.47	1.78	.10	.25	.58
Rochester	2.70	170	.70	1.30	.20	.20	.30

Source: Kiene Bradley Partnership.

through individual houses and small subdivisions. This type of development should continue to take place along major traffic arteries that will be tied with the city.

Residential growth should also take place through the construction of apartment complexes. Most of these probably would be developed along Topeka Avenue, which has been used as a major artery tying Seaman to downtown Topeka.

The major residential developments should be concentrated in an area bounded by 35th Street to the south, 62nd Street to the north, Kennings Road to the west, and Highway 4 to the east.

Construction of sanitary sewer lines along Indian Creek should stimulate further growth within its watershed. (See Figure 31). Also a new high school and possibly commercial developments should attract new residential construction at the vicinity of 46th and 50th Streets. Along Topeka Avenue and Rochester Road, West Hills and Pleasant Hills developments should also increase in size. The east section of the district in the vicinity of 39th Street and Highway 4 should experience new residential and possibly commercial developments. Much of this development would depend on the construction of the Oakland Trafficway. In the west section of the district the Indian Valley Area possibly could grow to become one of the largest residential areas in the district by 1980. This would be due to the construction of Highway 75 which would tie the Indian Valley area to downtown Topeka. In the period from

1970-1980 the West Indianola, Pleasant Hill, and Indian Creek attendance areas should experience the major residential growth in the district. (See Table 31).

Elements Influencing Residential Development

Employment centers

The major employment centers in the district have been Goodyear Tire and Henry Manufacturing Company. The latter has 300 employed; the former 3,000.

In the past a very small percent of the Goodyear work force lived in the district. However, in the future, a large part of the Goodyear work force can be expected to locate in the district. This would be due to the growth of new developments in areas of close proximity to the plant.

In the past those who were employed at the Henry Manufacturing Company were drawn from all sections of the metropolitan area. According to a reliable company official, the company can be expected to double its number of employees in the future. However, the impact of this increase, according to the company official, should not stimulate population growth of any particular district in the metropolitan area.

A third area of employment in the district has been the Skinner Nursery. In 1968 it had 50 employees. Most of them were transit. Therefore, they have had very little impact on population growth in the district. According to an official of the nursery, there were no future plans for expansion of its facilities.

TABLE 31
ESTIMATED NUMBER OF NEW HOUSES TO BE CONSTRUCTED YEARLY
SEAMAN

	1968-1980	1970-1975	1975-1980
Capital View	1	1	5
Elmont	4	5	8
North Vairview	4	5	8
Indian Creek	8	8	11
East Indianola	4	15	20
West Indianola	20	20	25
Kaw Valley	1	1	1
Lyman	2	3	5
Pleasant Hill	12	12	20
Rochester	4	4	8
Total	60	75	125

Source: Kiene Bradley Partnership.

Finally, the continued development of industrial operations in the Seaman district between the Kansas River and Soldier Creek, as indicated in the Preliminary Land Use Plan, should influence population growth in this district.

Land use and availability of land

The Preliminary Land Use Plan indicates this district will have a mixture of land uses. The bottom land between the Kansas River in the south and Soldier Creek in the north will be zoned for industrial use. Single family residential use will also be concentrated in this bottom land area. In the future, the area north of Soldier Creek should have the heaviest concentration of single family use. (See Figure 31). This area has been undeveloped due to the lack of sewage facilities. However, after they acquire their own sewage treatment centers, they should be able to utilize the available land for single family residential use.

Availability of utilities

The Seaman district should be able to provide excellent drainage basins and sanitary sewer lines upon demand. (See Figure 31). These facilities can be provided because of the attractiveness of the topographic features in the district -- the broad, flat east-west Kansas River VALley, which is flanked on both sides by rolling hills, bisected by tributary valleys feeding into the Kansas River. To the north Soldier, Halday, and Indian Creek have been able to provide excellent drainage basins that could be utilized in developing public utilities, storm and sanitary sewer facilities which are essential for major residential developments.

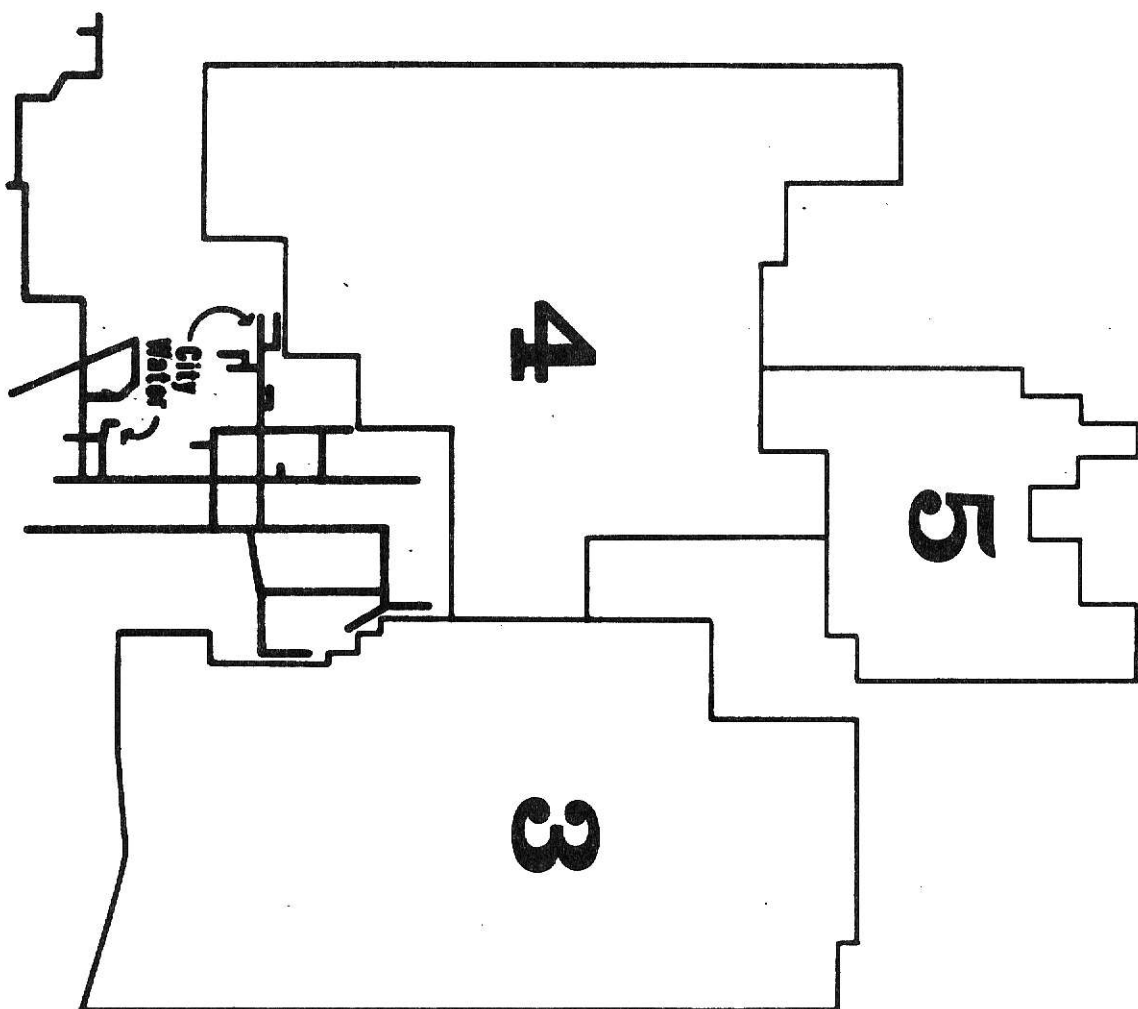


Figure 30:
USD 345
Water Districts

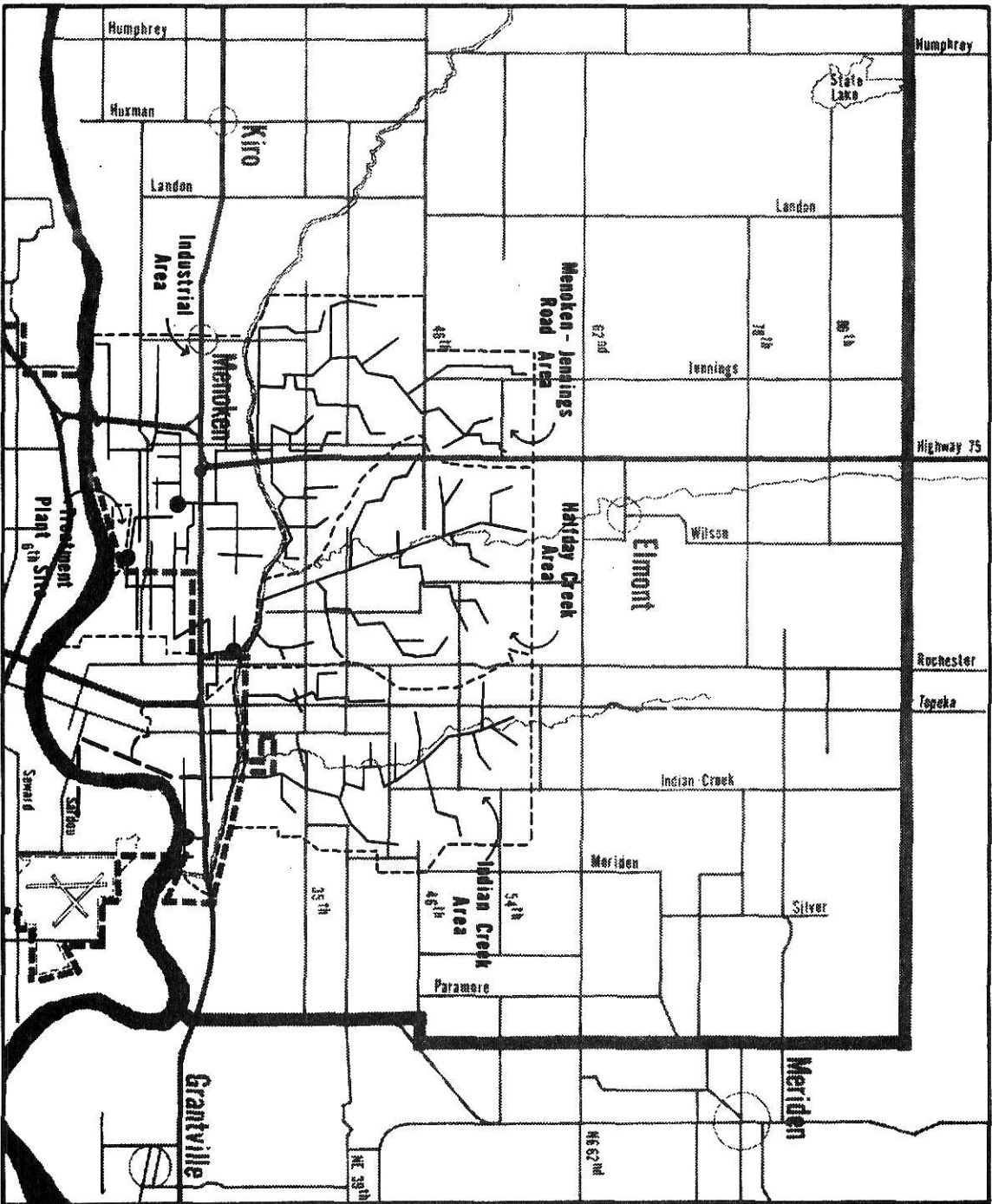


Figure 31:

USD 345

Proposed Sewers

Four drainage basins have been located in this area. They are the Indian Creek, Halfday, Menoken, Jennings Road, and the industrial area draining basin. The exact boundaries of these basins are shown in Figure

Three water districts have been servicing the different sections of Seaman. They are Rural Water District No. 4, Central District No. 3 East, and District No. 5 North. (See Figure 30). Most areas of Seaman closer to Topeka have been serviced by city water lines, which have been extended into the district. These include Rochester, East Indianola, Lyman, and the lowland areas in the western portion of the district.

The availability of good utility services in this district should stimulate residential growth in the future, more rapidly than any area of the Topeka metropolitan area.

Traffic facilities

The Seaman district should be well served by major arterial routes after the construction of the Oakland Trafficway. (See Figure 29). Thus with its anticipated completion, easy accessibility should be provided to the city of Topeka and surrounding areas.

In the future as new residential developments take place in the Seaman district, traffic volumes should be greatly increased causing vehicular and pedestrian conflicts. Therefore, it should be necessary to widen most of the north-south secondary streets, such as Brickyard Road, Bolton Road, Green Hills Road, Rochester Road, and Nickell Road. The street

system in the district running east and west has been adequate. Thirty-fifth, 39th, 50th, and especially 46th Streets will have to be repaired, widened and extended in order to tie major north-south arterial routes. These east-west routes should also be important in connecting the center of the district, where junior and senior high schools are located, to scattered communities with the Seaman School District.⁷

Residential mobility

There has been and should continue to be a limited number of families moving out of the district. Generally speaking, there has been a substantial amount of mobility within the district.

The following attendance areas have been singled out as the most significant from this point of view of mobility:

East Indianola. The construction of low income units has attracted a large group of young families. These families have generally been economically mobile. Therefore, they do not live in the area for long periods of time. When they have moved, they have relocated in newly developed areas of the district.

Kaw Valley. Low income housing has attracted young families in the area. However, because these families generally have not been as economically mobile, there has not been a large turnover in population.

Lyman. There has been a high turnover in this district because of the amount of rental housing.

Pleasant Hill. This area has received people from other parts of the district. The movement has been from rental apartments to new single family units.

The migration of residents into the Seaman district from rural areas outside Shawnee County has also taken a familiar pattern. First a large number of younger migrants have been attracted to the district by low income apartments. If these migrants become economically mobile they should eventually buy a home in one of the new subdivisions in the district. If they don't achieve this mobility status they are likely to remain in the attendance area to which they originally moved. It is significant to point out that many of the migrants moving from areas outside Shawnee County have had a favorable enough financial background to buy a home when they have migrated into the district initially.

Generally speaking, in addition to those features already mentioned, residents, whether they have moved from within districts or from the outside areas, have been attracted to the district by the low cost of land and the tax benefits shared from the wealth of industries.

In the future these patterns of mobility should continue and the population of the district should be expected to reach approximately 16,000 by 1980.

Washburn Rural School District

Population Characteristics

Four elements of population characteristics were studied

in the Washburn Rural Area for 1968. They included family size, average age of parent, number and percent of children under 5, and number of school age children per household by grade level.

Family size

The average family size for the total district was approximately 4.7 people. Each family averaged approximately 2.7 children. Those people who lived in the area served by Forbes Air Base (Pauline attendance areas) had the largest sized families in the district. The smallest sized families were found in the Sunny Elevation and Wanamaker attendance areas. (See Table 32). Residents of these areas were most characteristic of the upper socio-economic level.

The development of single family housing units should continue to attract large size families in the future.

Parental age

The average age of parents in the district was 35 years. The youngest parents (under 30) in the district were found in the Pauline East and Wakarusa attendance areas. The oldest parents (over 37) in the district were found in the upper socio-economic level attendance area of Sunny Elevation and Wanamaker. (See Table 32).

In the future the average age of parents in the district should increase. This would be mainly attributed to the attraction of established families into the newly developing upper socio-economic areas of the Washburn Rural District.

TABLE 32
POPULATION CHARACTERISTICS
WASHBURN RURAL

Attendance Area	Family Size	Parental Age	Children Under 5
Auburn	4.77	35.0	195
Pauline East	5.00	29.8	240
Pauline Central	5.33	33.0	400
Pauline South	5.00	36.3	820
Sunny Elevation	3.58	37.5	160
Wakarusa	4.60	28.0	80
Wanamaker	3.58	37.6	<u>210</u>
			1585 =

Source: Kiene Bradley Partnership

Children under 5

In 1968 there were approximately 1,600 children under 5 years old residing in the district. This accounts for approximately 20 percent of the total population in the district. The largest concentration of under 5 years of age were found in the base school attendance areas. (See Table 32). These patterns are likely to continue in the future. In the next ten years the number of children under 5 should increase, however, at a decreasing rate. (See Table 33). This should be accounted for by the attraction of established families with older aged children into the newer residential sections of the district.

School age children per household

In 1968 there were approximately 2.10 school aged children per household in the district. Of this number approximately 1.10 were made up of students in the K-6 age group and .70 and .30 per household were made up of students in the junior high and senior high aged groups respectively. (See Table 34). The highest ratio of school aged children per household was found in the Pauline South attendance area. The lowest ratio per household was found in the Sunny Elevation attendance area. These fluctuations in the ratio of school aged children in the district generally reflect the diverse social groups that have been characteristic of the district. On one hand there have been air force base residents and on the other hand there have been the upwardly mobile residents of the Sunny Elevation and Wanamaker attendance areas.

TABLE 33
POPULATION UNDER 5 AND PROJECTED ESTIMATES

	1968	1970	1975	1980
Shawnee Heights	1150	1450	1850	2325
% of total population	15.0	16.6	16.7	15.3
Seaman	1450	1700	2050	2500
% of total population	16.4	17.3	15.6	15.6
Washburn Rural	1600	1750	1950	2350
% of total population	20.0	19.5	16.4	14.8
Total Under 5	4200	4900	5850	7175

Source: Kiene Bradley Partnership.

TABLE 34
AGE CHARACTERISTICS OF CHILDREN IN WASHBURN RURAL DISTRICT FOR 1968
ESTIMATED NUMBER PER HOUSEHOLD

	Number of Children per Household	Number per Household School Age	Number Under 5	K-6	7-9	10-12	over 12
Auburn	2.43	183	.51	1.06	.43	.34	.09
Pauline East	3.00	200	1.00	1.28	.62	.05	.05
Pauline Central	3.33	237	.72	1.00	.55	.48	.24
Pauline South	3.00	257	.38	1.33	1.28	.33	.05
Sunny Elevation	1.90	107	.38	.62	.24	.21	.45
Wakarusa	2.60	155	1.00	1.34	.15	.05	.05
Wanamaker	2.05	148	.37	.91	.37	.20	.20

Source: Kiene Bradley Partnership.

These fluctuations in ratio of school age children in the Washburn area should continue unless the function of Forbes Air Base changes or it is completely phased out.

Residential Growth Patterns

Residential development in those attendance areas of Forbes Air Base has been sporadic. Development in the future should occur through large subdivisions. This should be particularly true in the Sunny Elevation and Wanamaker attendance areas.

Growth in the three Pauline attendance areas should occur through military housing and trailer courts.

The major residential developments have been taking place around Sherwood Estates and along Wanamaker and Auburn Roads. New developments in the future should take place along Gage and Fairlawn Avenues extending south to 45th Street. Sherwood Estates should be increasing in size. A number of new subdivisions should also be constructed west of Fairlawn Road extending from Sherwood Estates to Interstate 70.

By 1975 the extension and completion of new and existing roads, along with anticipated commercial growth and utilities, should stimulate residential development around Sherwood Estates, Shadywood, and Wanamaker Road.

Those areas in the district in close proximity to 42nd and 49th Streets and the Gage Boulevard area should also experience an in-migration of people. Finally, in the north section of the district 21st Street, Urish Road and 17th to Tenth

Streets on Wanamaker Road an increase in population should take place.

By 1980 new plattings should occur with population growth being experienced in the following areas:

1. 29th to 42nd Streets.
2. Gage Boulevard to 45th Street.
3. Culler Village.
4. The trailer parks along Topeka Avenue.
5. The Wakurusa and Auburn attendance areas.

In the period from 1970 to 1980 the major residential growth in the Washburn Rural District should be experienced in the Wanamaker attendance area (Sherwood Estates). (See Table 35).

Elements Influencing Residential Development

Commercial development

There has been no areas of major commercial growth in the district. According to the Preliminary Land Use Plan this trend should continue through 1980. However, additional residential growth in the district should probably stimulate the need for new neighborhood shopping centers at major inter-sections such as 29th and Wanamaker.

Employment centers

The major employment center in the district has been Forbes Air Base. The base has had approximately 5,000 people employed. Approximately 21 percent of them have lived in base houses. Many who lived off base have either occupied the trailer courts around the base or have rented homes in areas

TABLE 35
ESTIMATED NUMBER OF NEW HOUSES TO BE CONSTRUCTED YEARLY
WASHBURN RURAL

	1968-1970	1970-1975	1975-1980
Auburn	10	10	12
Pauline East	7	10	10
Pauline South	2	2	7
Sunny Elevation	7	7	10
Wakarusa	4	4	6
Pauline Central	2	150	5
Wanamaker	15	20	20
Total	47	203	70

Source: Kiene Bradley Partnership.

of close proximity to the base.

