

THE HOUSING CONSTRUCTION INDUSTRY IN TOPEKA, KANSAS

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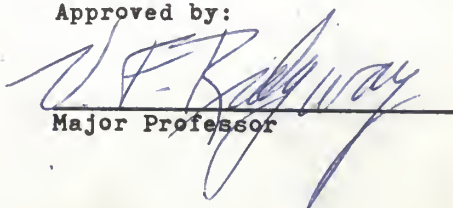

Major Professor

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CHAPTER I

INTRODUCTION AND GENERAL BACKGROUND

New housing construction is an important industry in the economy of most growing cities and areas. The expanded volume of business which is associated with a growing population together with increasing incomes is often reflected in an acceleration of housing construction throughout a metropolitan area.

Part A. Introduction to the Importance of Housing Construction

Housing construction activity within a particular city or county is often characterized by severe fluctuations which may complicate the efficient management of the business firms which are directly related to the housing industry. The production process of new housing units occurs over a span of time and great financial losses result from the cessation of construction before the unit is complete. Therefore proper market planning and decision-making must take place prior to the start of actual production.

Housing represents the largest consumer expenditure unit, physically. Consumer expenditures for purchases of food, clothing, and recreation may be purchased in small amounts and transported easily. Human shelter, in contrast, exists in only comparatively larger physical units and requires greater monetary outlays. Housing or dwelling units, in our American society, have rigid characteristics including immobility, permanence and durability, high unit costs, and

great individual product variety in design and quality. In spite of these characteristics, the modern housing unit fulfills the basic consumer need for shelter and also provides a center for most family activities.

Certain economists and business activity investigators, including Dr. Louis Winnick, have studied the long term trends present in the American housing industry. Dr. Winnick was a research associate at the Institute for Urban Land Use and Housing Studies, Columbia University. During the middle 1950's he wrote that

. . . the decline of nonfarm housing construction in total output, rendered inevitable by demographic trends, has been powerfully reinforced by changes in consumer behavior. For not only has housebuilding declined in relation to total production, but the per capita real value of the standing stock of housing has failed to show any marked trend during the first fifty years of this century, and the average real value per dwelling unit standing has declined perceptibly. These phenomena suggest, at least, that here has been a downward shift in consumer preferences for housing.¹

Dr. Winnick analyzed the per capita value and the per dwelling unit value drop since 1900. He used 1929 constant value dollars in his study. The per capita value of residential housing stock in 1900 was \$793. In 1940 it was \$770 and by 1950 it had dropped to \$740. The per dwelling unit value decreased from a high of \$3,355 in 1900 to \$2,662 in 1940 and \$2,381 in 1950. He proposed four reasons for this drop.²

The high carrying costs of a housing unit constituted one of

¹Louis Winnick, "Housing: Has There Been a Downward Shift in Consumer Preferences?" The Quarterly Journal of Economics, Vol. 69, Feb. 1955, p. 86.

²Ibid., pp. 89-90.

the reasons which Dr. Winnick proposed for the long-term decline in consumer preferences. The problems created by increased space per person were also thought to deter families from spending a larger proportion of their increased income on housing. The third reason suggested by Dr. Winnick was that consumers have decided to spend part of their income increments on certain consumer durables, connected with household operation, rather than on the housing structure itself. The last reason for the apparent downward shift in consumer preferences for housing, as proposed by Dr. Winnick, was the resistance which tenants expressed to rent increases which were appreciably greater than those allowed under war-time price control. In other words, tenants tended rather to move to smaller quarters than to pay the increased rent asked by their landlords.

Part B. Long and Short Building Cycles

Other studies of American housing construction have described the existence of both long-term and short-term cycles in housing construction activity. Mr. Clarence D. Long investigated the recurrence of the so-called "short building cycles" during the seventy year period, 1870 through 1940. This study by Professor Long was aided by the Research Committee of Wesleyan University, Middletown, Connecticut, and the Sanxay Fellowship of Princeton University. He concluded that seventeen short building cycles had taken place during these years.¹

¹Clarence D. Long, Building Cycles and the Theory of Investment, pp. 103-104.