There is no indication of the development of any new major centers of employment in the district from 1970-1980. (See Preliminary Land Use Plan 1980). By 1980 small service centers are likely to develop in the area. However, they should not be significant enough to influence residential growth.

The anticipated completion of major traffic ways should provide good access for those residents who will be living in the west section of Washburn Rural to major centers of employment in Topeka.

Land use and availability of land

This district should be almost exclusively utilized for single family residential development. Other uses which could be expected to develop in this district would be commercial and park and recreation. There has been no industrial development in this district nor has there been any indication of this taking place in the future. A large section of the land in this district has been zoned for agricultural use. However, when sewer and water lines are extended in Washburn Rural then much of the land zoned for agricultural use is likely to be developed into residential uses.

Availability of utilities

It is apparent that the ridge lines of Topeka will restrict the expansion of sanitary sewer facilities.

The Washburn Rural district has been divided into two watersheds. North of the ridge there are three drainage basins:

Topeka West, Shunganunga West, and Shunganunga South. (See Figure 32). The future sanitary sewer lines that will be constructed in these basins will drain into different areas.

The Topeka system will not be able to handle the additional flow from Shunganunga East and Shunganunga West unless new pump stations are constructed. Also there will have to be a sufficient population demand in order to make the construction of sewer lines economical.

The hilly terrain has prevented the expansion of sanitary sewers in the southern portion of the district. However, the land formation has allowed the residents in the southern part of the district to set up their own sewer systems and treatment centers. The Wakarusa Creek has been able to accommodate the flow of sewage from the entire southwest section of Washburn Rural. The Auburn area has planned to construct its own sewage system. Therefore, in the future they should be able to service the expansion of population adequately.

The Washburn Rural school district has been well supplied with water facilities. Three rural water districts have serviced the different sections of Washburn Rural: Rural Water District No. 8 West, District No. 6 Central, and District No. 7 Southwest. Most areas closer to the city of Topeka have been on the water line extending south on Wanamaker Road. (See Figure 32).

Traffic facilities

The extension of US 75 from Burlingame Road to Wakarusa should improve accessibility to the city from the south portion

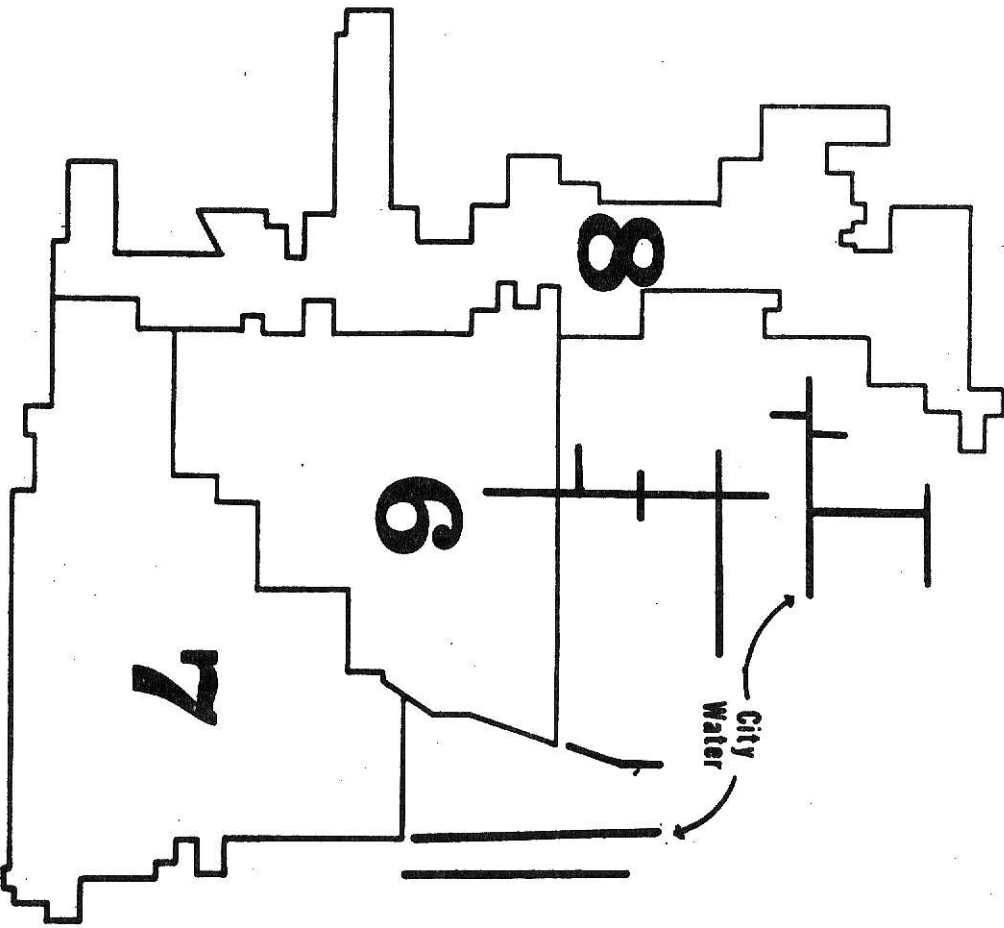


Figure 32:

**USD 437
Water Districts**

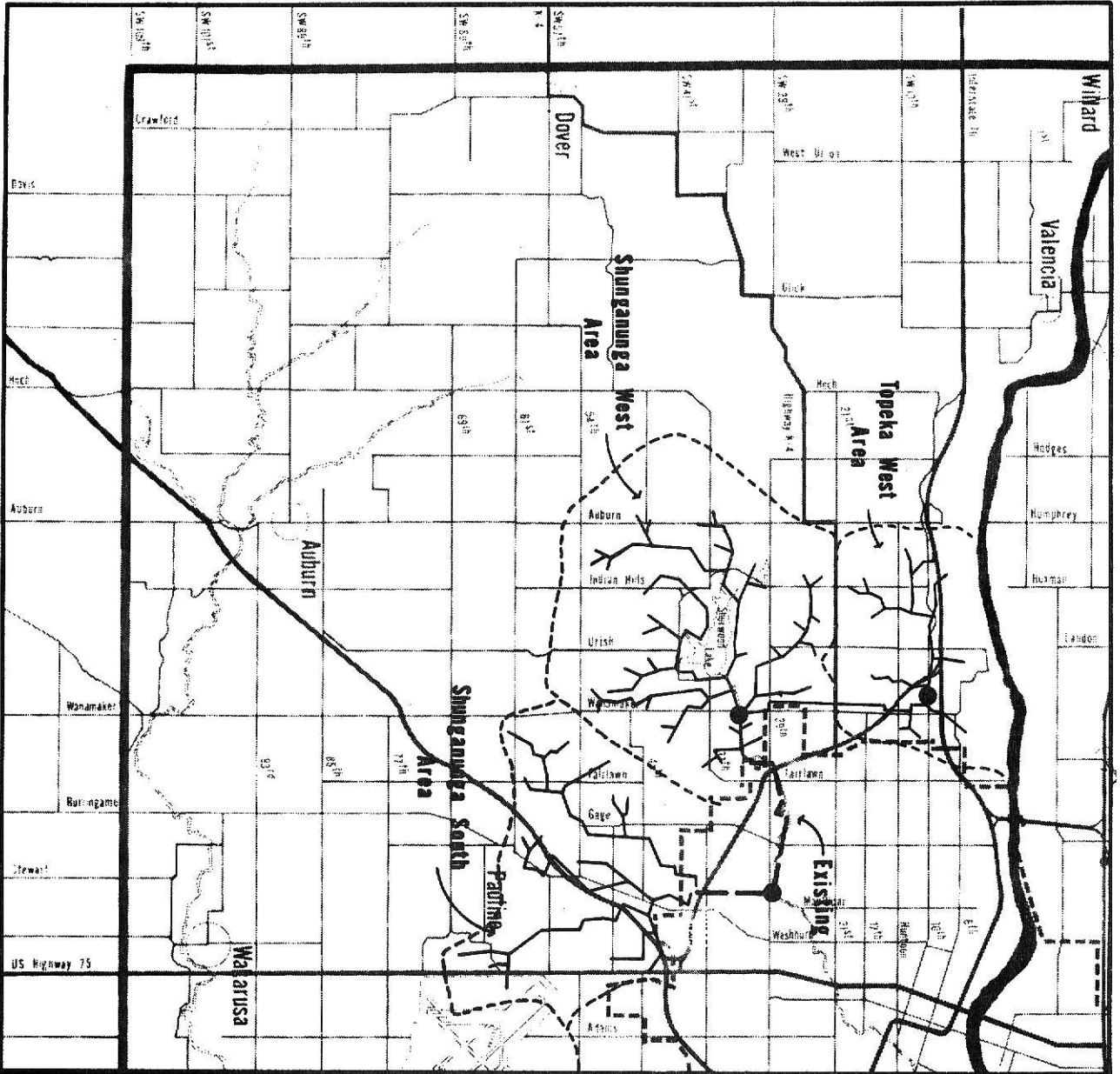


Figure 33:
USD 437

Proposed Sewers

of the district. This should then influence residential development in the southern part of the district.

Sherwood Estates and other developments around it have been tied to the Central Business District by 29th Street, which then has connected with major north-south routes, such as Gage Boulevard, Washburn and Topeka Avenues. The extensive residential areas that can be expected to develop in this area should emphasize the need for the proposed Shunganunga Trafficway.

The interstate system has already been an important factor in influencing residential development in the Washburn Rural district. It should continue to do so in the future.

The future traffic patterns, should not see drastic changes. However, there will be a reinforcement and modification of what has been in existence. The following list is the anticipated revisions in the traffic patterns for the regional planning area. They have been acknowledged by the Topeka Shawnee County Regional Planning Commission and should affect residential growth in the Washburn Rural district. (See Figure 28).

1. Auburn Road. In the future (1975-1980) it should remain much the same with the exception of an interchange at the Turnpike.

2. Burlingame Road. In the future (three to five years) it should not be traveled as much because of the construction of the Burlingame Trafficway. It should remain a collector road in the district and be used as a secondary road.

3. Burlingame Trafficway. In the future (three to five years) it should extend south paralleling Highway 75. It should have interchanges at 75th Street and 69th Street, then cross into Shawnee Heights district and extend south.

4. I-70. It should continue to serve the district as it has been.

5. Kansas Turnpike. In the future (1975-1980) it should become a freeway with possible interchanges connecting Auburn and Wanamaker Roads with the freeway.

6. 21st Street or No. 4 Highway. It should serve the district as it has been.

7. 29th Street. In the near future it will be paved and extended from Fairlawn Road to Auburn Road.

8. 37th Street. In the future it will be widened and extended from Sherwood Estates across South Topeka to Lake Shawnee making it a main thoroughfare.

9. 42nd Street. As Lake Sherwood expands, it will (in five to seven years) join Auburn Road with Wanamaker Road and serve as an important secondary street.

10. 54th Street. In the future (five to ten years) it will be widened and paved from Auburn Road to Burlingame Road. This will have importance because of the Burlingame Trafficway.

11. 57th Street. When Burlingame Trafficway is completed (three to five years) it will have an interchange tying to the main roadway. This road will have to be widened to accommodate the increased flow of traffic.

12. 61st Street. In the future it will be widened for easier traffic flow.

13. 69th Street. In the future (three to five years) it should have an interchange with Burlingame Trafficway and, therefore, have to be widened to accommodate traffic.

14. 85th Street. In the future (three to five years) this road should link Washburn Rural to the South interchange of Burlingame Trafficway in the Shawnee Heights district. It then will have proximity to Clinton Reservoir and become 89th Street as it curves south to pick up the Trafficway.

15. Wanamaker Road. In the future (1975-1980) it will have to be widened to accomodate the traffic flow. Also it should have an interchange with the Kansas Turnpike.

Residential mobility

Two patterns of mobility have been taking place in the district. The base area has been experiencing a constant turnover of families, while areas outside the air base have experienced very little turnover of population. The district has been attracting a large in-migration of retired officers from Forbes as well as established families from the more affluent areas of the city of Topeka. This has been particularly characteristic of those families who have been moving into the Wanamaker and Sunny Elevation attendance areas.

Finally, the Auburn and Wakarusa attendance areas, which have been farm communities have attracted a large number of residents from rural areas outside of Shawnee County. As

sanitary sewer lines are extended to these areas they should lose some of their rural character and become more populated.

The residents who have been attracted to the Washburn Rural Area have not been offered the wealth of amenities that have been characteristic in the other outlying districts. The cost of land and the tax rates in the district have been high and should continue to be. The latter has been due to several reasons.

First, there have been no major industrial operations in the area to share the tax burden; and second, many areas in the district must assess high taxes to pay for their own treatment centers, extension of roads and modernization of their communities. In spite of this, the current pattern of mobility should continue and the population for the district should reach approximately 16,000 by 1980.

The last section of this chapter examined demographic data and how it was influencing patterns of growth in the four school districts of the Topeka metropolitan area. This information should have an important impact on the school enrollment estimates and projections as will be discussed in Chapter VI.

Footnotes

1. U. S. National Center for Health Statistics Vital Statistics of the United States, 1968.
2. Ibid.
3. Kansas Division of Vital Statistics Abstract of the United States 1968.
4. Topeka Shawnee County Regional Planning Commission, Preliminary Land Use Plan for the Topeka Shawnee County Regional Planning Area (August, 1962), Introduction II, pp. 2-6.
5. Ibid., p. 73.
6. Kiene and Bradley Partnership Architects and Engineers, Shawnee County Educational Master Plan (March, 1969), USD 450 Shawnee Heights, p. 17.
7. Secondary streets aid in the movement of people and goods. They tie the population centers scattered throughout the area to the main arteries having access to Topeka. They also provide travel within the area and between the schools. Ibid., p. 16.

Chapter VI

IMPACT OF DEMOGRAPHIC PATTERNS OF GROWTH ON SIZE OF SCHOOL ENROLLMENT

This chapter will examine the size of pupil enrollment in the Topeka, Shawnee Heights, Seaman and Washburn Rural school districts and their impact on existing school facilities.

Topeka School District

Rural Public School Enrollment

When studying the trend of total public school enrollment of the Topeka district from 1956-1968, it was found that there was a slow but steady increase in the number of students until 1958. From 1958-1964 a more rapid increase in enrollment was experienced. After 1964 there was a leveling off of public school enrollment. (See Table 36 and Figure 34).

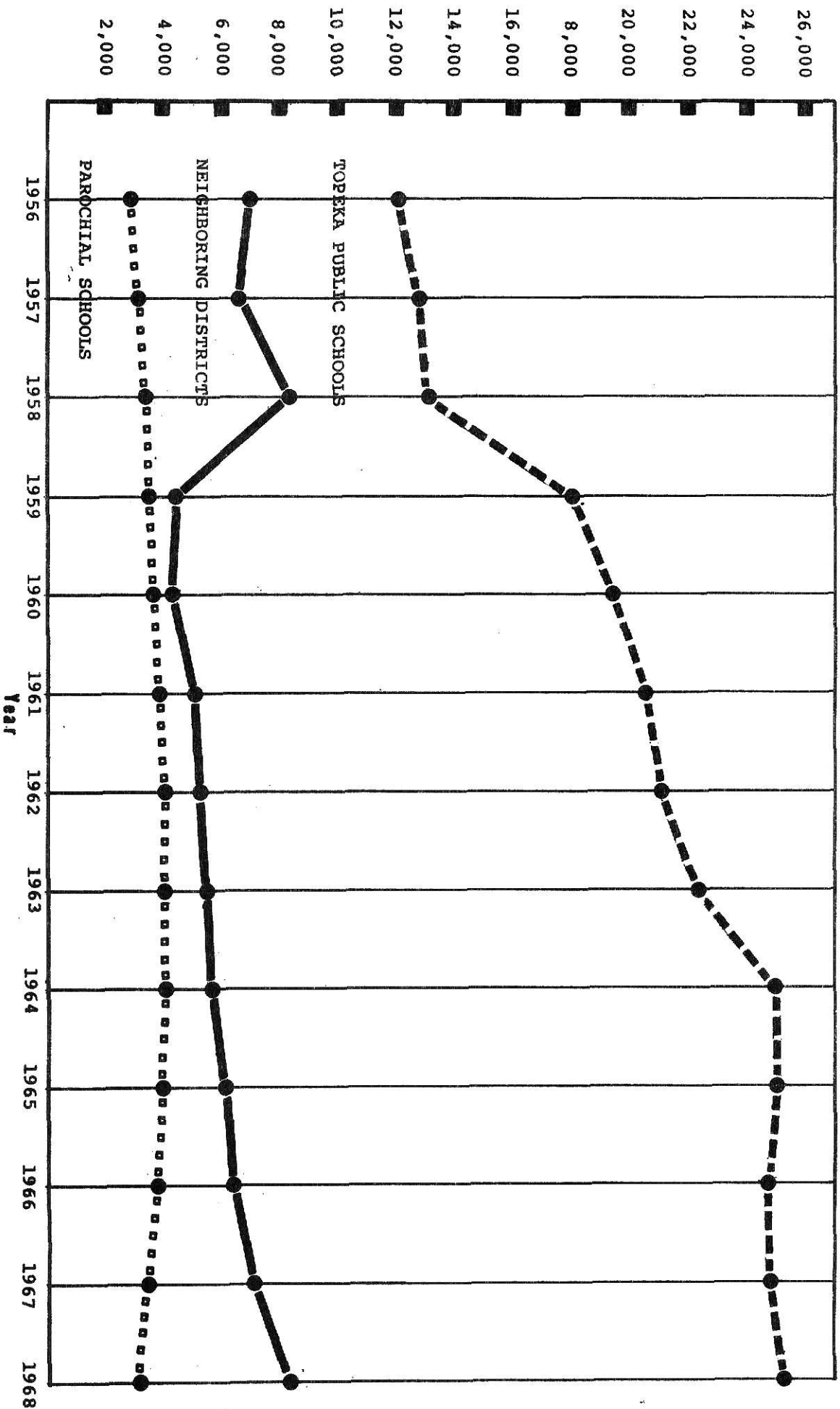
In the future, 1968-1980, there should be a steady growth until 1975 when the Topeka school district should again begin to level off and decline in total enrollment. (See Table 36 and Figure 35). This should mainly be attributed to an aging population in the city of Topeka. After 1980 the total school enrollment should likely continue to decline. However, if urban renewal and massive redevelopment occur in the central area of the city, this pattern of enrollment size could change.

TABLE 36

ENROLLMENT IN PLANNING AREA
PAST - ESTIMATED - PROJECTED

	1962	1963	1964	1965	1966	1967	1968	1970	1975	1980
Neighboring Districts	5,206	5,514	5,784	6,114	6,466	7,139	8,345	9,850	12,681	15,175
% of Total Planning Area	16.0	16.3	16.6	17.4	18.5	20.1	22.6	25.5	28.4	31.0
Topeka District 501	23,119	24,379	24,916	25,005	24,732	24,866	25,288	26,026	26,960	26,706
% of Total Planning Area	71.4	71.7	71.2	70.6	70.1	68.6	66.7	66.7	64.7	62.5
Parochial	4,026	4,037	4,060	3,999	3,784	3,442	3,206	3,003	2,871	2,734
% of Total Planning Area	12.4	11.8	11.6	11.3	10.5	9.7	8.7	7.7	6.9	6.5
All Districts in Planning Area	32,351	33,930	34,760	35,118	34,982	35,447	36,839	38,879	42,512	44,615

Figure 34: DISTRICT 501 SEPTEMBER ENROLLMENTS



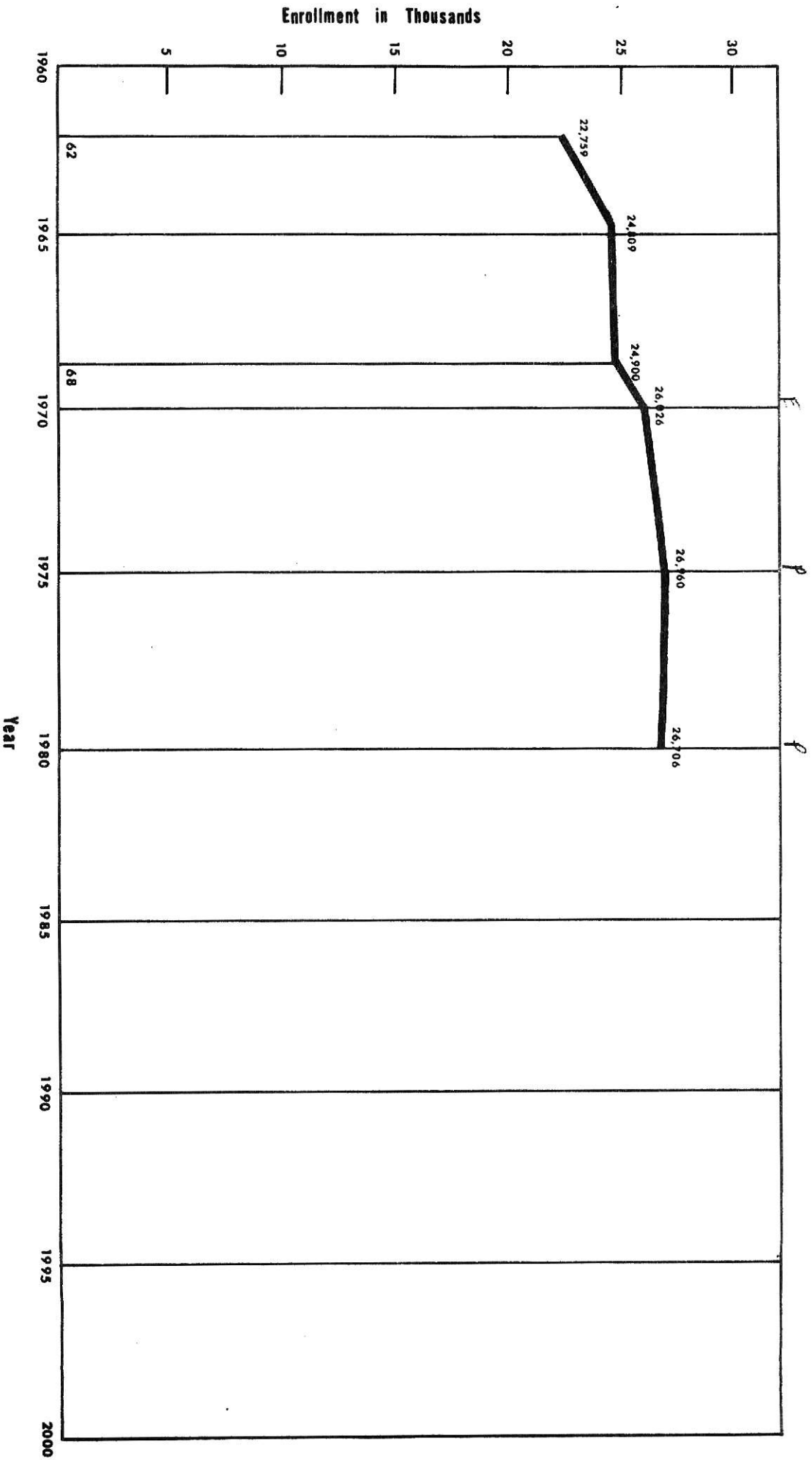


Figure 35: District 501 Enrollment Forecast

Enrollment at Various Grade Levels

Elementary school enrollment

There was a large increase in the number of elementary students from 1958-1964 as indicated in Table 37 and Figure 36 . Two factors contributed to this. First, these students represent the tail end of the post war baby boom, 1945-1954, when there was a high birth rate.

Second, during the years from 1958-1964 there was a large in-migration of young families in Topeka.

From 1965-1968 the total elementary school enrollment had been declining. This was mainly due to the fact that the last group of war cohorts were reaching graduation age. This decline in enrollment coincided with the national trend for grades K-6. (See Table 37).

After 1970 the elementary school enrollment should be expected to decline. This should be due to a declining birth rate in the city and the continued out-migration of young parents to areas outside the Topeka school district. After 1980 there is a good possibility of a renewed increase in the size of elementary enrollment. However, this would be dependent on the future migration patterns of young parents.

Junior high enrollment

Junior high schools have experienced a steady increase in pupil enrollment. This should continue until between 1970 and 1975 when there should be a leveling off and decline in junior high enrollments. (See Table 39 and Figure 36).

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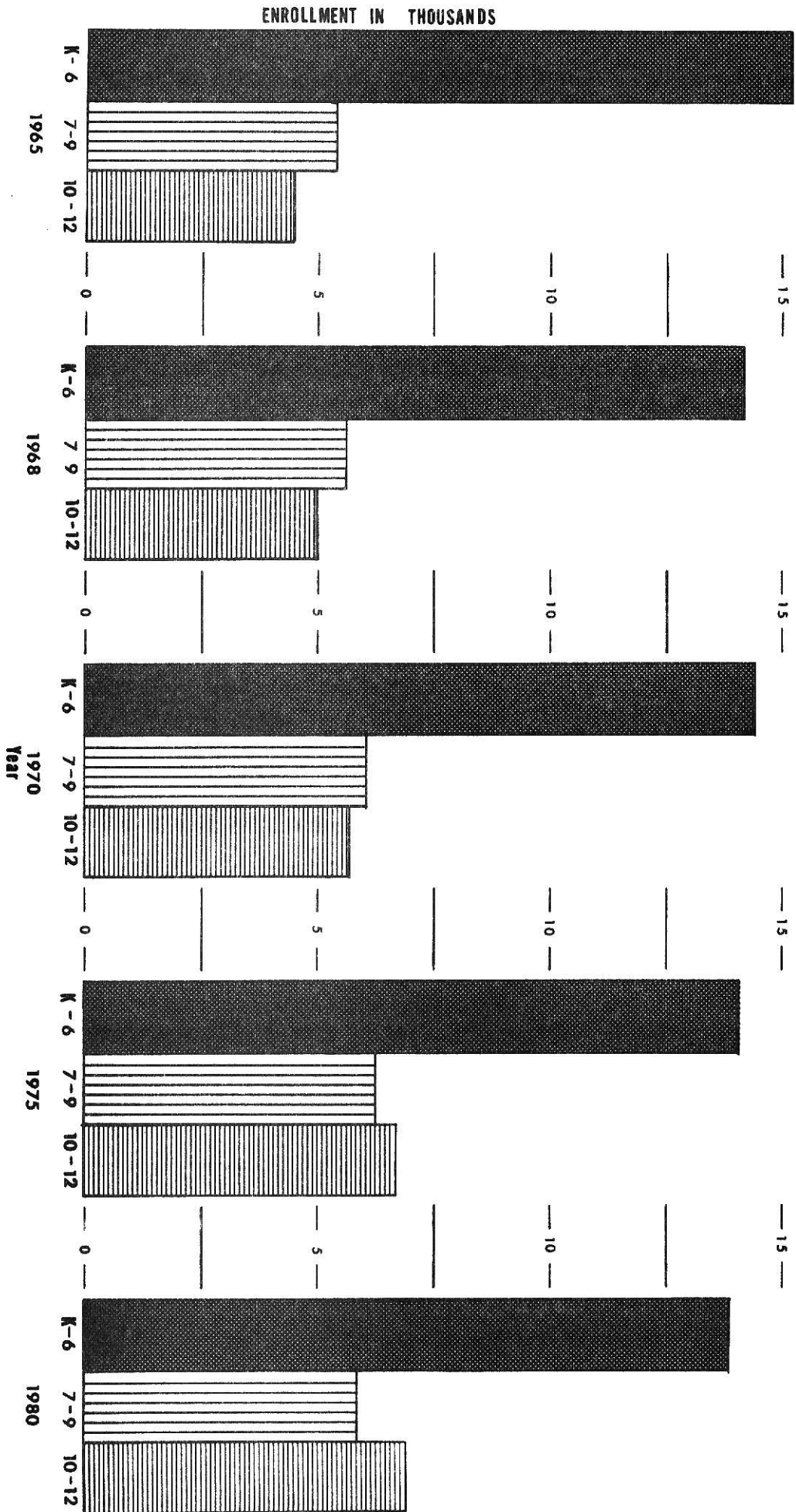


Figure 36: District 501 Enrollment Trends

Two factors should contribute to this. These are:

1. The last group of war cohorts should be graduating from junior high in 1970.

2. Many younger children should be moving to outlying districts before they reach junior high age.

High school enrollment

High schools in the Topeka district have experienced a steady increase in pupil enrollment. In the future (1970-1980) the highest growth rates should be found at the high school grade level. This should be attributed, first, to the age cohorts of the high schooler's who will (in 1975) be the last group of war babies; and second, there should be very little out-migration of high school age parents. Most families that would have moved to outlying districts would have done so before their children reached high school age.

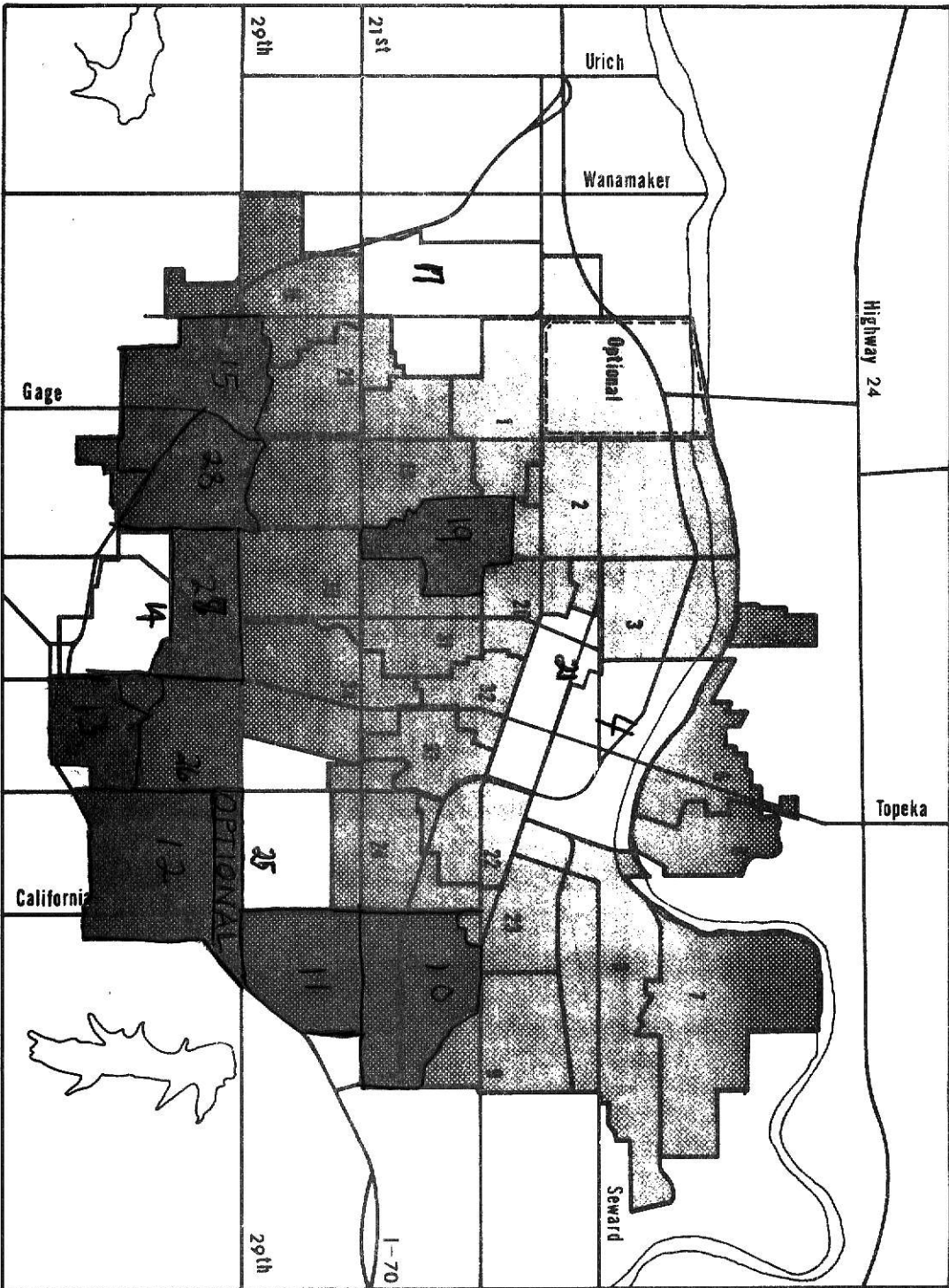
The peak in high school enrollment in the Topeka district should be reached between 1975 and 1980 when there should begin to be a leveling off and a decline in enrollment. (See Table 40 and Figure 36).

Changing Patterns of Enrollment in the Various Attendance Areas

Elementary school

From 1965-1968 the most significant patterns of increase in elementary enrollment took place in the following sections of the district.

1. The outlying areas extending from the southeast to the southwest in a crescent shape. (See Figure 37). Two main factors were attributed to increases in these areas. First,



**Figure 37:
Elementary School
Enrollment**

1965 - 68

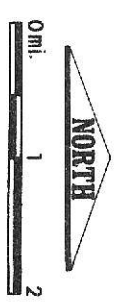
■ Increase

**□ Stable with 1-10
increase likely.**

**NOTE: See preceding for
number identification.**

□ Decrease

□ Decrease



they had the youngest parents in the district, therefore, their children tended to be most characteristic of the elementary school age group 5-11.

Second, in the Hudson and Belvoir attendance areas young newly established families with children were attracted here by low income apartments and rental houses. The author observed that the low income units were located adjacent to both schools.

2. Exceptions to these increases in enrollment in this section of the district extending from the southeast to the southwest were found in the Avondale East and Avondale Southwest attendance areas. The latter school remained stable; first, because there was rental housing in the area, therefore, causing a high turnover in population; and second, much of the land zoned for residential use had not been developed prior to 1968. However, this land has just recently been platted and in the next ten years should be developed extensively.

The former elementary school declined in its pupil enrollment. Three factors contributed to this. First, rental housing had caused a high population turnover in the area. Second, the lower rent levels had attracted a large number of Negro families into the attendance area; thereby causing many of the white families to move. Third, a large section of the attendance area had been taken up by industrial and commercial expansion. Residential development had therefore become well saturated.

As shown in Table 37 and Figure 38 from 1968-1970 increases in enrollment should be more sporadic in location than in the previous three year period. The most significant changes in size of enrollment should take place in two sections of the district:

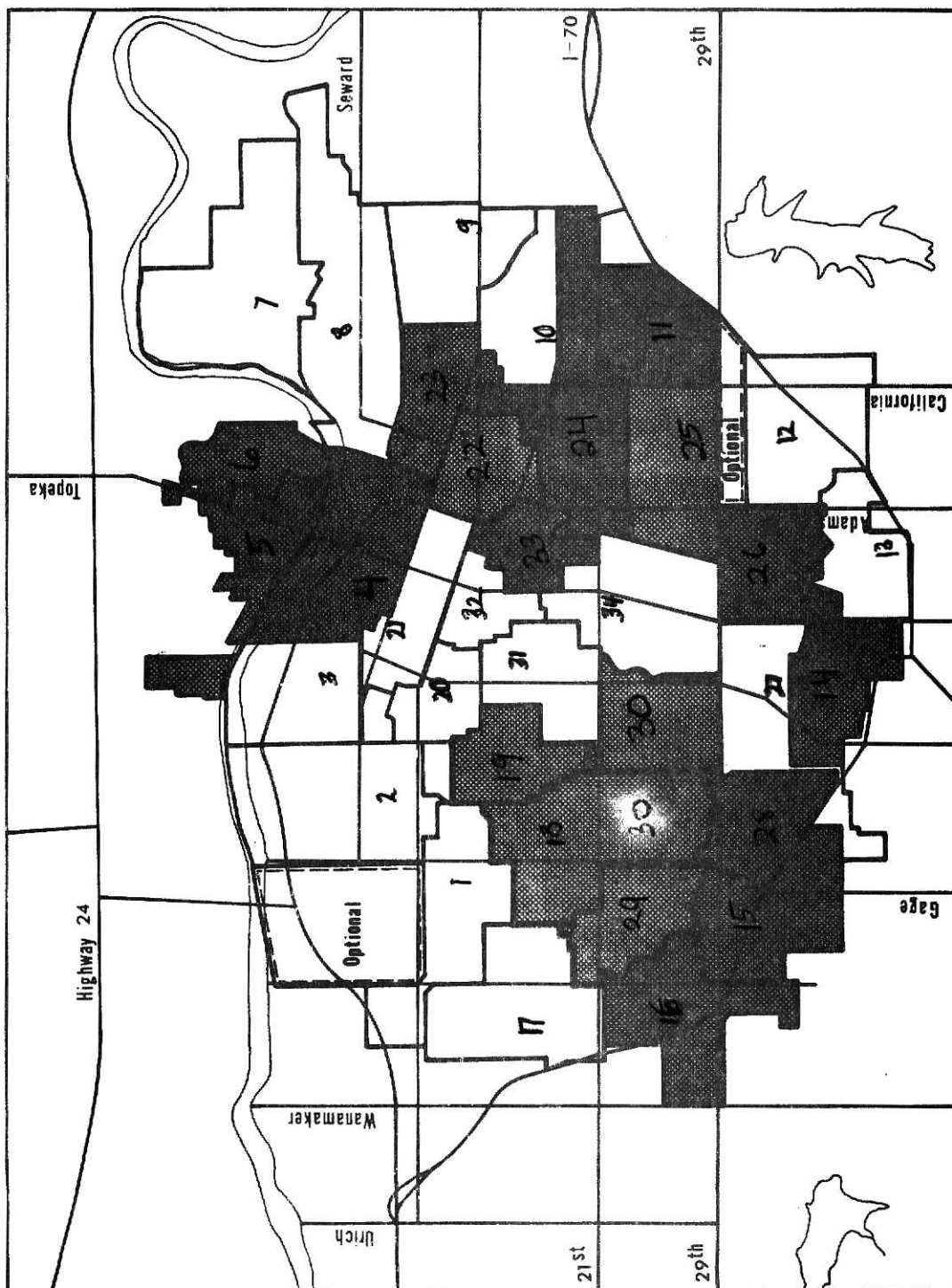
1. The southwest part of the district - In this area the McClure and Avondale Southwest attendance areas should experience large increases in enrollment size as compared to the previous three year period 1965-1968. This should be due to the attraction of young parents and the high ratio of elementary age children per dwelling unit in the area. (See Table 37).

2. The central core - Several elementary schools in this area should have a slight enrollment increase. Overall, this area should remain stable. This is a significant change over the previous period 1965-1968 when this section of the district had a substantial enrollment decline. The main reason for this change should probably be due to the attraction of an increasing number of young families who were able to obtain rental houses from the older residents moving out of the area. (See Table 37).

Although not a significant change in pattern of enrollment from 1965-1968, the attendance areas extending in a southwest direction from the central core (Randolph, Stout, Crestview, and Whitson) should continue their pattern of a decreasing elementary enrollment. (See Table 37 and Figure 38). This should be due to the attraction of average and above average

**Figure 38:
Elementary School
Enrollment**

1968 - 70



Increase

Stable with 1-10 increase likely.

NOTE: See preceding for number identification.

Stable with 1-10
decrease likely

Decrease

NORTH

0m.

1

2

aged parents and thus a low ratio of pre-school and school aged children per dwelling unit. (See Table 37).

As shown in Table 37 from 1970-1975 the most significant changes in enrollment should occur in the following sections of the district:

1. The central core area should continue to attract an increasing number of young families with elementary aged children.
2. The outlying areas in the south part of the district should experience a declining enrollment. Two main factors should contribute to this. First, an increase of apartment units attracting families with a low ratio of school aged children. Second, a high proportion of the children that are being raised in the area should be aging and moving into the junior high and senior high school age group.

From 1975 to 1980 due to the aging population of the district only three elementary schools should have a significant increase in pupil enrollment. These are Hudson, McClure and Lafayette. (See Table 37 and Figure 40).