These cycles averaged just four years in length or approximately the same duration as characterized the peaks and troughs of general business activity. Professor Long stated:

Minor cycles in Manhattan building (annual data) tend to conform to cycles in industrial activity. The conformity seems best for store building, and poorest for industrial building. For residential, the conformity is moderate; this class of building displays more a tendency to conform to the speculative movements of stock prices.¹

This economist further reported that the variations in length of the building cycles since 1900 averaged about three months longer than four years (51 months). The eight short building cycles between 1870 and 1900 averaged three months shorter than four years (45 months). Variations in the length of individual short building cycles varied from two to eight years. The business cycles which corresponded to each short building cycle had similar variations in length. Professor Long, in his analysis, used monthly data which included only Manhattan (New York City) for the first few years but eventually increased his coverage to include the thirty-five major cities in the United States. His analysis showed that the cycles since 1900 tended to be more severe than those prior to the turn of the century. Although he admitted an association between the general movements of the business cycle and the short housing cycle, he felt that they both may have been caused by exogenous forces rather than by the interaction between housing and general business conditions.²

The National Bureau of Economic Research sponsored a rather

¹Ibid., p. 102.

²Ibid., p. 114.

exhaustive study entitled, Capital Formation in Residential Real Estate.

The occurrence of three distinct long building cycles between 1890 and 1950 was described in this study. The authors (Leo Grebler, David M. Blank, and Louis Winnick) designated the three cycles as taking place at seventeen to twenty-three year intervals. The four peak years, including the beginning and ending peak years, were 1892, 1905, 1925, and 1950. The three trough years were 1900, 1918, and 1933.¹

The data such as the number of new dwelling units started and annual expenditures for new dwelling units showed the existence of plateaus near the peak years and broad valleys near the low point or trough years. These plateaus and valleys tended to make the designation of the high and low turning points difficult.

These housing investment authorities concluded that, in general, an increasing secular trend was present during the sixty year period analyzed and the amplitude of the long swings increased as the average volume of construction and expenditures increased.

The characteristics of recent long housing cycles were not included in this report paper. The thirteen year period studied in this paper was felt to be sufficient in length to include only the effects of the short building cycles.

Part C. The Construction Industry and the Kansas Economy

The 1961 Kansas legislature appropriated funds for a comprehensive study of Kansas economic development. The Governor's Economic Develop-

¹Leo Grebler, David M. Blank, and Louis Winnick, Capital Formation in Residential Real Estate, p. 47.

ment Committee was appointed and instructions were given that the important sectors of the Kansas economy, based on the 1960 census, should be studied. The Center for Business Research at the University of Kansas published the committee's report. The report of this committee revealed that contract construction accounted for \$260,000,000 of civilian income received by Kansans during 1960. This amount represented 7.5% of the total civilian income received by persons for participation in current production.¹

The committee report further presents the importance of the construction industry (residential, commercial, and highway) to Kansas when it states that manufacturing income to individuals totaled \$656,000,000 in 1960. Manufacturing was the source of 18.9% of the total civilian income for persons in Kansas. In other words, the Kansas construction industry contributed one dollar to the Kansas civilian income total for every two and one-half dollars contributed by manufacturing.

The committee's conclusion on housing construction, as stated in the sector report on Trades, Services, and Construction, includes the following statements:

One measure of the supply of existing structures is vacant dwellings for rent or sale as a percentage of all dwellings. Kansas has one of the highest percentages for all three years. This, in part, indicates that the market for houses has been more saturated in Kansas than in the majority of other areas.²

The committee, while emphasizing the importance of the construction

¹Darwin W. Daicoff, "An Action Program," Economic Development for Kansas, p. 11.

²"Sector Report on Trades, Services, and Construction," Ibid., p. 52.

industry, does not feel that the Kansas housing market will improve in the near future. This research paper is concerned with a segment of the Kansas economy and the committee's conclusions may or may not apply to the Topeka, Kansas, area.

Part D. Statement of the Problem

This paper is a survey of housing literature and an analysis of the assumption that the determinants of the national housing construction industry also determine the housing construction activity in Topeka, Kansas, and Shawnee County. This assumption is tested by investigating whether past trends in national housing construction were reflected in Topeka, Kansas, and Shawnee County. Authorities on residential housing construction have proposed that population trends and income per household are the major determinants of the new housing market. They have also suggested that population mobility and housing unit cost trends are minor but important determinants of housing construction activity.