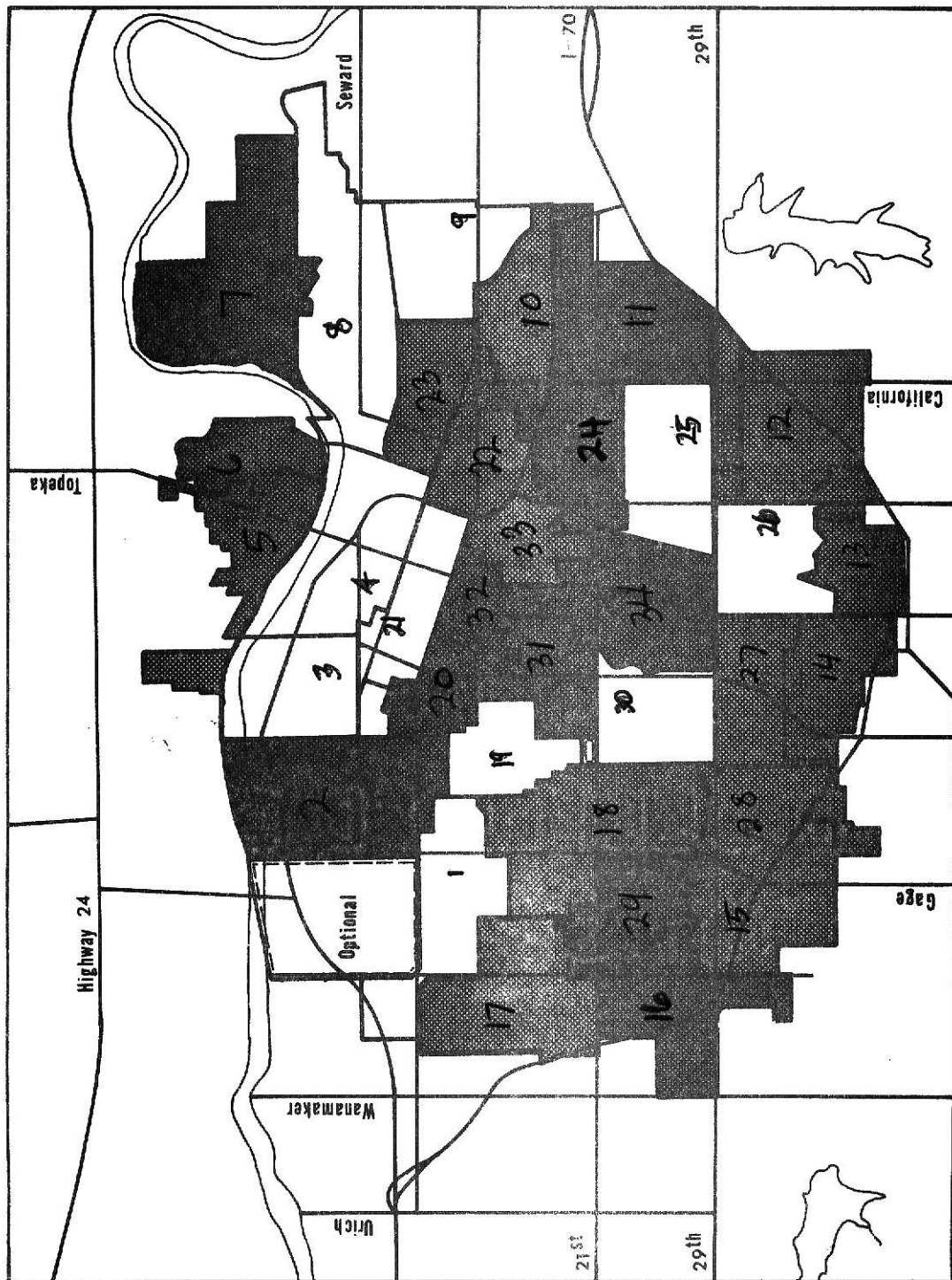
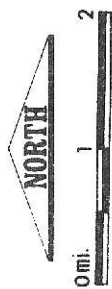
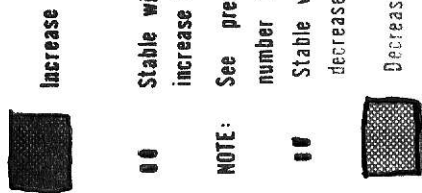
Hudson and McClure should increase because their attendance areas should still be developing residentially. Lafayette should increase despite its past trend of a decline in enrollment. This should be a result of the anticipated construction of new low rent apartments, thus attracting younger families with elementary aged children.

Junior high

The pattern of enrollment in the junior highs schools has

**Figure 39:
Elementary School
Enrollment**

1970 - 75



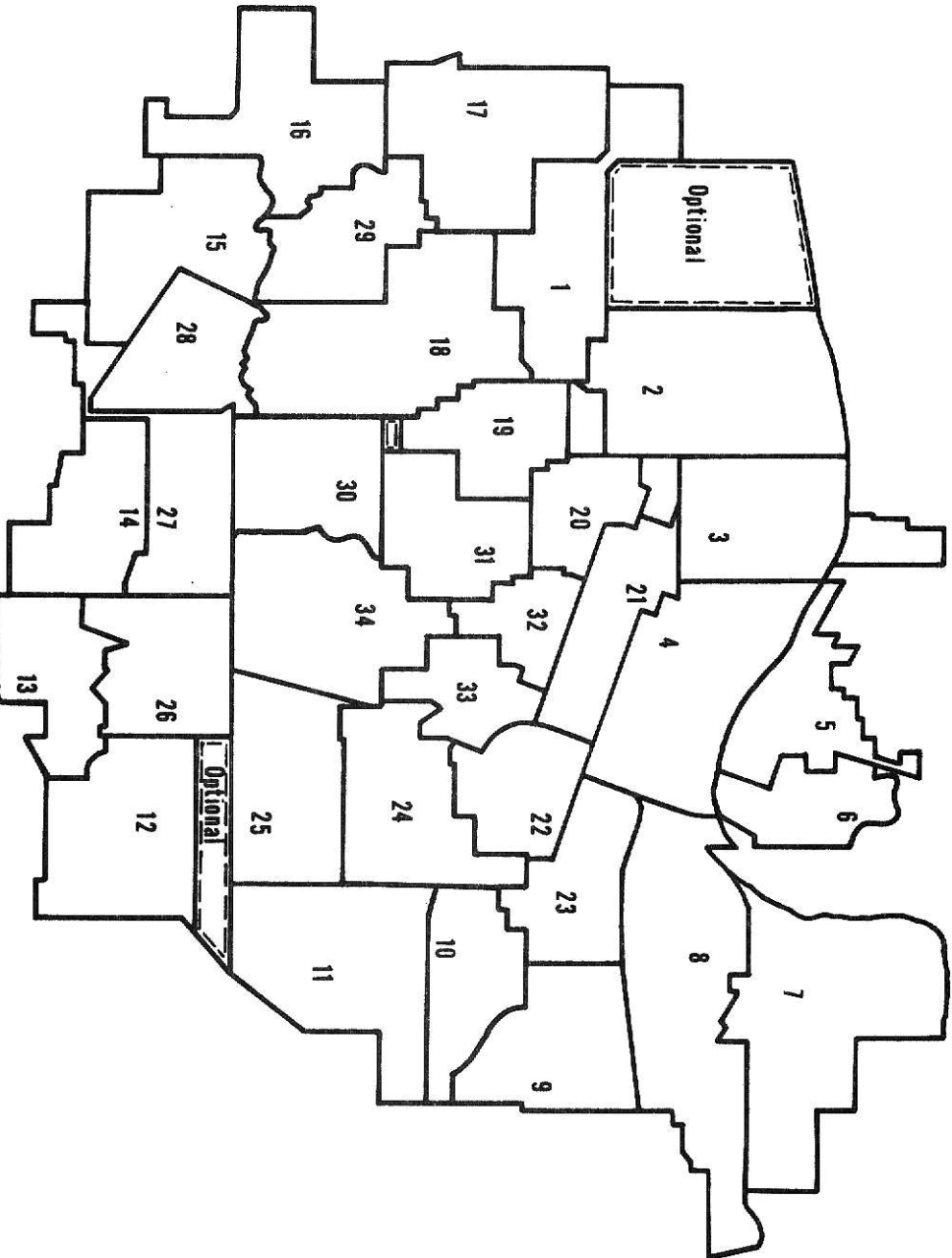


Figure 40:
**Elementary
Attendance Area**

1. SHELDON
2. GAGE
3. POTWIN
4. SUMNER
5. GRANT
6. QUINCY
7. LUNDGREN
8. STATE STREET
9. RICE
10. BELVOIR
11. HUDSON
12. HIGHLAND PARK SOUTH
13. LINN
14. AVONDALE SOUTHWEST
15. McEACHRON
16. McCLURE
17. McCARTER
18. WHITSON
19. RANDOLPH
20. LOWMAN HILL
21. CLAY
22. PARKDALE
23. LAFAYETTE
24. HIGHLAND PARK NORTH
25. HIGHLAND PARK CENTRAL
26. AVONDALE EAST
27. AVONDALE WEST
28. BISHOP
29. CRESTVIEW
30. STOUT
31. CENTRAL
32. POLK
33. MONROE
34. QUINTON HEIGHTS

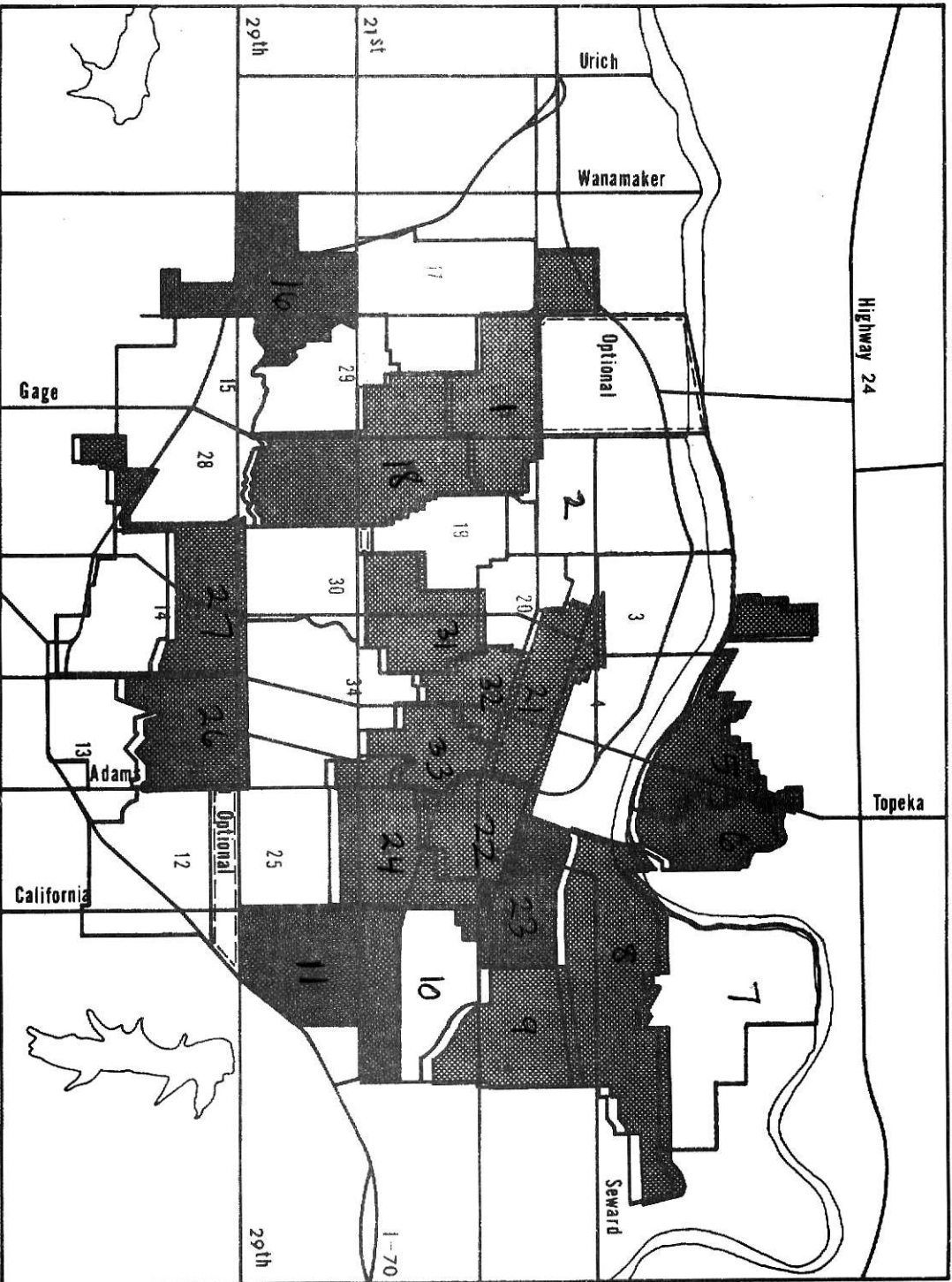



Figure 41;
**Elementary School
Enrollment**

1975 - 80

 **Increase**

 **Stable with 1-10
increase likely.**

NOTE: See preceding for
number identification.
 **Stable with 1-10
decrease likely**

 **Decrease**



TABLE 37
TOPEKA ELEMENTARY SCHOOL ENROLLMENT PROJECTIONS
K-6

School	Effective Capacity	Emergency Capacity	1962	1965	Diff. 62-65	1968
Avondale East*	120/600	120/660	870	629	-241	553
Avondale S.W.	120/390	120/450	463	474	+ 11	471
Avondale West	120/480	120/540	413	541	+118	575
Belvoir	120/450	120/480	385	410	+ 25	516
Bishop	60/300	60/405		371	+ 0	501
Central Park	400	325	400	423	+ 23	364
Clay	60/210	60/300	243	216	- 27	226
Crestview	120/510	120/570	606	565	- 41	531
Gage	120/330	120/380	446	427	- 19	395
Grant	60/420	60/480	376	369	- 7	331
H. P. Central	120/660	120/700	705	674	- 31	674
H. P. North	60/420	60/555	594	564	- 30	513

* 120 Kindergarten pupil capacity
600 Grades 1-6 pupil capacity

TABLE 37 - continued

Diff. 65-68	1970	Diff. 68-70	1975	Diff. 70-75	1980	Diff. 75-80	Diff. 68-80
- 76	512	- 39	521	+ 9	502	- 19	- 51
- 3	483	+ 12	458	- 25	456	- 2	- 15
+ 34	583	+ 8	520	- 63	496	- 24	- 79
+106	512	- 4	484	- 28	482	- 2	- 34
+130	515	+ 14	480	- 35	474	- 6	- 27
- 59	372	+ 8	385	+ 13	374	- 11	+ 10
+10	228	+ 2	232	+ 4	220	- 12	- 6
- 34	512	- 19	551	+ 39	548	- 3	+ 17
- 32	405	+ 10	454	+ 49	456	+ 2	+ 61
- 38	313	- 18	283	- 30	272	- 11	- 59
+ 0	640	- 34	580	- 60	573	- 7	-101
- 51	533	+ 20	554	+ 21	535	- 19	+ 22

TOPEKA ELEMENTARY SCHOOL ENROLLMENT PROJECTIONS
K-6

School	Effective Capacity	Emergency Capacity	1962	1965	Diff. 62-65	1968
H. P. South	60/420	60/505	557	585	+ 28	605
Hudson	60/240	60/300		203	+ 58	333
Lafayette	120/600	120/660	661	640	- 21	463
Linn	120/390	120/450		364	+ 41	408
Lowman Hill	60/390	60/450	409	448	+ 39	391
Lundgren	60/420	60/480	437	436	- 1	404
McCarter	120/450	120/510	580	562	- 18	553
McClure	120/390	120/475	435	549	+114	496
McEachron	120/390	120/	652	414	-238	479
Monroe	60/300	60/360	141	243	+102	192
Parkdale	120/480	120/535	554	466	- 88	374
Polk	60/180	60/240	254	237	- 17	205
Potwin	60/300	60/360	425	407	- 22	367

TABLE 37 - continued

Diff. 65-68	1970	Diff. 68-70	1975	Diff. 70-75	1980	Diff. 75-80	Diff. 68-80
+ 20	611	+ 6	596	- 15	600	+ 4	- 5
+130	393	+ 60	424	+ 31	436	+ 12	+103
-177	441	- 22	416	- 25	456	+ 40	- 7
+ 44	405	- 3	380	- 25	378	- 2	- 30
- 47	401	+ 10	435	+ 34	430	- 5	+ 39
- 32	400	- 4	380	- 20	378	- 2	- 26
- 9	541	- 8	506	- 35	496	- 10	- 57
- 53	526	+ 30	566	+ 40	578	+ 12	+ 82
+ 65	518	+ 39	451	- 67	443	- 8	- 36
- 51	205	+ 13	187	- 18	156	- 21	- 36
- 92	344	- 30	289	- 55	266	- 23	-108
- 32	199	- 6	229	+ 30	210	- 19	+ 5
- 40	360	- 7	356	- 4	352	- 4	- 15

TOPEKA ELEMENTARY SCHOOL ENROLLMENT PROJECTIONS
K-6

School	Effective Capacity	Emergency Capacity	1962	1965	Diff. 62-65	1968
Quincy	60/360	60/420	444	396	- 48	346
Quinton Heights	60/240	60/300	319	323	+ 4	295
Randolph	120/420	120/475	473	501	+ 28	524
Rice	60/390	60/440	310	378	+ 68	327
Sheldon	60/270	60/330	277	346	+ 69	304
State Street	120/390	120/520	562	607	+ 45	551
Stout	120/360	120/420	512	441	- 71	372
Sumner	60/270	60/380	284	293	+ 9	285
Whitson	120/480	120/640	545	445	-100	434
Total K-6 Enrollment			14,332	14,992		14,158

TABLE 37 - continued

Diff. 65-68	1970	Diff. 68-70	1975	Diff. 70-75	1980	Diff. 75-80	Diff. 68-80
- 50	327	- 19	307	- 20	289	- 18	- 57
- 28	302	+ 7	320	+ 18	313	- 7	+ 18
+ 23	506	- 18	497	- 9	496	- 1	- 28
- 51	318	- 9	312	- 6	300	- 12	- 27
- 42	295	- 9	305	+ 10	300	- 5	- 4
- 56	541	- 10	535	- 6	522	- 13	- 29
- 69	356	- 16	359	+ 3	352	- 7	- 20
- 8	309	+ 24	314	+ 5	310	- 4	+ 25
- 11	397	- 37	351	- 46	337	- 14	- 17
14,288		13,908		13,791			

TABLE 38
POPULATION IN SCHOOL ATTENDANCE AREAS
AS A PERCENT OF TOTAL DISTRICT 501 (CITY OF TOPEKA) 1968

	Population in Attendance Area	% of Total Topeka Population	% of Total Elem. School Enrollment
Avondale East	2,459	2.0	3.7
Avondale Southwest	2,995	2.3	3.2
Avondale West	3,335	2.6	4.0
Belvoir	2,365	1.8	3.5
Bishop	3,060	2.4	3.4
Central Park	4,525	3.5	2.5
Clay	5,110	4.0	1.5
Crestview	5,225	4.1	3.6
Gage	4,993	3.9	2.7
Grant	2,003	1.5	2.3
Highland Park Central	5,358	4.2	4.4
Highland Park North	3,909	3.0	3.5
Highland Park South	4,026	3.1	4.2
Hudson	2,284	1.7	2.3

TABLE 38 - continued

Lafayette	3,865	3.0	3.2
Linn	2,799	2.2	2.8
Lowman Hill	4,546	3.5	2.7
Lundgren	3,591	2.8	2.8
McCarter	3,639	2.8	3.8
McClure	4,079	3.2	3.4
McEachron	3,018	2.3	3.3
Monroe	2,802	2.2	1.3
Parkdale	2,160	1.6	2.4
Polk	3,181	2.5	1.4
Potwin	3,707	2.9	2.5
Quincy	2,712	2.1	2.4
Quinton Heights	4,445	3.4	2.0
Randolph	6,016	4.7	3.6
Rice	2,257	1.7	2.2
Sheldon	3,842	3.0	2.1
State Street	6,060	4.7	3.8
Stout	4,273	3.3	2.5
Sumner	4,637	3.6	1.9
Whitson	3,699	2.9	2.7
	<u>127,165</u>		

been different, generally, than the corresponding elementary attendance areas which feed pupils into each junior high. The main reason for this has been the high turnover of families when their children have reached the junior high age group.

However, this pattern of student turnover has not been characteristic in all sections of the districts junior high enrollment. Although there has been a high mobility in the city of Topeka, many families are content to remain in their attendance area until their children have graduated from junior high or high school.

Five sections of the district have shown significantly different patterns of junior high enrollment. They are:

1. The central core - The highest turnover of population has been experienced in the central core of the city. From 1962 to 1968 this turnover did not seem to affect the stable enrollment size of the junior high schools whose boundaries coincided with the central area of the city. (See Figure 42 and Table 39) This was mainly due to the fact that there were approximately the same number of junior high school students moving out of the area as there were moving into the area.

After 1970 this pattern should change as there should not be this equal replacement of junior high aged children. Thus a decrease in junior high enrollment from 1970-1980 can be anticipated for those schools whose boundaries coincide with the central area of Topeka. (See Figure 42 and Table 39).

2. Middle ring - This area has experienced a high turnover in population. However, there has been a high proportion

of families who have delayed moving out of this area until their children have finished junior high school. This can be considered an important factor in the stable junior high enrollment from 1962-1968 that was characteristic of those schools whose attendance areas corresponded to the middle ring of the city. (See Table 39 and Figure 42). In the future this area should not experience the migration of families with school aged children. This should be due to the increase in commercial, office and institutional activities along with apartments for the elderly. Thus from 1970-1980 the junior high schools generally corresponding to this area should decrease in size of enrollment.