The 1950 to 1960 decade was chosen as the primary time period studied in this paper because the national housing censuses of 1950 and 1960 contained quantified data on the then existent national and local housing inventory stock. The three year period, 1961 through 1963, was also investigated in order to include the most recent developments. Government periodicals and trade publications provided information and data concerning the thirteen year period, 1950 through 1963. The records of the city and county offices were studied and housing construction statistics were copied and arranged in tabular form.

CHAPTER II

EFFECTS OF POPULATION CHANGES ON HOUSING CONSTRUCTION

Topeka was the third largest city in the state of Kansas during 1960.¹ Besides being the state capital, it contained a few manufacturing industries, and it served as the trade center for a large agricultural area. The 1960 census reported a population of 119,484 and the 1950 census estimated a 1950 population of 78,791. The decade of the 1950's resulted in a net gain of 40,693 persons or 51.5%.

Part A. Population Expansion and Geographical Changes

The geographical area enclosed by the city limits of Topeka, according to the Topeka Planning Commission's Land Use Report, increased from 12.5 square miles in 1950 to 36.06 square miles in 1960. The extensive annexation proceedings of the 1956 through 1958 period brought about this 188.4% increase in geographical area. Expressed in acres, the geographical area increased from 8,000 in 1950 to 23,000 in 1960. Persons per square mile decreased from 6,303 in 1950 to 3,313 in 1960.² This decrease resulted from the inclusion of open spaces and undeveloped land in some of the annexations.

Topeka is also the county seat of Shawnee County. The Census Bureau included all of Shawnee County in the Topeka Standard Metropolitan Area (SMA) beginning with the 1950 census. Therefore, in this

¹Largest City: Wichita, pop., 254,698; Second Largest: Kansas City, Kansas, pop., 121,901. Census of Population, 1960, Vol. I, Part 18; p. 14.

²Master Plan Report #3, Topeka-Shawnee County Regional Planning Commission, p. 29.

report, the data for the Topeka SMA and Shawnee County are the same and the terms are used interchangeably. Shawnee County (Topeka SMA) contained 545 square miles and its geographical boundaries have remained unchanged during the past thirteen years. Therefore housing data for the Topeka SMA includes one less variable than the Topeka city data.

Both city and county data were formulated and analyzed, where possible, because businessmen engaged in new housing construction typically are active both in the incorporated and unincorporated areas which make up their trade territory. Estimates of new single-family housing starts for the whole county have been made by the County Assessor's office since 1959. Housing construction permits have been required by the city authorities for many years. Recently the county commissioners have decreed that building permits must be secured for all new construction within a three-mile radius extending out from the city limits. This three-mile radius is conterminous with the outside boundaries of the Topeka-Shawnee County Regional Planning area.

The population of Shawnee County (Topeka SMA), according to the Census Bureau, was 141,286 in 1960. This figure represents a 34% increase over the 105,418 persons enumerated in the 1950 census. This increase is impressive and resulted from the excellent economic conditions which prevailed and the long-term urbanization movement of the Kansas populace.

The construction industry employed a significant portion of the Topeka SMA labor force. Manufacturing and public administration are two other industry groups whose share of total employment may be

helpful in describing the Topeka SMA situation in 1960. The Topeka area was characterized by high government employment and low manufacturing employment in 1960.

Table 1.

Comparison of Selected Industrial Employment: 1960

Classification	United States	Kansas	Topeka SMA
Total number employed	64,639,247	783,877	50,878
Proportion	100%	100%	100%
Construction	3,815,937	48,425	3,815
Proportion	5.9%	6.2%	7.5%
Manufacturing	17,513,086	130,031	5,836
Proportion	27.1%	16.2%	11.4%
Public administration	3,202,890	37,111	4,858
Proportion	5.0%	4.7%	9.5%
All other employment	40,107,334	568,310	36,369
Proportion	62.0%	72.9%	71.6%

Source: Census of Population, 1960, Vol. I, Part 1, p. 221; Part 18, p. 189; Part 18, p. 213.

The employment in construction and in public administration was higher for the Topeka SMA than either for the state of Kansas or the United States, according to Table 1. In contrast, manufacturing employment was less important in Shawnee County (Topeka SMA) than on a state-wide and nation-wide basis. The weakness of the Kansas and the Topeka SMA manufacturing industries was shown by the low percentages of employment achieved, 16.2% and 11.4% respectively. The much higher proportion of manufacturing employment found throughout the United States pointed toward a greater degree of industrialization.

The percentage of total employment engaged in the construction industry was similar for all three geographical areas. One or two

individuals, on the average, out of every twenty employed persons were active in the construction industry, according to Table 1. The above average proportion of construction employment in the Topeka SMA may have resulted, in part, from the 34% increase in population during the previous decade. The high proportion of public administration employment in the Topeka area was due to its being the state capital. All other forms of gainful employment, including agriculture, retailing, business, the professions, etc., accounted for a more equal share in Kansas and in Shawnee County. The national percentage of persons engaged in all other employment was less as a result of the greater emphasis on manufacturing found in other states than Kansas.

The Master Plan Report #3 of the Topeka-Shawnee County Regional Planning Commission listed military employment as totaling 5,514 individuals in 1960.¹ Military personnel living in Shawnee County and mainly stationed at Forbes Air Base totaled 7,004 as of April 1, 1960.² The population projections prepared by the staff of the planning commission included this 7,004 estimate and assumed that it would remain constant. Military employment and military population changes are not studied in this report because of their special determinants even though these changes may at times affect the condition of the local housing market.

¹Master Plan Report #3, p. 35.

²Ibid., pp. 210, 215.

Part B. Definitions of Major Concepts

The household is the consuming unit and constitutes the social group which lives in a single housing unit. The 1950 census defined a household as follows:

A household includes all persons who occupy a house, an apartment or other group of rooms, or a room that constitutes a dwelling unit. A household includes the related family members and also unrelated persons, if any, such as lodgers, foster children, wards or employees who share the dwelling unit. A person living alone in a dwelling unit or a group of unrelated persons sharing the same dwelling unit as partners are also counted as a household. The average population per household is obtained by dividing the population in households by the number of households.¹

Dwelling unit or housing unit were terms used to designate the physical units which constitute the 1950 and 1960 housing stocks or inventories. Permanent dwelling units were defined as structures designed and built for the purpose of providing year-round, permanent shelter on a residential basis. Besides a room or group of connected rooms, a dwelling unit also had to have cooking facilities and a distinct entrance for its occupants. Bathroom and heating facilities could be separate for each dwelling unit or they could be shared by more than one dwelling unit.

The above definition results in occupied dwelling units and household units being equal, numerically. The dwelling or housing unit inventory, at any one time, included both occupied and vacant dwelling units, whereas the number of households and occupied dwelling units were always identical by definition.²

¹Census of Population, 1950, Vol. II, Part 16, p. XVII.

²Census of Housing, 1950, Vol. I, Part 1, p. XVI.

Housing literature and data also used the "family" concept. The 1950 census defined a family as:

A group of 2 or more persons related by blood, marriage, or adoption and living together; all such persons are regarded as members of one family. The number of families was determined from the number of persons classified as heads of families; this classification was made for the 20% sample of the data collected.

A lodger and his wife who are not related to the head of the household, or a resident employee and his wife living in, are considered as a separate family. Thus a household may contain more than one family.

A household head (dwelling unit head) living alone or with nonrelatives only, is not regarded as a family. Some households, therefore, do not contain a family.¹

Numerically, the data for households and families is usually very similar and sometimes was used interchangeably in the literature surveyed.

Part C. 1950 Housing Inventory

The 1950 housing inventory or stock for the United States included 45,983,398 dwelling units. Occupancy was at a high rate, 93.1% of the total stock, or about 42,826,000 units. The vacancy rate was 6.6% with 3,029,627 units reported as vacant for various reasons. The following Table 2 presents the occupancy and vacancy characteristics of the 1950 housing stock for the United States. The 1950 Census of Housing was taken before the Korean conflict began.

The national vacancy rate was low in 1950 and may have reflected a strong demand for additional housing (see Table 2). The vacant nonseasonal but sound units included homes which had been sold but

¹Census of Population, 1950, Vol. II, Part 16, p. XVII.

Table 2.

Occupancy and Vacancy in the 1950 National Housing Inventory

Classification	Number	Proportion
All dwelling units	45,983,398	100 %
Occupied dwelling units	42,826,281	93.1%
Owner occupied	23,559,966	51.2%
Renter occupied	19,266,315	41.9%
Vacant dwelling units	3,029,627	6.6%
Vacant for rent	516,644	1.1%
Vacant for sale	215,077	0.5%
Vacant nonseasonal, sound	742,647	1.6%
Vacant nonseasonal, dilapidated	504,793	1.1%
Vacant used part of year	1,050,466	2.3%

Source: Census of Housing, 1950, Vol. I, Part I, Chap. 1, p. 18.

still vacant, houses being held as second homes for the same family, and vacancies caused by other reasons. The vacant units used for only part of the year included vacation cottages with permanent, sturdy construction and heating facilities.