3. East Topeka - This area is heavily populated with black families. It has had a high degree of mobility. However, the population has remained stable. From 1962-1968 the enrollment of the East Topeka junior high school increased in size. From 1970-1980 the enrollment size should remain stable, with the possibility of a slight increase. The junior high enrollment here should be affected by the patterns of enrollment at the corresponding elementary school attendance areas that feed into the East Topeka junior high. (See Table 39).

4. Southwest part of the district - The major impact in junior high enrollment has been at those schools whose attendance areas are in this section of the district. From 1962-1968 the increases at the junior high level in this area had an impact on the enrollment capacities of the Landon and

Jardine junior high schools. However, the completion of the new Marjorie French junior high school in 1970 should alleviate the enrollment pressure at Landon and Jardine. In fact, between 1970-1980 these schools should probably decline in their enrollment size. This should be a result of the increasing amount of commercial and apartment activity that is likely to take place in areas corresponding to the boundaries of Landon and Jardine junior high schools. (See Table 39).

5. Southeast - From 1962-1968 the junior high schools whose attendance areas were in this section of the district had increased in enrollment size. This was mainly due to the fact that the area had generated a considerable amount of growth through young families with school aged children. They were attracted to this area generally by the availability of rental houses and conventional and low income apartments. Since many of the residents in the area were employed at Forbes Air Base, DuPont and Santa Fe, there was a considerable amount of mobility. However, this mobility has not changed the size or composition of the population very much.

From 1970-1980 the enrollment trend at the junior high schools in the area should follow the same general pattern as between 1962-1968. This should be due to continued attraction of low income apartments, rental housing and higher density residential development.

High school

The enrollment size of the three high schools in the Topeka school district should depend mainly on the junior high

TABLE 39

TOPEKA JUNIOR HIGH SCHOOL ENROLLMENT PROJECTIONS
7-9

School	Effective Capacity	Emergency Capacity	1962	1965	Diff. 62-65	1968
Boswell	650		467	556	+ 89	575
Capper	600	600	749	641	-108	568
Crane	450		341	355	19	334
Curtis	450		338	294	44	252
East Topeka	800		529	564	35	567
Eisenhower	750		329	468	+139	521
H. P. Jr. High	520	545	461	499	+ 38	556
Holliday	450		411	418	+ 7	413
Jardine	750	775	582	809	+227	910
Landon	375	450		280	+ 48	507
Roosevelt	500	550	467	492	+ 25	473
Marjorie French	450					
Jardine	750	775	582	809	+227	910
Landon	375	450		280	+ 48	507
Total 7-9 Enrollment			4674	5349		5676

* New Marjorie French Expected Completion Date - Including Annexed Land.

** Effects of Boundary Change on Jardine and Landon.

TABLE 39 - continued

Diff. 65-68	1970	Diff. 68-70	1975	Diff. 70-75	1980	Diff. 75-80
+ 19	578	+ 3	589	+ 11	560	- 29
- 74	560	- 8	566	+ 6	521	- 45
11	360	+ 26	325	- 35	290	- 35
42	262	+ 10	247	- 15	220	- 27
3	590	+ 23	633	+ 43	604	- 29
+ 53	550	+ 29	621	+ 71	631	+ 10
+ 57	584	+ 28	615	+ 31	625	+ 10
- 5	415	+ 2	402	- 13	376	- 26
+ 101	1007	+ 97				
+ 227	551	+ 44				
- 19	474	+ 1	480	+ 6	440	- 40
	*400		540	+140	569	+ 29
+ 101	810	-100	800	- 10	732	- 68
+ 227	**441	- 66	411	- 30	405	- 6
6024		6229		5973		

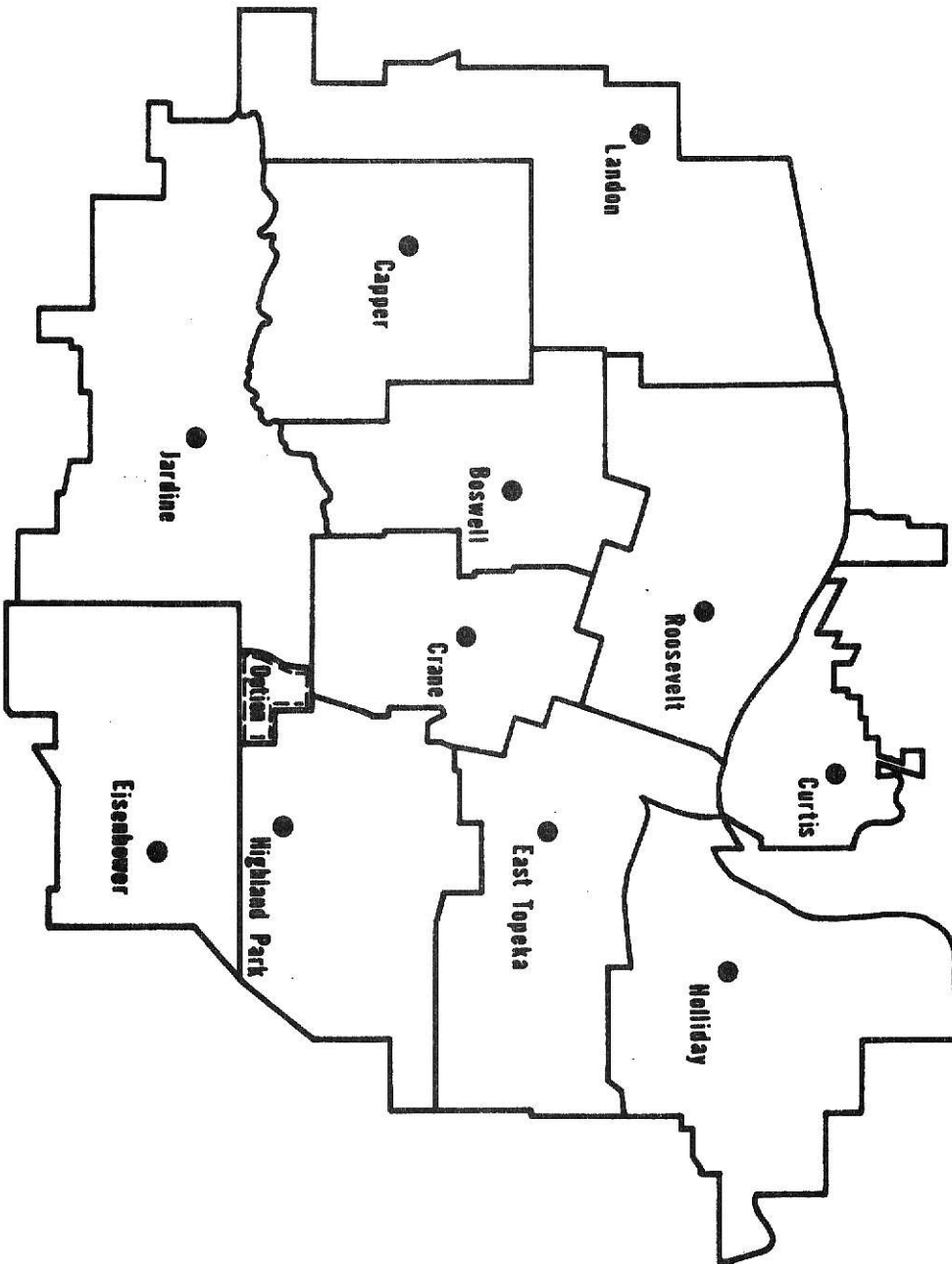


Figure 42:
**Junior High
Attendance Area**

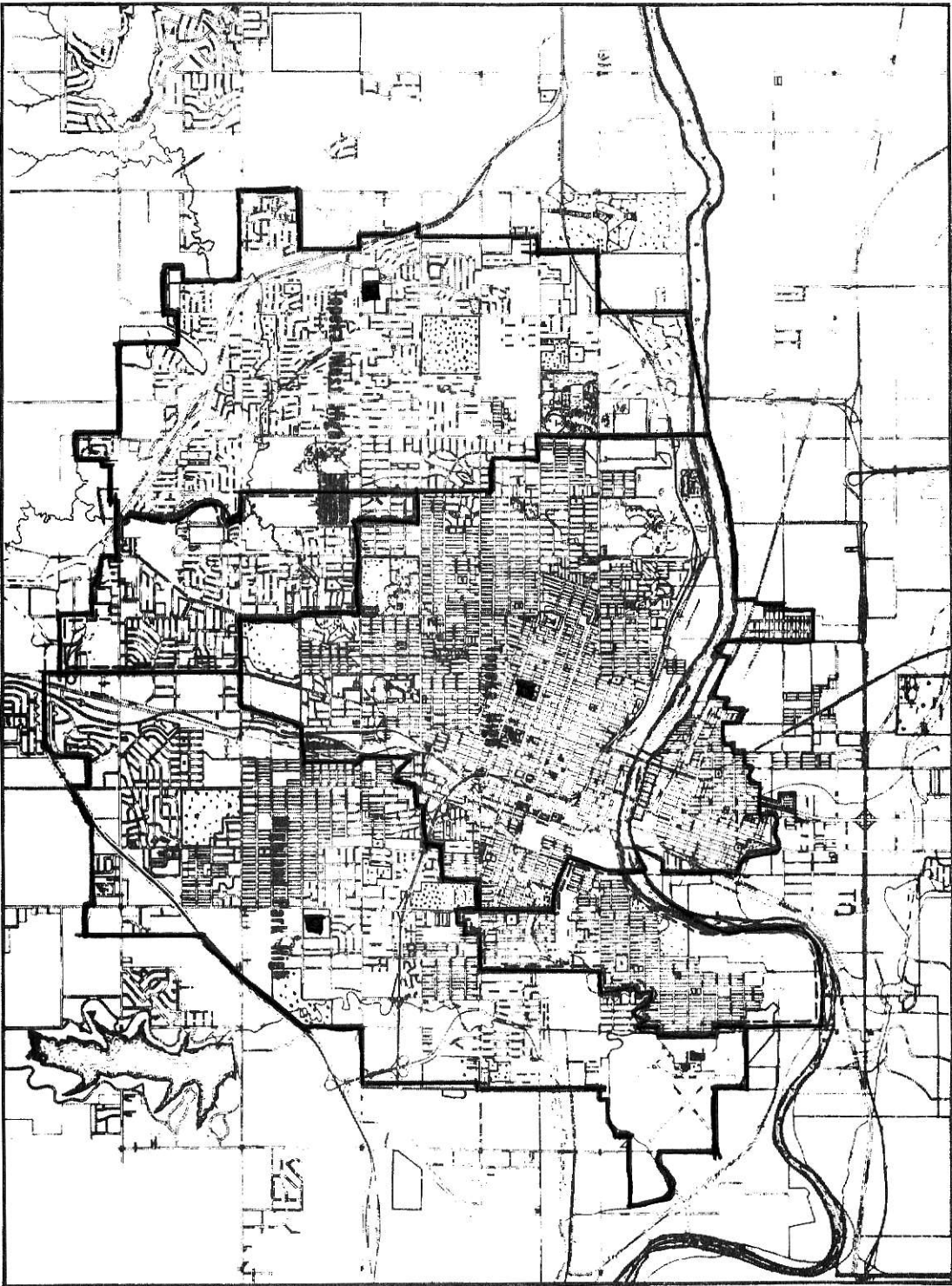


Figure 43:
Senior High
Attendance Area



schools whose attendance boundaries feed into the three high schools.

1. Topeka High - From 1970-1980 the Topeka high school should continue to have the largest of the three high school enrollments. From 1970-1975 the enrollment should increase at a decreasing rate. After 1975 a decline in pupil size can be expected. This should be due to several factors. (See Table 40).

a. A large number of families are likely to move out of the Topeka high district before their children reach high school age.

b. According to preliminary land use plan, most of the new development that should take place within the boundaries of the Topeka high school will be devoted to commercial, industrial, or multifamily uses. Multifamily uses are expected to be developed into apartment complexes which should attract elderly, married without children, and/or single people primarily.

c. Those families moving into the Topeka high area should generally be younger, and their children should be most characteristic of elementary and junior high ages.

2. Topeka West - The Topeka West high school should have the highest growth in enrollment of the three high schools from 1970-1980. Its largest increase in enrollment should take place from 1975-1980. (See Table 40). Increases in enrollment size in the district should be due mainly to

TABLE 40
TOPEKA HIGH SCHOOL ENROLLMENT PROJECTIONS
10-12

School	Effective Capacity	Emergency Capacity	1962	1965	Diff. 62-65	1968
Topeka High	2472		1936	2131	+191	2079
Topeka West	1300	1425	929	1252	+323	1561
Highland Park	1300		888	1085	+197	1426
Total 10-12 Enrollment			3753	4468		5066

Note: These figures do not take into account the high school dropout rate.

TABLE 40 - continued

Diff. 65-68	1970	Diff. 68-70	1975	Diff. 70-75	1980	Diff. 75-80
- 52	2460	+381	2845	+385	2730	-115
+309	1699	+138	2108	+409	2373	+265
+341	1540	+114	1761	+221	1839	+ 78
	5699		6714		6942	

generation of newly developing residential sections in the southwest part of the district. A substantial amount of this residential development should be in the form of single family units. This should attract families with school age children. (See Preliminary Land Use Plan.)

3. Highland Park - The Highland Park high school should continue to have the smallest of the three high school enrollments. Its enrollment size should increase an average of 30 students a year between 1970 and 1980. (See Table 40). Although the area should have a high mobility rate it should still generate enough new residential development to attract families with school aged children. The area should have a good mixture of housing units. This would include single family rentals and low income and conventional apartments.

Note: Two optional areas should continue to operate in this district. They would be in the southwest part of the district and the Oakland section of the district.

Shawnee Heights

Total School Enrollment

The Shawnee Heights district had a steady increase in total pupil enrollment from 1962 to 1968. In the future this steady increase in enrollment should continue. (See Table 41 and Figure 41). This should be due to the increase in construction of single family units in the area. The result of this would indicate the addition of several new schools beginning in 1970.

TABLE 41

HISTORY OF PUPIL ENROLLMENT - SHAWNEE HEIGHTS DISTRICT

	Grade Level	1962	Difference 1962-67	1967	Difference 1962-68	1968	Considering jr. high
Tecumseh North	K-9	304	+195	499	+ 22	521	K-6 (301)
Berryton	K-9					385	K-6 (312)
Tecumseh South	K-6	299	+121	420	+ 10	430	K-6 430
New Junior High		---		---		---	7-9 441
Shawnee Heights	9-12	263	+186	499	+ 54	503	10-12 359
Total		866	+503	1368	+471	1839	1839

Note: Tecumseh North will be operating as a K-9 until construction of junior high in 1970.

Tecumseh South will continue to operate as a K-6 unit.

Berryton will operate as a K-9 until 1970.

Shawnee Heights high school will continue to operate as 9-12 unit until 1970. After 1970 when new junior high is constructed, Tecumseh North and Berryton will operate as K-6 units and Shawnee Heights will operate as a 10-12 unit.

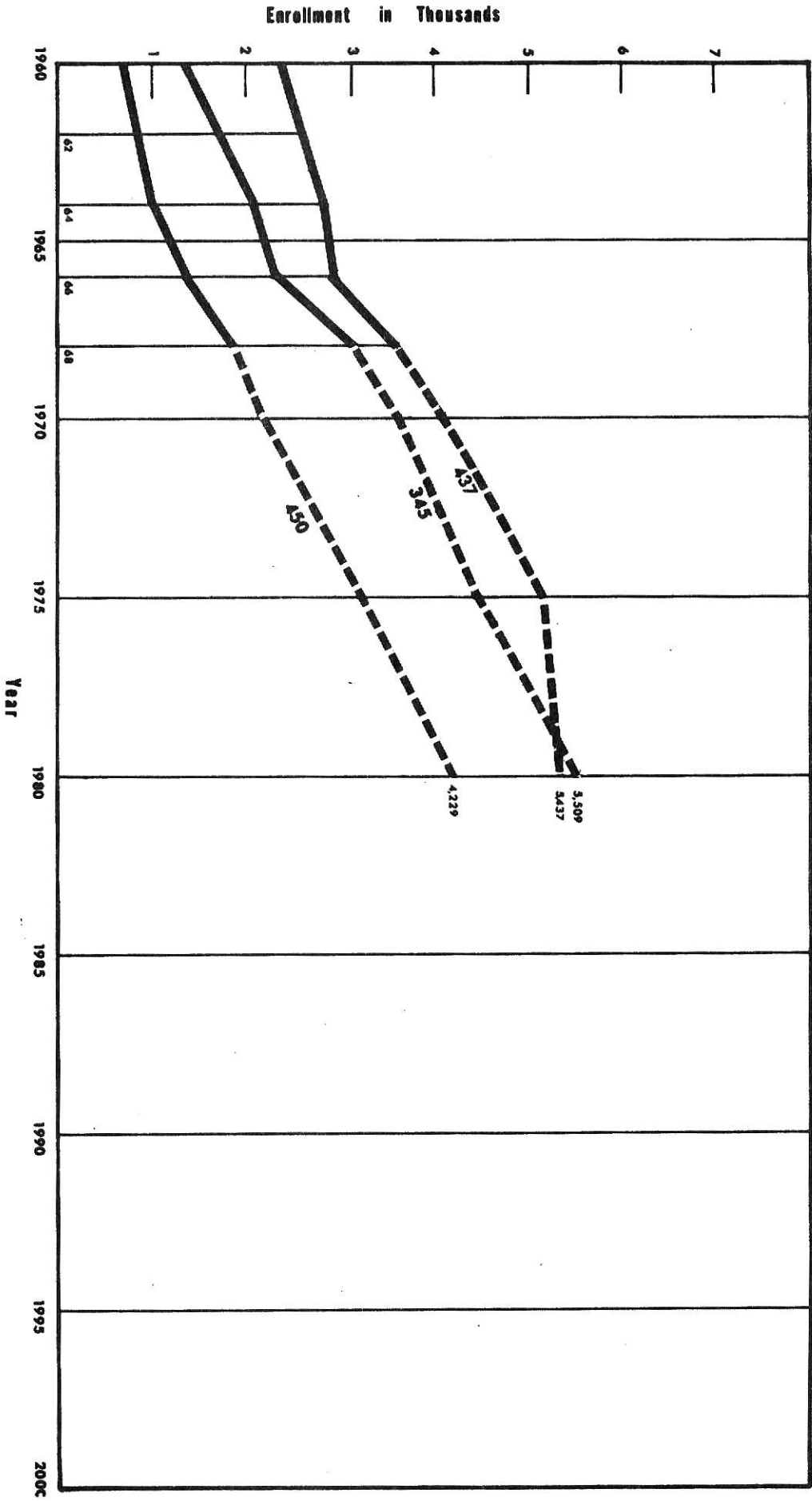


Figure 44:
Districts 345, 437, 450 Enrollment Forecast

Enrollment at Various Grade Levels

Enrollment increase in the past (prior to 1968) had been concentrated at both K-6 and 10-12 grade levels. Enrollment increase in the future should be concentrated at the elementary school level. This should be due to the attraction of young families with higher ratio of school age children per dwelling unit. (See Table 42).

From 1970-1975 the elementary schools (K-6) should experience the highest rate of growth, approximately 50 percent. During the same period junior high and senior high enrollments should increase at an equal rate.

From 1975-1980 junior high enrollment should experience the highest rate of growth, approximately 46 percent. This would follow the large increase in elementary school enrollment five years before. The elementary and senior high grade levels should increase at approximately an equal rate during this period. After 1980 for approximately a five-to-ten-year period the major impact in enrollment should be felt at the senior high level. This would indicate a difference as compared to the forecasted national growth rates for high schools, which shows high schools to begin a long term decline after 1976.

The Shawnee Heights District has been under an 8-4 grade level organization. Berryton and Tecumseh North have been serving grades K-9. Tecumseh South has been serving grades K-6. Shawnee Heights high school has been serving grades 9-12.

TABLE 42
PERCENT OF PROJECTED ENROLLMENT INCREASE
AT EACH GRADE LEVEL - SHAWNEE HEIGHTS

	1968-1970	1970-1975	1975-1980
Population Increase	12.4	27.7	36.1
Enrollment Increase	16.9	41.1	36.8
Elementary School Increase	21.8	50.9	34.3
Junior High School Increase	3.2	27.2	45.9
Senior High School Increase	18.4	27.0	36.1

When the new junior high is built in 1970, the district will change to a 6-3-3 grade organization level. Enrollment projections were made to accommodate this new grade organization.