Table 3 presents the occupancy and vacancy rates of Topeka SMA (Shawnee County) for 1950. Renters occupied approximately one-third of the area's dwelling units.

A comparison of the Topeka SMA occupancy rate with that of the nation as a whole revealed a greater occupancy for the former. The Topeka SMA vacancy rate was half the national rate (3.1% versus 6.6%). These figures show that the Topeka SMA housing stock was being fully utilized in 1950. Only 156 Topeka SMA units were vacant and for sale,

according to Table 3. The comparison of vacancy rates classifications shows a much lower than the national average in vacancy in the housing "used only part of the year" classification.

Table 3.

1950 Housing Occupancy and Vacancy in Topeka SMA

Classification	Number	Proportion
All dwelling units	33,917	100 %
Occupied dwelling units	32,774	96.4%
Owner occupied	21,434	63.0%
Renter occupied	11,340	33.4%
Vacant dwelling units	1,039	3.3%
Vacant for rent	323	0.9%
Vacant for sale	156	0.5%
Vacant nonseasonal, sound	351	1.0%
Vacant nonseasonal, dilapidated	158	0.5%
Vacant used part of year	51	0.2%
Nonresident dwelling units	104	0.3%

Source: Census of Housing, 1950, Vol. I, Part 3, Chap. 16, p. 38.

The age of the 1950 national housing inventory was analyzed so that any changes in age relationships during the following decade would have meaning. Table 4 lists the year groupings in which the 1950 housing inventory was divided.

The housing units included in the following table were those in existence when the 1950 census was taken. The figures in Table 4 are substantially correct but often respondents to the census gave the original construction date from their memories or by estimating rather

than from written records. Also this data was based on a 20% sample and the equivalent of 1,753,500 units did not report or respond.

Table 4.

1950 Housing Inventory by Year Built: United States

<u>Classification</u>	<u>Number</u>	<u>Proportion</u>	<u>Age Grouping</u>
Units reporting year built	44,230,000	100 %	
1945 or later	5,946,000	13.5%	5 years or less
1940 to 1944	3,228,000	7.3%	10 to 6 years
1930 to 1939	5,898,000	13.3%	20 to 11 years
1920 to 1929	8,894,000	20.1%	30 to 21 years
1919 or earlier	20,264,000	45.8%	31 years or older

Source: Census of Housing, 1950, Vol. I, Part 1, Chap. 1, p. 3.

A study of the Topeka SMA housing inventory, as reported in the 1950 census, reveals a similarity to the national age pattern except that the extremes are more pronounced. Table 5 following presents the Census of 1950 data for the Topeka SMA and lists only 3.4% or 1,135 units as having been built from 1940 through 1944. This was an average annual rate of new additions of less than 270 new units per year. Nationally, 7.3% of the 1950 inventory had been built during these same four years. At the other extreme, 52.8% of the Topeka SMA housing units had been built in 1919 or earlier. The corresponding figure for the United States as a whole was only 45.8%.

Construction of new housing during the early postwar years (1945 through 1950) evidently advanced at the same rates for both the nation and Shawnee County. The decade of the 1930's, the depression years, resulted in a slightly greater rate of additions for the nation as a

whole when compared with the Topeka SMA (13.3% versus 10.9%).

Table 5.

1950 Housing Inventory Age for Topeka SMA

<u>Classification</u>	<u>Number</u>	<u>Proportion</u>	<u>Age Grouping</u>
Units reporting year built	33,445	100 %	
Built in 1945 or later	4,405	13.2%	5 years or less
Built 1940 to 1944	1,135	3.4%	10 to 6 years
Built 1930 to 1939	3,635	10.9%	20 to 11 years
Built 1920 to 1929	6,610	19.8%	30 to 21 years
Built 1919 or earlier	17,660	52.8%	31 years or older
Units not reporting	472	1.4%	

Source: Census of Housing, 1950, Vol. I, Part 3, Chap. 16, p. 20.