Enrollment at Various Schools

Projections for each individual school were made with the knowledge that some enrollment projections would put some schools well over capacity. However, additional schools were recommended on the basis of the difference between the enrollment projection and the capacity of the schools.

Elementary enrollment

Prior to 1968 Tecumseh North had the largest of the elementary school enrollments. This was due to the fact that it was operating at a K-9 grade level and there were a large number of rental homes in the district. After 1970 Tecumseh South should experience the largest increase in pupil enrollment. Berryton and Tecumseh North should increase substantially; but not at the rate of increase of Tecumseh South.

After 1975 the Berryton elementary school should begin to increase at a faster rate than Tecumseh North. This should result from the attendance area acquiring its own sewage treatment center. This should be facilitated by the construction of Clinton Reservoir. (See Table 43).

Junior high and high school enrollment

Prior to 1968, the major impact of upper grade level enrollment came from the Tecumseh North attendance area.

TABLE 43
SHAWNEE HEIGHTS ENROLLMENT PROJECTIONS

School	1968 Grade Level	Effective Capacity	1968	Percent	1970	Percent
Tecumseh North	K-9	437	521	38.9	*341	25.3
Tecumseh South	K-6	430	430	41.2	546	40.6
Berryton	K-9	450	385	28.8	*384	34.0
Junior High		750			455	100.0
Shawnee Heights	9-12	450	503	100.0	*425	100.0
Total			1,839		2,151	
Total K-6			1,043		1,271	
Total 7-9			441 ^a		455	
Total 10-12			359		425	

^aNot in existence until 1970.

*Enrollment without junior high aged children.

TABLE 43 - continued

Diff. 68-70	1975	Percent	Diff. 70-75	1980	Percent	Diff. 75-80
+ 40	480	24.1	+139	636	24.0	+156
+116	871	43.7	+325	1,163	43.9	+292
+ 72	567	32.1	+183	777	32.0	+210
+ 14	579	100.0	+124	845	100.0	+266
+ 70	540	100.0	+115	735	100.0	+195
	3,037			4,156		
	1,910			2,576		
	579			845		
	540			735		

A new junior high school has been planned for location in the Tecumseh South area for 1970. It will be situated adjacent to the Shawnee Heights high school. (See Figure 44). This new junior high should accommodate the overflow of seventh and eighth and ninth grade students at Berryton and Tecumseh North and ninth grade students at Shawnee Heights.

After 1970 the major impact of junior high and senior high enrollment should come from the Tecumseh South attendance area. (See Table 43).

Seaman

Total School Enrollment

The Seaman school district had a steady increase in total enrollment from 1962-1968. In the future (1970-1980) a steady increase in total enrollment (about 200 pupils per year) should continue. (See Table 44). The result of this would indicate the addition of several new school facilities beginning in 1970.

Enrollment increase in the past (1964-1968) has been concentrated at all grade levels. The highest growth rate (1966-1968) in total enrollment was the result of the larger increase of elementary school attendance. (See Table 45).

Enrollment at Various Grade Levels

Enrollment increases in the future should be substantial at all grade levels. The highest rate of growth should be experienced in the elementary school grades. (See Table 45).

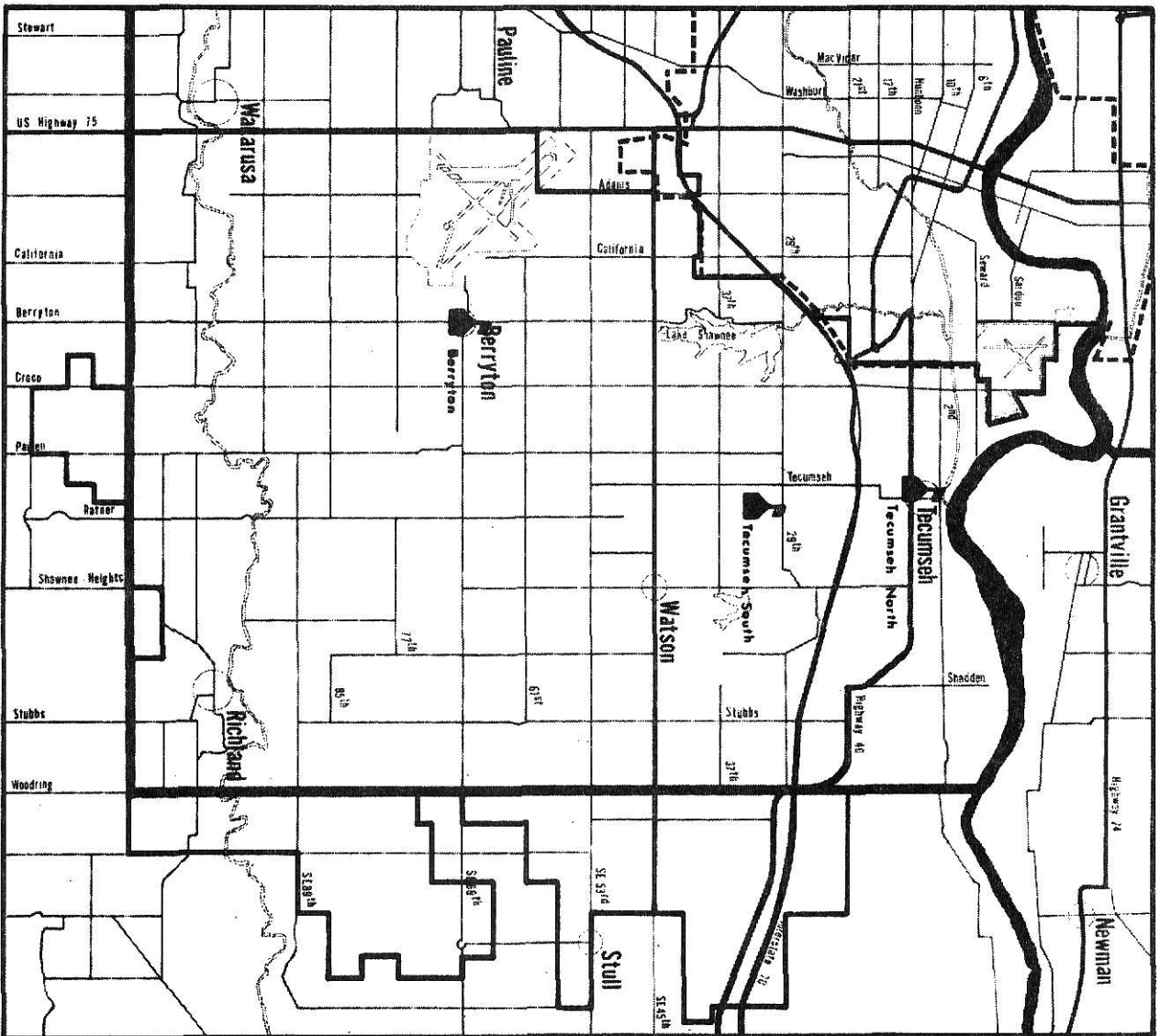


Figure 45:
USD 450 Projected
Elementary Schools
and
Attendance Areas

1968

EXISTING



HISTORY OF PUPIL ENROLLMENT - SEAMAN

	Grade Level	1962	% of District	Difference 1962-67	1967	Difference 1967-68	1968	% of District
Capital View	1-6						29	1.7
Elmont	1-6						72	4.4
North Fairview	1-6						126	7.7
Indian Creek	K-6	142		+103	245	+ 9	254	15.6
East Indianola	K-6	368		- 93	275	+ 72	347	21.3
West Indianola	1-6	92		+ 24	116	- 15	101	6.2
Kaw Valley	1-6	32		- 3	29	- 1	28	1.7
Lyman	K-6				166	+ 7	173	10.6
Pleasant Hill	K-6	144		+ 46	191	+ 46	237	14.6
Rochester	K-6	358		- 48	310	- 9	301	18.5
Northern Hills	7-9				445	- 4	680	100.0
Seaman	10-12	607	100.0	+ 27	634	+ 49	683	100.0
Total		1744		+667	2411	+620	3031	

Note: Some elementary schools do not have a kindergarten; so students living in that attendance area attend kindergarten at another school. They do start first grade in their own attendance area.

This would be due to the migration of young families into the district with a high ratio of elementary aged children per dwelling unit.

The junior and senior high schools should also experience growth in their pupil enrollment. This should be true especially after 1970 as families become established and start to raise older children. As a result of the anticipated increase in total enrollment in the district, several new schools should be needed after 1970.

As shown in Table 45 from 1970 to 1975 enrollment increases should continue to take place at all grade levels. Elementary schools should experience the highest rate of growth. The junior and senior high schools should also contribute substantially to the impact of total enrollment.

From 1975 to 1980, increases in the rate of enrollment should be well balanced at all grade levels. However, the junior high enrollment should experience the highest rate of growth. (See Table 45). This should be a result of the large number of elementary students from 1970 to 1975 that will be entering junior high after 1975.

After 1980 the most substantial growth rates should be taking place at the senior high school grade level. The elementary enrollments should continue to increase at a substantial rate if a large number of high school graduates remain in the district, marry and begin to raise families.

TABLE 45
PERCENT OF PROJECTED ENROLLMENT INCREASE
AT EACH GRADE LEVEL - SEAMAN DISTRICT

	1968-1970	1970-1975	1975-1980
Population Increase	11.9	34.8	21.5
Enrollment Increase	14.2	23.4	25.2
Elementary School Increase	23.4	26.8	23.6
Junior High School Increase	12.9	20.3	27.8
Senior High School Increase	7.9	17.2	25.8

Enrollment at Various Schools

Enrollment projections for each individual school were made with the knowledge that some enrollment projections would put some schools well over capacity. However, additional schools will be recommended on the basis of differences between the enrollment projection and the capacity of the school.

Elementary school

Prior to 1968 the largest or highest concentration of elementary enrollments were experienced at the East Indianola, Indian Creek, Rochester, and Pleasant Hill schools. Rochester and East Indianola experienced the earliest growth in enrollment because the district initially developed in these attendance areas. Pleasant Hill and Indian Creek recently have begun to feel the newest increase in enrollment. (See Table 46). This would be mainly due to the development of new subdivisions in their attendance areas.

As shown in Table 46 from 1970-1975 the largest enrollment increases should take place in the Indian Creek, Pleasant Hill, East Indianola, and West Indianola attendance areas. Rochester should also be growing in enrollment, but not at as high of a rate as the others.

The following factors would be attributed to the anticipated elementary school growth in these attendance areas.

1. East Indianola - Low income housing which should attract a large number of young families and approximately 20% of those students who live in the West Indianola attendance area attend

TABLE 46
SEAMAN ENROLLMENT PROJECTIONS

School	Present Grade Level	Effective Capacity	1968	Percent	1970	Percent
Capital View	1-6	50	29	1.7	30	1.4
Elmont	1-6	100	72	4.4	88	4.2
North Fairview	1-6	150	126	7.7	146	7.0
Indian Creek	K-6	350	254	15.6	320	15.5
East Indianola	K-6	420	347	21.3	569	27.6
West Indianola	1-6	101	101	6.2	95	4.6
Kaw Valley	1-6	28	28	1.7	28	1.3
Lyman	K-6	300	173	10.6	177	8.6
Pleasant Hill	K-6	180	237	14.6	299	14.6
Rochester	K-6	330	301	18.5	307	14.9
Northern Hills	7-9	542	680	100.0	768	100.0
Seaman	10-12	600	683	100.0	737	100.0
Total			3031		3564	
Total Elementary			1668		2059	
Total Junior High			680		768	
Total High School			683		737	

TABLE 46 - continued

Diff. 68-70	1975	Percent	Diff. 70-75	1980	Percent	Diff. 75-80
+ 1	35	1.3	+ 5	45	1.3	+ 10
+ 16	120	4.5	+ 32	149	4.6	+ 29
+ 20	186	7.1	+ 40	243	8.0	+ 57
+ 66	507	19.5	+187	633	20.4	+126
+222	683	26.1	+114	828	24.6	+145
- 6	85	1.0	+ 10	105	3.2	+ 20
+ 0	26	.8	- 2	26	.8	+ 0
+ 4	194	7.4	+ 17	219	6.7	+ 25
+ 62	429	16.4	+130	571	18.0	+142
+ 6	347	13.2	+ 40	412	12.7	+ 65
+ 88	924	100.0	+156	1181	100.0	+257
+ 54	864	100.0	+127	1097	100.0	+223
	4400			5509		
	2612			3231		
	924			1181		
	864			1097		

the elementary school. Eighty percent attend the East Indian-ola elementary school.

2. West Indianola - Should be affected by the attraction of young but established families along Highway 75.

3. Indian Creek - Should be affected by commercial development, a new high school in the attendance area, and the expansion of sanitary sewer lines.

4. Pleasant Hill - The Pleasant Hill housing development and the development in the West Hills Drive region, which are in close proximity to the elementary school, should attract young families.

Junior high and senior high school enrollment

Most of the students who have attended the junior high school have lived south of Highway 24. The reason for the higher concentration of students coming from this area has been that this is where the highest density of population has been located. However, in the future the senior high enrollment should shift and be concentrated north of Highway 24. This could be attributed to two factors:

1. The families in the south part (south of Highway 24) of the district should be aging with their children graduating out of junior and senior high. Most of these families can be expected to remain in the area. Therefore, it is unlikely that a new group of children of senior high school age would replace those who would be graduating.

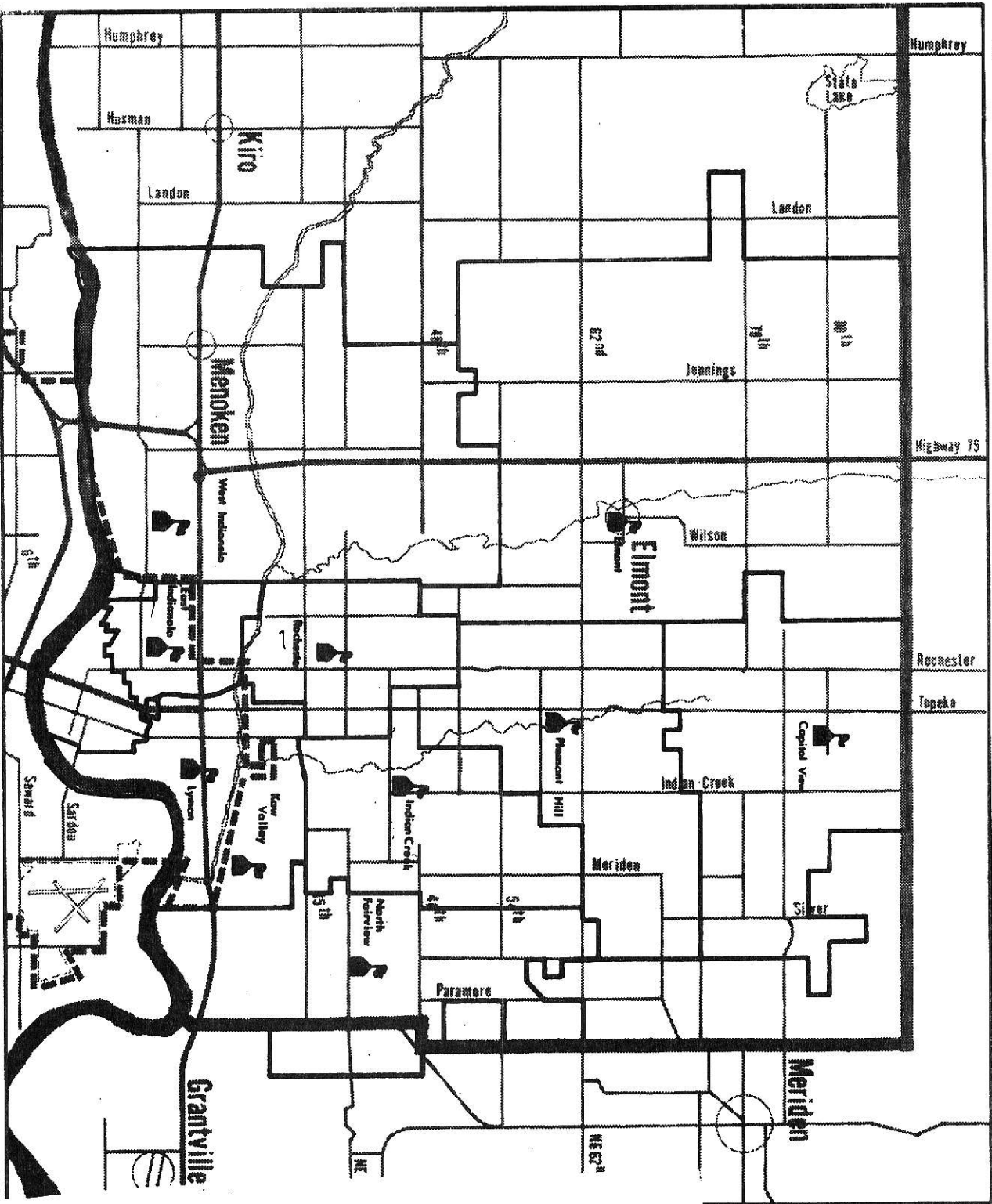
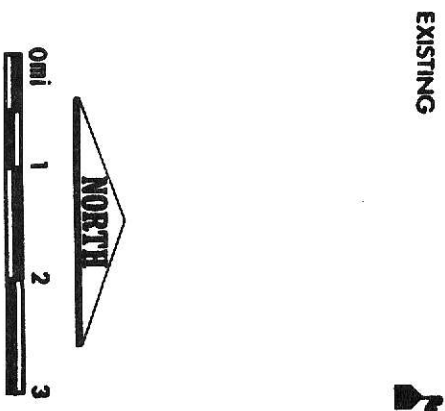


Figure 46:
USD 345 Projected
Elementary Schools
Attendance Areas
1968



2. The growth of new residential areas north of Highway 24 should attract a large number of families whose children will be in elementary and junior high school group.

The senior high enrollment should experience a similar shift of enrollment from the south part of the district to the north. However, this impact on enrollment should take place at a later date than shall be experienced by the junior high school.

Washburn Rural

Total School Enrollment

The Washburn Rural school district had a slight increase in school enrollment from 1962-1968. This enrollment increased sharply from 1967-1968. (See Table 47). This was attributed to the development of several new residential subdivisions in the Auburn and Sunny Elevation attendance areas.

The total enrollment for the district in the future (1968-1980) should experience a substantial increase. However, the growth should be irregular. This would be attributed to the change of operations at Forbes Air Base. Nevertheless, there should be a need for additional school facilities over a twelve year period (1968-1980). (See Table 49).

Enrollment at Various Grade Levels

As shown in Table 48 enrollment increase should be taking place at all grade levels. The highest rate of growth should be experienced at the secondary grade levels (7-9, 10-12).

TABLE 47

HISTORY OF PUPIL ENROLLMENT - WASHBURN RURAL

	Grade Level	1962	Difference 1962-67	1967	% of District	Difference 1967-68	1968	% of District
Auburn	K-6						245	4.6
Pauline East	K-6	300	- 12	288		- 3	285	5.3
Pauline Central	K-6	719	- 29	690		- 7	683	12.8
Pauline South	K-6	6617	- 26	621		- 6	615	11.5
Sunny Elevation	1-6	64	+ 59	123		- 2	121	2.2
Wakarusa	1-6						64	1.2
Wanamaker	K-6	267	+ 13	280		+ 46	267	5.3
Auburn Jr.	7-9						141	22.8
Jay Shieldler	7-9			435	100.0	+ 24	640	77.2
Washburn Rural	10-12	598	- 97	501	100.0	+ 27	528	100.0
Total		2598	+350	2938		+651	3589	

This would be attributed to the large number of established families moving into the district who will be raising older children. This should be mainly characteristic of the Wana-maker and Sunny Elevation attendance areas.

The elementary grade levels should not experience as substantial an increase in pupil enrollment as the secondary grades.

This would be due to the constant turnover of military personnel whose children are most characteristic of the primary grade levels. (See Table 48).

As shown in Table 48 from 1970-1975 enrollment increases should take place at all grade levels. The rate of increase should be substantially higher than the period from 1968-1970. This should be generated by the development of large subdivisions in the area and the anticipated addition of 3,000 military personnel at Forbes Air Base. An estimated 600 new housing units would be needed to accommodate this growth at the air base. As a result of this the elementary grade levels should experience the major impact of growth.

From 1975-1980 all grade levels should increase in enrollment, but at a substantially lower rate than the previous five year period. (See Table 48). This should be due to two factors:

First, a large number of children living in attendance areas outside the base area should be graduating from high school.