Figure 1, Comparison of Housing Units Age Composition: 1950, presents the data contained in Tables 4 and 5, graphically. This graph shows the similar proportional inventory weights for the 1920 to 1930 decade and the 1945 through 1950 period. The greater proportion of old houses (52.8%) plus the lesser proportion of war-time built units (3.4%) leads one to conclude that the Topeka SMA had an older housing unit inventory in 1950 than the national average. This conclusion is also reinforced by the lesser than average rate of new accessions for the 1930's. New accessions for the nation as a whole were at an average annual rate of 1.3% whereas the Topeka SMA average annual rate stood at 1.1% during the 1930's.

The relation of population to the number of households or occupied dwelling units was also investigated. In 1950 the United States had a population of 151,325,798. Of this number, 145,030,888 lived in

Table 6.

New Nonfarm Housing Units Started: United States
(Rounded to nearest thousand)

Year	Private and public nonfarm total	Single family	Two family	Three or more units
(Old Series)	(Units)	(Houses)	(Duplexes)	(Apartments)
1940	603,000	486,000	37,000	80,000
1945	209,000	185,000	9,000	16,000
1947	849,000	740,000	34,000	75,000
1948	932,000	767,000	47,000	118,000
1949	1,025,000	794,000	37,000	194,000
1950	1,396,000	1,154,000	45,000	197,000
1951	1,091,000	900,000	40,000	151,000
1952	1,127,000	943,000	46,000	139,000
1953	1,104,000	938,000	42,000	125,000
1954	1,220,000	1,078,000	34,000	108,000
1955	1,329,000	1,194,000	33,000	102,000
1956	1,118,000	990,000	31,000	98,000
1957	1,042,000	873,000	33,000	136,000
1958	1,209,000	975,000	39,000	195,000
(New Series)				
1959	1,531,000	1,229,000	59,000	244,000
1960	1,274,000	987,000	51,000	237,000
1961	1,337,000	961,000	50,000	326,000
1962	1,492,000	996,000	56,000	440,000
1963	1,618,000	1,006,000	61,000	551,000

Source: United States Statistical Abstract, 1955, p. 769; 1956, p. 773; 1962, p. 755; 1963, p. 755. "Construction Review," Bureau of Business Statistics, (Vol. X, No. 5, May, 1964) p. 14.

42,826,281 dwelling units.¹ These two factors resulted in the average figure of 3.4 persons per occupied dwelling unit or household.² The 1950 American population not residing in classified dwelling units included those in governmental institutions, residents abroad, and others living in group quarters such as camps or hotels.

In comparison, the Topeka SMA had a 1950 population of 105,418. Of this number, 99,965 lived in 32,776 dwelling units or households.³ These estimates resulted in an average of 3.05 persons per household in this geographical entity. The median number of persons per household in the Topeka SMA was 2.7 in 1950.⁴ Since the average or arithmetic mean was larger than the median, it was assumed that the Topeka area had a larger number of one and two person households and a lesser number of households containing three or more persons than the national average. This unbalance may have reflected the high proportion of governmental employees and office clerks found within the Topeka labor force.

The median number of persons per occupied dwelling unit in 1950 was 3.1 for the whole United States.⁵ Therefore it is assumed that a similar pattern of a greater number of small households together with a lesser number of large households also prevailed in the whole nation but not to the degree which was present in the Topeka area.

¹Census of Housing, 1950, Vol. I, Part 1, Chap. 1, p. 2.

²Ibid.

³Census of Population, 1950, Vol. II, Part 16, p. 93.

⁴Census of Housing, 1950, Vol. I, Part 3, Chap. 16, p. 38.

⁵Census of Housing, 1950, Vol. I, Part 1, Chap. 1, p. 1.