TABLE 48
 PERCENT OF PROJECTED ENROLLMENT INCREASE
 AT EACH GRADE LEVEL - WASHBURN RURAL DISTRICT

	1968-1970	1970-1975	1975-1980
Population Increase	11.2	32.6	31.7
Enrollment Increase	13.9	26.4	5.1
Elementary School Increase	4.9	17.4	5.5
Junior High School Increase	16.1	33.5	3.9
Senior High School Increase	30.6	44.3	5.3

Secondly, the air base should have its operations back to normal growth, in which case, the impact of a constant turn-over of population on the size of enrollment could once again be experienced.

After 1980 it should be extremely difficult to develop any foresight as to the possible patterns of enrollment growth in the Washburn Rural District. This would be due primarily to the uncertainty of the military operations at Forbes Air Base.

Enrollment at Various Schools

Projections for each individual school were made with the knowledge that some enrollment projections would be over capacity. However, additional schools were recommended on the basis of differences between the enrollment projection and the capacity of the school.

Elementary school

Prior to 1968 the largest concentration of elementary school enrollments was experienced at Pauline South and Pauline Central. (See Table 47).

From 1968-1975 the largest enrollment increase should be experienced at Pauline Central. This should be attributed to two major factors:

First, the larger sized families should move into this attendance area. They should be attracted by the new Capehart Division which was made (three to four bedrooms; 417 units) for large families (five and over).

Secondly, this attendance area should anticipate the addition of 600 new units on the air base, in which to accommodate the anticipated addition of 3,000 military personnel.

The Pauline East elementary school should increase its enrollment. However, it will not be as substantial an increase as Pauline Central.

As shown in Table 49 from 1975-1980 the largest elementary school enrollment increase should be experienced at Pauline East. This would be due to the anticipated increase in number of housing units in the area.

Pauline Central should experience the largest decline in enrollment from 1975-1980. This would be a considerable change from its previous five-year projection. The reason for this change should be attributed to the large number of children who will have graduated or moved out of the district and the smaller number of children who should be replacing them.

Junior high enrollment

From 1968-1970 Auburn junior high should experience a high increase in pupil enrollment. (See Table 49). This would be due mainly to the fact that they have been accommodating the overflow of students from Jay Shieldler. This overflow has been composed of children coming from Forbes Air Base.

From 1970-1975 both Auburn and Jay Shieldler should experience a high increase in pupil enrollment. The major impact should, however, be felt at Jay Shieldler. Two factors should contribute to this. (See Table 49).

TABLE 49
WASHBURN RURAL ENROLLMENT PROJECTIONS

School	Present Grade Level	Effective Capacity	1968	Percent	1970	Percent
Auburn	K-6	275	245	10.7	253	10.6
Pauline East	K-6	300	285	12.5	336	14.2
Pauline Central	K-6	580	683	29.9	661	27.9
Pauline South	K-6	800	615	26.9	633	26.7
Sunny Elevation	1-6	150	121	5.3	141	5.9
Wakarusa	1-6	100	64	2.8	71	3.0
Wanamaker	K-6	300	267	11.7	297	12.5
Auburn Junior	7-9	141	141	18.0	313	34.5
Jay Shiedler	7-9	600	640	81.9	594	65.4
Washburn Rural	10-12	600	528	100.0	790	100.0
K-6			2280		2392	
Jr. High			781		907	
High School			<u>528</u>		<u>790</u>	
Total			3589		4089	

TABLE 49 - continued

Diff. 68-70	1975	Percent	Diff. 70-75	1980	Percent	Diff. 75-80
+ 8	262	9.3	+ 9	289	9.7	+ 27
+ 51	426	15.1	+ 90	516	17.3	+ 90
- 22	876	31.1	+215	766	25.8	-110
+ 18	651	23.1	+ 18	700	23.6	+ 49
+ 20	180	6.4	+ 39	218	7.3	+ 38
+ 7	82	2.9	+ 11	95	3.2	+ 13
+ 30	333	11.8	+ 36	382	12.8	+ 49
+172	426	35.1	+113	446	35.4	+ 20
- 56	785	64.8	+191	813	64.5	+ 28
+162	1150	100.0	+360	1212	100.0	+ 62
	2810			2966		
	1211			1259		
	<u>1150</u>			<u>1212</u>		
	5171			5437		

First, there should be an additional number of military personnel at Forbes Air Base who should be rearing children in junior high school; and second, those families moving into the Wanamaker and Sunny Elevation attendance areas should also be rearing a large number of junior high school age children.

As shown in Table 49, from 1975-1980 both junior high districts are likely to increase in enrollment. This increase, however, should be slight. This should be attributed to the large number of students who will be graduating from junior high school, and the smaller number who should be replacing them.

High school enrollment

The highest concentration of high school enrollment in Washburn Rural should be located in areas which will be growing through large subdivisions. The Sunny Elevation and Wanamaker attendance areas (Sherwood Estates) should be most characteristic of this growth. The families that should be attracted to these areas should be well established and rearing older children.

ENROLLMENT IMPACT ON EXISTING FACILITIES

Topeka School District

The enrollment projections for the Topeka School District indicate that there should not be a need for additional school facilities. Improvements in the operations of the various schools, however, would seem necessary in order to accommodate fluctuations in size of enrollment.

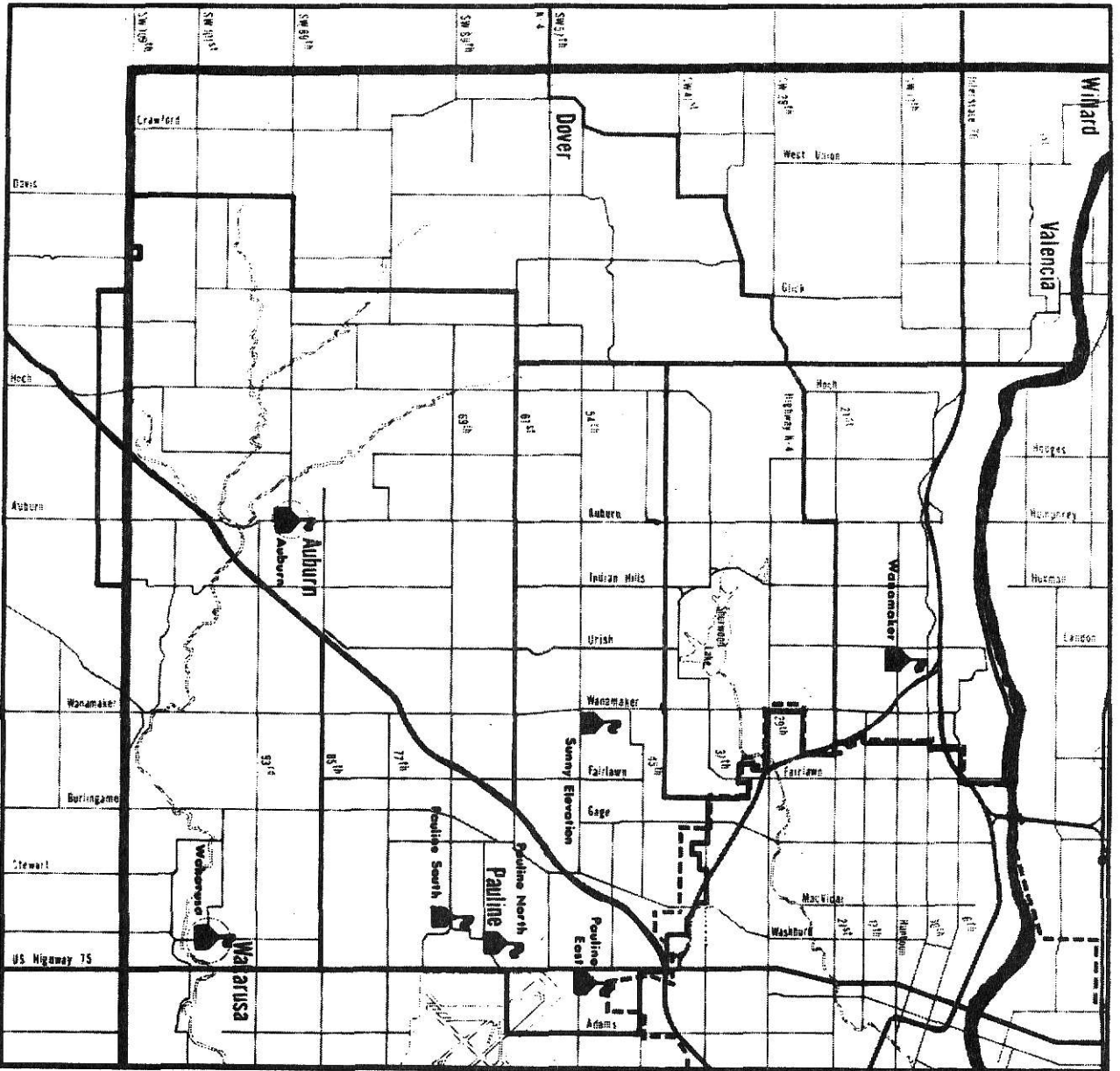
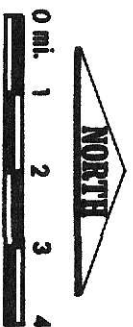


Figure 47:
USD 437 Projected
Elementary Schools
and
Attendance Areas
1968

EXISTING



Elementary schools should be least affected by the change in size of enrollment. Some elementary schools, particularly those in the outlying areas of the southeast and southwest sections of the district, should need to expand their existing facilities in order to accommodate a growth in enrollment.

Several elementary schools should be operating well below classroom capacity. Most of these schools should be concentrated in the central areas of the city. Although it is likely that some schools will be operating below pupil capacity it would not be advisable to phase these schools out in the near future. This is because, first, there is a question of the future birth rates; and second, if high density of apartment development takes place in the central areas of the city, those attendance areas corresponding with it could experience a growth in size of school enrollment particularly at the elementary level.

Junior high schools, with the exception of Marjorie French and Highland Park, should be able to accommodate the projected size of enrollments. According to the projections, the major problem which should be confronting the junior high schools in the future are the under utilization of their school plants. This should be particularly true of those junior highs whose attendance boundaries coincide with the central areas of the city. Most of these schools should be made flexible enough in their operation to accommodate the anticipated growth of enrollment in the district's senior high schools, and in some instances increases at the elementary level.

The senior high schools in the district should be mainly affected by increases in size of enrollment. This should put pressure on the capacity of the existing high school facilities for at least ten more years. However, the growth in senior high enrollment should not require the need for the construction of a new facility. Senior highs in the Topeka district should be able to accommodate increases in size of enrollment by either or both the expansion of the existing senior high facilities or the use of those junior highs operating well below pupil capacity.

Outlying districts

The growth in total enrollment should have an impact on the capacity of many schools in the Shawnee Heights, Seaman, and Washburn Rural areas. Therefore, a school building program should be initiated to accommodate the prospective overflow of pupils.

Shawnee Heights

By 1975 two elementary schools should be needed:

1. To serve the Berryton attendance area and part of the Tecumseh South attendance area.
2. To serve the Berryton and the other part of the Tecumseh South area.

By 1980 two additional elementary schools should be needed:

1. To serve the Tecumseh North and part of the Tecumseh South area.
2. To serve the Berryton area and the other part of the Tecumseh South area.

In 1980 an additional school should be needed to accommodate the junior and senior high overflow.

Seaman

By 1975 two new elementary schools should be needed:

1. To serve the Indian Creek and Pleasant Hill attendance area.
2. To serve the West Indianola attendance area.
3. A new junior high should be needed to serve the north part of the district.

Between 1975 and 1980 a new high school should be needed to serve the north part of the district.

By 1980 a new elementary school would be needed to serve the North Fairview, Rochester, Pleasant Hill, and Indian Creek attendance areas.

Washburn Rural

By 1970 a new junior high should be needed to accommodate the overflow of pupils from Auburn junior high school.

By 1975 a new elementary school should be needed to serve the base population, and a new elementary school to serve the Sunny Elevation, Wanamaker attendance areas.

By 1980 a new high school would be needed to serve the new growth areas.

Chapter VII

IMPACT OF DEMOGRAPHIC PATTERNS ON THE UTILIZATION OF SCHOOL FACILITIES AND THE LOCATION OF NEW SCHOOLS

This chapter will be concerned with how the demographic patterns of growth should affect the building needs and the location of new public schools in the Topeka metropolitan area. This chapter is closely related to the subject material in the final section of Chapter VI.

The demographic patterns of growth should have an impact on the size of enrollment in the Topeka school district. However, the size of enrollment should not require the need for building more schools. The main concern of the district should be to accommodate fluctuations in school enrollment in various attendance areas and at the various grade organization levels. Fluctuations in enrollment have been mainly caused by the changing population characteristics of the city. Several factors have contributed to this:

1. Natural population growth. Many older parents have begun to move from their first home as their children grow up and leave home. As this happens, younger parents who are raising children move in and occupy those homes which have been vacated. This has been particularly true in the older aged attendance areas of the northwest section and the central areas of the city.

2. Rental housing has contributed to the high turnover of population as homes have gone through second and third buyers. Such attendance areas have increased their density of the original family units three or four times. They have also been known to employ large families with a high proportion of elementary aged children. Attendance areas which form a second ring around the central core of the city have been particularly characteristic of this housing pattern.

3. The movement of black families in specific attendance areas has resulted in the increasing out-migration of white families. When black families succeed the out-migrating white families, there is usually an increase in the size of children per family. This normally means that the school enrollment increases, particularly at the elementary and junior high school levels, thus putting pressure on the existing facilities. This sudden change from an all white to a practically all black attendance area does not give school officials time to prepare for the changing needs of the area. The usual courses of action are to overcrowd the schools, schedule double shifts, or to revamp existing attendance areas west of the central business district (Central Park, Polk, and Loman Hill) are beginning to experience the largest in-migration of black families.

4. The building of new low and high rise apartment complexes in areas of close proximity to the central business district has resulted in a higher density of population. These apartment types are normally being occupied by the elderly

single working people and young marrieds without children. Both the size of apartments and restrictive policies on having children in these complexes has discouraged many school age families from locating in areas adjacent to the central business district. As a result of this, many schools in the area (elementary - Cental Park, Polk, Parkdale, Monroe; junior high - Roosevelt, Boswell, Crane, East Topeka) should be left operating well below pupil capacity.

Schools in the Topeka District should become more flexible in use so they can accommodate fluctuations in enrollment in various attendance areas and at various grade organization levels. Two alternatives are recommended for accomplishing this.

First, the use of temporary relocatable facilities with resale or reuse potential. This would be most applicable in attendance areas where unexpected changes in size of enrollment occur and result in an overcapacity school. This temporary facility should only be used until a new school is built or an overcroded facility is expanded to accommodate a long term increase in enrollment. Attendance areas where this type of arrangement should be most feasible include: elementary - Hudson, McClure; junior high - Highland Park, Marjorie French.

Second, a remodeling of certain schools so that they would be flexible enough to incorporate a curriculum for the various grade levels. This would be most applicable in attendance

areas where anticipated long term fluctuations in age composition are likely to occur and result in the operation of schools well under capacity. Attendance areas where this type of arrangement should be most feasible include: elementary - Avondale East, Grant Avenue; junior high - Crane, Curtis, Eisenhower, East Topeka.

By incorporating either or both of these recommendations, each school would first be able to preserve its attendance area boundaries and, second, it would enable each school to attain an identity within its own service area. Finally, it would prevent the unnecessary financial output for the construction of new schools, which would become obsolete in a short period of time.

The demographic patterns of growth should also have an impact on the size of enrollment in the outlying school districts. Here, the size of enrollment would generally require the need for building more schools. Exceptions to this could exist in the Washburn Rural District where, if the high turnover of population continues as expected at Forbes Air Force Base, there would be a need for the base schools (Pauline) to become more flexible in use. This would necessitate housing both elementary and junior high students in the same building so as to accommodate the projected fluctuations in elementary and junior high enrollment.

The major concern of the outlying school districts should be to accommodate the increasing growth of school age children.

This can be accomplished by undertaking a planning program whose goal is to locate schools in areas where major growth centers are likely to develop.

Two types of programs should be undertaken in order to achieve this goal. First a short range program (five to ten years) should be used in areas already developing. Here a school should be located where development is occurring on vacant tracts of land in which the facility can be expanded easily. This would serve, hopefully, as a means of directing any future growth subsequent to the location of a new school. The purpose of this program is, first, to maintain growth in a concentrated area so that the school can function as a community center; and, second, to preserve attendance boundaries without constantly changing them in order to balance the overflow of pupils.

This program should be carried out by adopting strict land use controls and by requiring acquisition of school property several years in advance of construction. If properly enforced, growth should take place in those areas designated for development.

Second, a long range program (ten or more years) should be used in undeveloped areas. Here a school should be planned in areas where population centers are likely to develop.

The best method of achieving this is for school officials to acquire options on land where utility lines and major traffic ways are likely to be constructed. Knowledge of the

specified direction of these facilities would depend mainly on two elements; first, the physical capabilities of land, which were discussed in Chapters II and V; and second, the goals for Topeka, which are preliminary statements of the community objectives and policies.

The success of this long range operation would depend mainly on the degree of enforcement of the school plan in seeing that it is a function of the comprehensive plan.

Planning agencies in the Topeka area should assume a major role in implementing both the short and long range school planning program: first because they have access to information, which can determine areas that are likely to develop; and, second, they have an important voice in seeing that the land use plan and the comprehensive plan are enforced.

Little can be done to curb population, commercial and industrial growth in Topeka because they are healthy for its economy. However, something can be done to control the spatial movement of these activities so that developments allows for orderly growth in the outlying areas of Topeka. If the direction of population growth in outlying areas is not controlled, the demographic patterns of growth can present problems for the future location of public schools in the outlying districts of the Topeka metropolitan area.

Chapter VIII

CONCLUSIONS

Findings of the Hypothesis

The study of literature demonstrated that demographic patterns of growth are important to the public comprehensive planning process. The literature established the fact that demographic patterns of growth often have not and are not now normally used by school authorities as a basis for decision making by which building needs and the location of new schools can be determined. This was due to the fact that generally there was no legislation which required the school planning program to relate to the comprehensive plan and there was little guidance provided to school officials in the use of demographic data. The result of this had been the failure to develop an effective school planning program.

The literature also mentioned that the school board often lets irrelevant information and uninformed pressures guide and determine their decisions. Therefore, decisions as to building needs and the location of new schools have typically been made in response to crisis situations. This has been especially true in communities that were experiencing rapid growth.

Finally, the literature identified the important demographic data and those elements which influence them as they relate to the school planning function.

The study of the various demographic data showed that demographic patterns of growth in the Topeka metropolitan area should have an impact on the size of public school enrollment in each of the four school districts under study.

In the Topeka school district, changes in demographic and enrollment patterns were examined in each attendance area and at each grade level. A significant relationship was found between these changing patterns. Therefore, it was concluded the impact on size of the district's enrollment in the future should be due to the changing population characteristics of the city. This has been the result of a declining birth rate and changing patterns of land use, migration and housing type. The main concern of the Topeka school district should be to make their schools more flexible in use to accommodate fluctuations in enrollment. This would be especially true in areas where anticipated changes are likely to occur in age composition.

In the outlying areas there were limitations in examining changes in demographic and enrollment patterns. This was due to the fact that there was an absence of complete and accurate demographic data for more than one period of time. However, in spite of this the author was able to conclude, with little reservation, the impact on size of the outlying districts enrollment in the future should be due to the residential growth of outlying communities of the Topeka metropolitan area. Therefore, the main concern of the outlying districts should

be where to locate new schools so that they can accommodate those students who will be moving into major growth centers.

The case study demonstrated that demographic patterns of growth can be determined, projected and used as a fundamental part of the decision making data in which to locate new schools and designate the manner in which existing buildings may best be utilized in the future. However, in order for the school planning function to be more effective in the future, school authorities must:

1. Use data and information on demographic patterns of growth and must be assisted in the use of such data.
2. Develop a school planning program which relates to the comprehensive community plan.
3. Develop goals and criteria as to the utilization of school buildings and the location of new schools.

Limitations of Research

Two types of research were used in this thesis. They included the use of literature and data collection.

In regard to the former the author found a small amount of the available literature related to school planning to be current information. The general quality of all literature that was gathered related to school planning seemed to be quite good.

An area of literature which was intentionally disregarded in preparing this thesis was a discussion of the general

decision making process as to policies and criteria used by the four school boards (Topeka, Shawnee Heights, Seaman, Washburn Rural), in determining the utilization of school facilities and the location of new schools. This was due to the anticipated political ramifications which could have been raised in relation to such issues as racial balance of schools, school busing and boundary changes within each district.

In regard to the collection of data, the author found the types of data collected and the research techniques used to be quite good. However, the major limitation of the data collection was in its incompleteness and inaccuracy in certain areas and at particular periods of time. This was especially true of the unavailability of complete and accurate demographic data for the outlying areas in 1960.

The author also found when he first began this data collection that the Topeka Shawnee County Regional Planning Agency was not staffed to update significant demographic data as related to the Regional Planning Area. As a result the author felt three types of demographic data collected in this thesis needed to be updated. First, the population estimates of the Topeka metropolitan area for 1965 made in the Preliminary Land Use Plan were found to be inaccurate.

Second, there was a lack of updated information on the impact of changing housing patterns on the population of the city of Topeka. Third, there was a lack of updated information on the changing land use patterns since the existing land use study had been completed in 1962.¹

Finally, the selectivity of enrollment data were sometimes limited to specific years. This was due to the fact that accurate records on enrollment had not been kept by some schools. There was also a lack of information on drop-out ratios for junior and senior high schools.

In conclusion it must be stated that the findings of the thesis are not easily transferrable to other metropolitan areas of similar size. The findings are somewhat characteristic of those school districts in the Topeka metropolitan area where this study originated, and they are subject to the influences from various factors which were discussed. At best the findings may serve as guidelines for other school districts in a developing metropolitan area the size of Topeka which need to develop criteria in order to assess the impact of demographic patterns of growth on the future size of school enrollment.

The author has suggested three areas where further research is needed in the use of decision making data to locate new schools and designate the manner in which existing buildings may be utilized best in the future.

1. The affect of a land use change or change in zoning on the size of enrollment. For example, considerations should be made in relation to the number of students which might be generated in a particular area by a rezoning case.

2. The impact of various types of housing construction on patterns of enrollment. It has been stated in this thesis that single family units are generally known to produce more school aged children than apartment units. However, in assessing

whether single family units have more of an impact than apartments on patterns of school enrollment, one must assess the number of students per acre that are produced by each type of unit, in addition to the number of students per unit.

When assessing the impact of each unit, it is generally known that low density single family residences with half acre lots will produce fewer children than low density apartments with the same number of acres. Due to the fact apartment units are generally becoming more predominant than single family units, further research is needed to determine the impact of various types of apartment units on the future size of enrollment at various grade levels and in various sections of a metropolitan area.

3. The impact of the changing birth rates on the size of the future enrollment. The birth rate in the next twenty years will be difficult to estimate because a new generation of parents is now beginning to marry and raise families. Further research is needed in determining their attitudes toward child bearing. This would be used to prove or disprove assumptions which have been made by many demographers, that the birth rate should begin to rise again after 1970, thus affecting the size of school enrollment and putting pressure on existing school facilities.

It would be meaningful to end this thesis by quoting Constantine Dioxides.²

How will we ameliorate conditions of our life, of our educational system, of our human settlements. Dealing merely with the present is unrealistic because by the time we have analyzed the situation, defined our problems, and planned how to meet them, the present has become the past. By the time we are ready to act and create new conditions the present is a distant past.

It is time we learned to think about the present as a dynamically changing situation. We must think far ahead in order to understand where we are going and to define whether we like our destination or not. If we do not like it, we must decide how we can take a different road at some time in the future which, when we act, will be the present.

Footnotes

1. An existing land use study and land use projection were completed for the Regional Planning Area in 1969 in a document entitled Topeka Area Planning Study Economic Base Report, prepared for the Topeka Shawnee County Regional Planning Commission, October, 1969 by Larry Smith and associates.
2. Constantine Dioxides, "Life in the Year 2000," National Educational Journal (November, 1967), p. 15.

APPENDIX A

Several methods were employed in this thesis to calculate the population size, population characteristics and enrollment size in each of the study areas.

Population Size

Estimation of the Size of Population for the Topeka Metropolitan Area and its Component Age Groups 1960-1970 in Five-Year Increments

The method used to calculate this was the age differential component. This took into account three components of population change: births, deaths, and migration.

The population was aged by:

1. Adding to the base population (1960) the known resident births which occurred in a five-year period, 1960-1965.

2. Removing the deaths from the appropriate age groups. This was based on life table deaths. Adjustments were made by comparing the total deaths for each age cohort calculated by life tables to known deaths which occurred during a five-year period, 1960-1965.

3. Adding the total net in- or out-migration to the appropriate age groups (Migration Source). The total migration was calculated and averaged from known rates per 1,000 population from 1951-1960 for Shawnee County (8.02 per 1,000), then nationally known migration rates for each component age group were figured and proportioned into the total migration for

Shawnee County from 1951-1960.

4. The age structure of the 1960 census was maintained in the classification of the 1965 estimate. The births became the new age group at the base of the population pyramid as the others aged and moved up.

5. A sex ratio was developed for each age group based on known ratios in the 1960 census for both the Topeka metropolitan area and the state of Kansas.

6. The total population of the Topeka metropolitan area for 1965 was estimated by adding the number of people in each component age group.

Adjustments in the 5-9, 10-14, and 15-19 age groups were made by cross-checking the total school enrollment (public and parochial) of each grade level in the Topeka metropolitan area with the appropriate age groups.

The procedure above was repeated in projecting the population of the Topeka metropolitan area for 1970. The only change made in the estimation procedure was the count of births. Known figures were obtained for 1965, 1966, and 1967 and averaged. The average number of births for this three-year period was used as the assumed number of births for the years 1968 and 1969.

The Projection of the Size of Population for the
Topeka Metropolitan Area and its Component Age Groups
1975-1980 in Five-Year Increments

The method employed was similar to the 1965-1970 estimation. However, some changes were made.

They were the following:

1. The number of resident births added to the base population for 1975 and 1980 were obtained from estimates established in the Preliminary Land Use Plan for Topeka-Shawnee County 1962.

2. Adjustments in the net in- or out-migration for each age group were cross-checked by using a migration rate of 8.02. This was the average migration rate for a ten-year period in Topeka-Shawnee County from 1951-1960.

Estimation of the Size of Population for the
Individual School Districts in the Planning Area
for 1960 and 1968

The population estimates for each district in 1960 were computed by adding the Bureau of Census figures for each census tract corresponding to the individual district under study. A population rate was established for each district as to how they shared in the total known metropolitan population for 1960. This ratio was used with minor adjustments to calculate the 1968 estimates. Here again a ratio was established as to how they shared in the total estimated metropolitan population.

Projections of Population for the Individual
School District in the Planning Area
1970 - 1975 - 1980

The method used to compute these projections was a ratio technique. This was employed by:

1. Computing the known population ratios of each district 1960-1968 (in two-year increments) to the total metropolitan area population.

2. Establishing a ratio of how each district will share in the total metropolitan population for subsequent years (1970,

1975, and 1980). This was based on earlier computed ratios from the period of 1960-1968.

Adjustments were made for projected ratios. They were based on known information which was pertinent to changes in size of population. The following elements were taken into consideration.

1. Residential development, the yearly estimated number of houses to be built 1960-1980.

2. Saturation of land development.

3. Size of family.

4. Age of parents.

5. Land use plan.

6. The economic development of the area. This includes existing industry or the possible attraction of new industry.

7. A general conception of the age structure.

Population Characteristics

A comparative classification system was developed so that changing population characteristics for each attendance area in the Topeka school district could be examined.

Comparisons were made of family size, parental age, percent of population under 5, percent from 5-19, and percent of population over 65 for two periods of time, 1960 and 1968.

The classification system was broken into five categories: a high, an above average, an average, a below average, and a low. The purpose of the system was to examine the degree of change in the population characteristics and to show where significant relationships existed in the various characteristics.

This was completed by examining the changes that occurred in the various characteristics for each school district, both as an individual change and as a comparative change to the other attendance areas in the district.

The method employed for categorizing these population characteristics were subjective and based on the discretion of the author.

Enrollment Projections for Elementary School

Elementary public school projections for each attendance area in the planning area were employed by the following mathematical expression:

$$[A + B + (a \cdot b)] - [(c \cdot d)] = D$$

A multiplier of two was used for a two-year projection 1968-1970. A multiplier of five was used for a five-year projection.

A = Base enrollment at the beginning of the projection period.

B = Average yearly number of pre-school children, 0-4 age group. These children will be starting school at the beginning of the projection period.

a = The number of elementary school children (ages 5-11) per dwelling unit for each attendance area.

b = The estimated yearly average number of houses to be built in each attendance area for the projection period.

a · b = Yields the estimated yearly average number of children moving into each attendance area who are of elementary school age.

c = The yearly graduation ratio for each elementary school. This ratio was the relationship established between yearly graduates and the total school enrollment for each elementary school.

d = The elementary school enrollment at the beginning of the projection period.

$c \cdot d$ = Yields the yearly average number of students graduating from each elementary school at the beginning of the projection period.

C = The estimated yearly average number of students elementary school age moving out of each attendance area.

D = The total yearly enrollment for each elementary school without adjustments.

Adjustments made in the final calculation were based on the analysis of:

1. Enrollment trends - This was adjusted by examining the ratio of each elementary school enrollment in previous years to the total elementary enrollment for each district.

2. Parochial families - The estimated number of parochial families in each attendance area was multiplied by the number of children elementary school age per dwelling unit. Adjustments in each school's enrollment were then made accordingly.

3. A general knowledge of the attendance area. Those elements considered in the adjustments which could not be quantified were:

- a. The land use plan.

b. Existing zoning.

c. Prospective changes in school policy.

d. The mobility of the attendance area. (Was the area stable or did it have a high turnover.)

e. Personal interviews.

Enrollment Projections for Junior High School

Junior high enrollment projections for each individual school in the planning area were employed by using the following mathematical formula:

$$[A + B + (a \cdot b)] - [(c \cdot d)] = D$$

A multiplier of two was used for a two-year projection, whereas a multiplier of five was used for a five-year projection.

A = Base enrollment at the beginning of the projection period.

B = Average yearly number of children graduating from various elementary schools which feed into individual junior high schools. These students will graduate from elementary school at the beginning of the projection period.

a = The number of junior high school children (ages 12-14) per dwelling unit for each attendance area.

b = The estimated yearly average number of houses to be built in each attendance area for the projection period.

a . b - Yields the yearly average number of junior high school age children moving into each attendance area.

c = The yearly graduation ratio for each junior high school. This ratio was the relationship established between

the number of yearly graduates and the total school enrollment for each junior high school.

c = The junior high school enrollment at the beginning of the projection period.

$c . d$ = Yields the yearly average number of students graduating from each junior high at the beginning of the projection period.

C = The estimated yearly average number of students junior high age moving out of each attendance area.

D = The total yearly enrollment for each junior high school without adjustments.

Adjustments in the final calculation were based on a similar analysis of elements as in the elementary school projection.

Enrollment Projections for Senior High School

Senior high school enrollment projections for each individual school in the planning area were employed by using the following mathematical formulas:

$$[A + B + (a . b)] - [(c . d) + C] = D$$

$$[(D . e) - D] = F$$

A multiplier was used for the projection period.

A = The base enrollment at the beginning of the projection period.

B = The yearly number of students graduating from various junior high schools which feed into the individual senior highs. These students will graduate from junior high school at the beginning of the projection period.

a = The number of children senior high school age (15-17) per dwelling unit for each attendance area.

b = The estimated yearly average number of homes to be built in each attendance area for the projection period.

a . b - Yields the yearly average number of senior high school age children moving into each attendance area.

c = The yearly graduation ratio for each senior high school. This ratio was the relationship established between the yearly number of graduates and the total school enrollment for each senior high school.

d = The senior high school enrollment at the beginning of the projection period.

c . d - Yields the yearly average number of students graduating from senior high at the beginning of the projection period.

C = The estimated yearly average number of students senior high school age moving out of each attendance area.

D = The gross yearly enrollment for each senior high school without a dropout rate or adjustments.

e = The yearly dropout rate of senior high school. This rate was used only for the outlying district population.

D . e - Yields the yearly number of students who drop out of each senior high school.

F = The net yearly enrollment for each senior high school without adjustments.

Adjustments in the final enrollment calculation were based on a similar analysis of elements as in elementary and junior high school projections.

APPENDIX B

Actual Size of Public School Enrollment 1970-71 for the Topeka,
Shawnee Heights, Seaman, Washburn Rural Districts

The following is a list of public schools in the planning area with their actual enrollment size as of September, 1970 (refer to Chapter VI on enrollment estimates and projection).

TOPEKA DISTRICT

K-6	13,785
Avondale East	551
Avondale South	415
Avondale West	529
Belvoir	363
Central Park	375
Clay	207
Crestview	452
Gage	422
Grant	259
Highland Park Central	602
Highland Park South	583
Highland Park North	462
Hudson	390
Lafayette	521
Linn	440

Loman Hills	379
Lundgren	368
Bishop	552
McCarter	532
McClure	479
McEachron	523
Parkdale	348
Polk	211
Potwin	366
Quincy	316
Quinton Heights	290
Randolph	511
Rice	300
Sheldon	302
State Street	540
Stout Elementary	321
Sumner	301
Whitson	387
Monroe	188
7-9	5,702
Boswell	580
Copper	475
Crane	335
Curtis	138
East Topeka	522
Eisenhower	678

Highland Park	502
Holiday Junior	409
Jardine	707
Landon	447
Marjorie French	439
Roosevelt	470
10-12	5,259
Highland Park	1,480
Topeka High	2,190
Topeka West	1,589
Total	24,746

SHAWNEE HEIGHTS

K-6	1,231
Berryton	324
Tecumseh North	377
Tecumseh South	530
7-9	448
Shawnee Heights	448
10-12	504
Shawnee Heights	504
Total	2,183

WASHBURN RURAL

K-6	2,181
Auburn East	239
Pauline Central	660

Pauline East	248
Pauline South	581
Sunny Elevation	135
Wakarusa	513
Wanamaker	265
7-9	934
Auburn	251
Jay Shieldler	683
10-12	695
Washburn Rural	695
Total	3,810

SEAMAN

K-6	1,780
Capital View	41
East Indianola	274
Elmont	72
Indian Creek	279
Lyman	201
North Fairview	146
Pleasant Hill	304
Rochester	304
West Indianola	178
7-9	779
Lyman Upper, Northern Hills	779
10-12	703
Seaman	703
Total	3,262

APPENDIX C

Summary of Sources of Information

The following is a list of sources of information which is valuable in making enrollment projections for school building purposes, both for the preliminary studies and for the actual estimates. These sources are generally available from local, state, and national offices.

Local

1. Local school district records: Annual school census reports; annual age-grade records; pupil permanent records; statements of educational policies; and reports of local studies.
2. Municipal offices: Maps of zoning regulations and of utility extensions.
3. Real estate agencies and utility companies: Maps and studies of housing and land usage (such as Sanborn maps of dwelling units), and population estimates.
4. Tax commissioner's or assessors' office, county planning boards, local building inspectors, and county and municipal engineers: Studies of population trends; building permit data; and maps of highways showing dwelling units.
5. Commercial firms and banks, and other independent agencies: Studies of business trends, housing, undeveloped land, and the like; aerial survey and highway maps.
6. Metropolitan newspapers: Business trends (in the financial section) and reports of special studies (in the school section).

State

1. State Health Department, Office of Vital Statistics, Albany or local offices: Resident live births, including provisional figures audited to most recent date.
2. State Commerce Department, Albany: Studies of economic data and population by geographic areas in the State.
3. State Education Department, Albany: Annual statistical reports; special reports on forecasting enrollments and school building needs
4. State Public Works Department, Albany or local offices: Highway maps showing dwelling units for various areas in the State.

National

1. U.S. Public Health Service, National Office of Vital Statistics, Washington, D.C.: Vital Statistics of the United States and Vital Statistics Special Reports.
2. U. S. Census Bureau, Washington, D.C.: Population and Housing Reports, available in libraries, containing information on housing and on population density, trends, composition, racial and nationality characteristics, age distribution and employment (data on towns for 1950 can be secured from the Bureau in photostatic form); special reports on population and related matters; Annual Statistical Abstracts. Also, see Catalogue and Subject Guide to Publications of the Bureau.
3. National Education Association, Research Division,

Washington, D.C.: Occasional research studies on population trends.

4. U.S. Department of the Interior, Coast and Geodetic Survey, Washington, D.C.: Geodetic maps showing dwelling units. These maps may usually be purchased in a nearby store. They should be revised locally to bring dwelling units up-to-date.

5. U.S. Department of the Interior, Office of Education, Washington, D.C.: Biennial Reports and special reports.

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THE USE OF DECISION MAKING DATA IN LOCATING
PUBLIC SCHOOLS AND UTILIZING EXISTING SCHOOL
FACILITIES IN THE FUTURE

by

JOEL A. SHAFFNER

Southern Illinois University, 1967

AN ABSTRACT OF A MASTER'S THESIS

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ABSTRACT

The major goal of this thesis was to show the use of demographic data in developing an improved procedure for the location of new schools in newly developing metropolitan areas and the utilization of existing school facilities in the future. The need for developing such a procedure was demonstrated by the fact there was a lack of goals and criteria as to the utilization of school buildings and the location of new schools.

Decisions as to the building needs and location of new schools are made by the school board. They often let irrelevant information and uninformed pressures guide and determine their decisions. This has resulted in an ineffective school planning program which has generally been directed toward decision making in response to crisis situations. It was emphasized that there is a need for planning agencies to assist school officials in the formulation of the school plan. This is based on two factors: first, planning agencies have direct access to pertinent information that could be used for school planning; and second, they have professional expertise in collecting, analyzing and evaluating demographic data which can be used as a basis for making decisions as to the building needs and the location of new schools.

The framework of the study was developed during the formulation of the Topeka Shawnee County Educational Masterplan.

Here extensive research was done in trying to develop an improved procedure in the use of decision making data for the location of new public schools in the four school districts of the Topeka metropolitan area and the utilization of existing facilities in the future.

The outline of this research produced the hypothesis of this thesis: the demographic patterns of growth are important to the public comprehensive planning process. They can be determined, projected and used as a fundamental part of the decision making data to:

1. Locate new public schools.
2. Designate the manner in which existing buildings may be best utilized in the future.

School authorities can do a better job of locating new public schools and utilizing existing facilities in the future where new facilities cannot be justified if they:

1. Use data and information on demographic patterns of growth and are assisted in the use of such data.
2. Develop a school planning program which relates to the comprehensive community plan.
3. Develop goals and criteria as to the utilization of school buildings and the location of new schools which can serve as a basis for an effective school planning program.

Six major elements which influence the demographic patterns of growth were studied. They were: residential development, economic development, residential mobility, population characteristics, housing type and morphology.

Several characteristics were taken into consideration when studying the influence of these six elements on the demographic patterns of growth.

Under residential development

1. Topographic features
2. Availability of utilities
3. Availability of land
4. Cost of land
5. The land use plan
6. Commercial centers
7. Employment centers
8. Patterns of mobility,
9. Transportation facilities

Under economic development

1. History of the economy
2. Employment opportunities

Under residential mobility

1. Local moving - the changing of residence from one part of a community to another.

2. Migration - the changing of residence from one community to another.

Under population characteristics

1. Family size
2. Parental age
3. Racial composition of population
4. Vital statistics
 - a. number of births

- b. birth rate
- c. number of deaths
- d. death rate

5. Migration

6. Age composition of population

7. Number of school aged children per dwelling unit.

Under housing type

1. Number of dwelling units being constructed.

2. Type of dwelling units being constructed.

Under morphology

1. Evolutionary processes of a city and a metropolitan area.

The major sections of this thesis were devoted to a case study of the demographic patterns of growth in the Topeka metropolitan area and its impact on the future size of pupil enrollment in the Topeka, Washburn Rural, Seaman and Shawnee Heights school districts. The former district is generally coterminous with the boundaries of the city. The other three districts are located in areas outside the boundaries of the city.

The conclusions drawn from this case study were:

1. The demographic patterns of growth should have an impact on the size of pupil enrollment in each of the four school district.

2. The major cause of this impact should be due to the changing population characteristics of the city. This has been mainly the result of the changing birth rates, the changing patterns of migration, land use, and housing type. Therefore,

the main concern of the Topeka school district should be to make their school facilities more flexible in use to accommodate fluctuations in enrollment.

3. The major cause of the impact that demographic patterns of growth should have on the future size of enrollment in the outlying districts should be due to the residential growth of outlying communities in the Topeka metropolitan area. This has generally been the result of availability of utilities, the low cost of land and good access to employment and commercial centers by favorable transportation facilities. Therefore, the main concern of the outlying school districts should be where to locate new schools so that they can accommodate those students who will be moving into the major growth centers.

Finally, the effectiveness of the school planning function should depend mainly on the school officials' ability to make use of all relevant information in improving the decision making process for the location of new schools and the utilization of existing school facilities in the future.