Part D. New Housing Unit Construction Activity

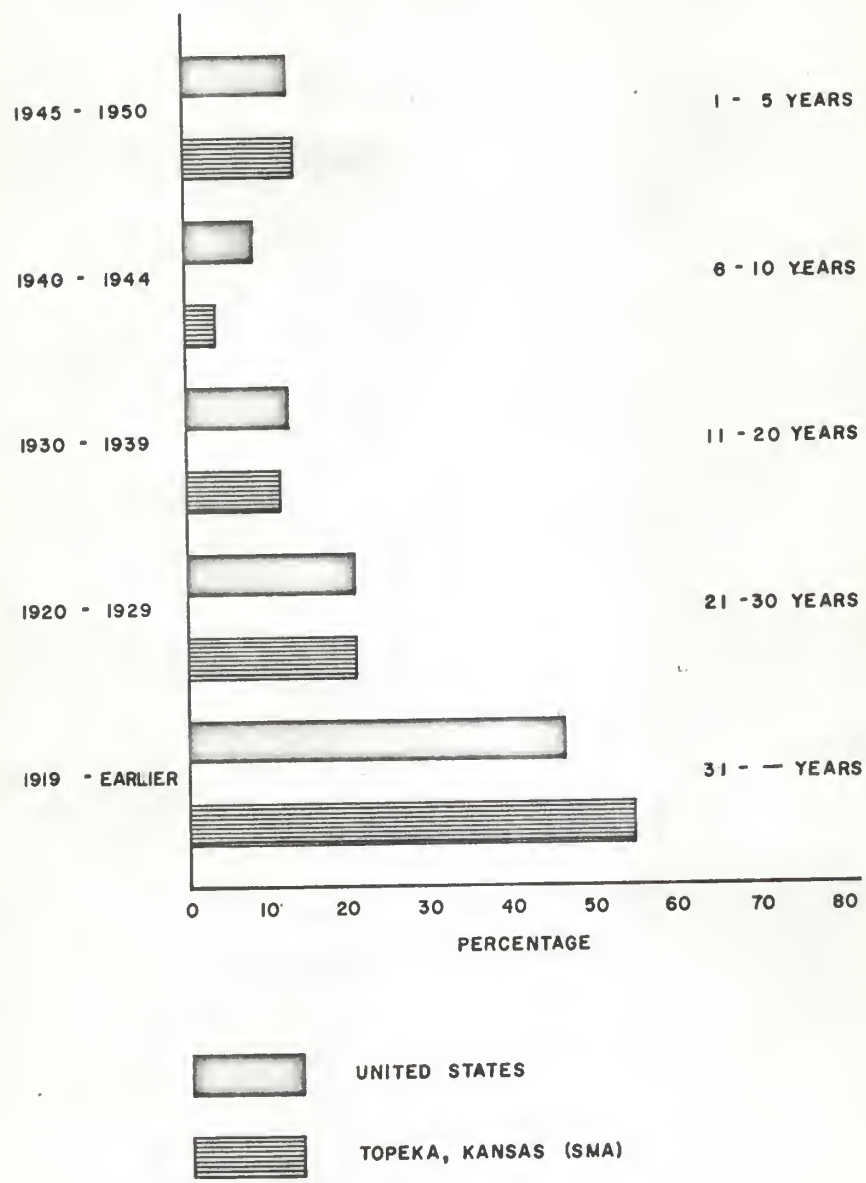
The Bureau of Business Statistics, Washington, D. C., publishes a monthly estimate of new housing construction data in the "Construction Review." These unit estimates, together with financial data, are combined into annual totals. The estimated annual totals are then reconciled with the "benchmark" figures derived from the 1950 and 1960 censuses and the special National Housing Inventory of 1956. The 1956 National Housing Inventory survey was taken in December, 1956. The Bureau of Census took a sample survey entitled "Components of Inventory Change" during December, 1959. This was followed by the total 1960 Census of Housing taken during April, 1960. The 1950 Census of Housing was based on actual count data taken as of April 1, 1950. Government reference works, including annual issues of the United States Statistical Abstract, contain national and state totals on housing construction information. Table 6 presents national housing unit starts estimates for the years 1940 through 1963. New building permit information for the City of Topeka is shown on Tables 7 and 8. The national nonfarm housing unit starts, on an annual basis, are also presented in Figure 2. The city of Topeka housing unit starts, based on permit information, are shown on Figure 3.

New housing construction activity in the United States experienced two complete cycles during the decade of the 1950's. The first cycle covered the 1950 to 1955 period, as shown in Figure 2. The years 1955 through 1959 were included in the second cycle. The peak years were 1950, 1955, and 1959, and the troughs were reached during 1951 through 1953 and during 1957.

FIGURE 1

COMPARISON OF HOUSING UNITS' AGE COMPOSITION: 1950

HOUSING INVENTORY BY YEAR STRUCTURE BUILT.
(NUMBER REPORTING, BASED ON 20% SAMPLE)

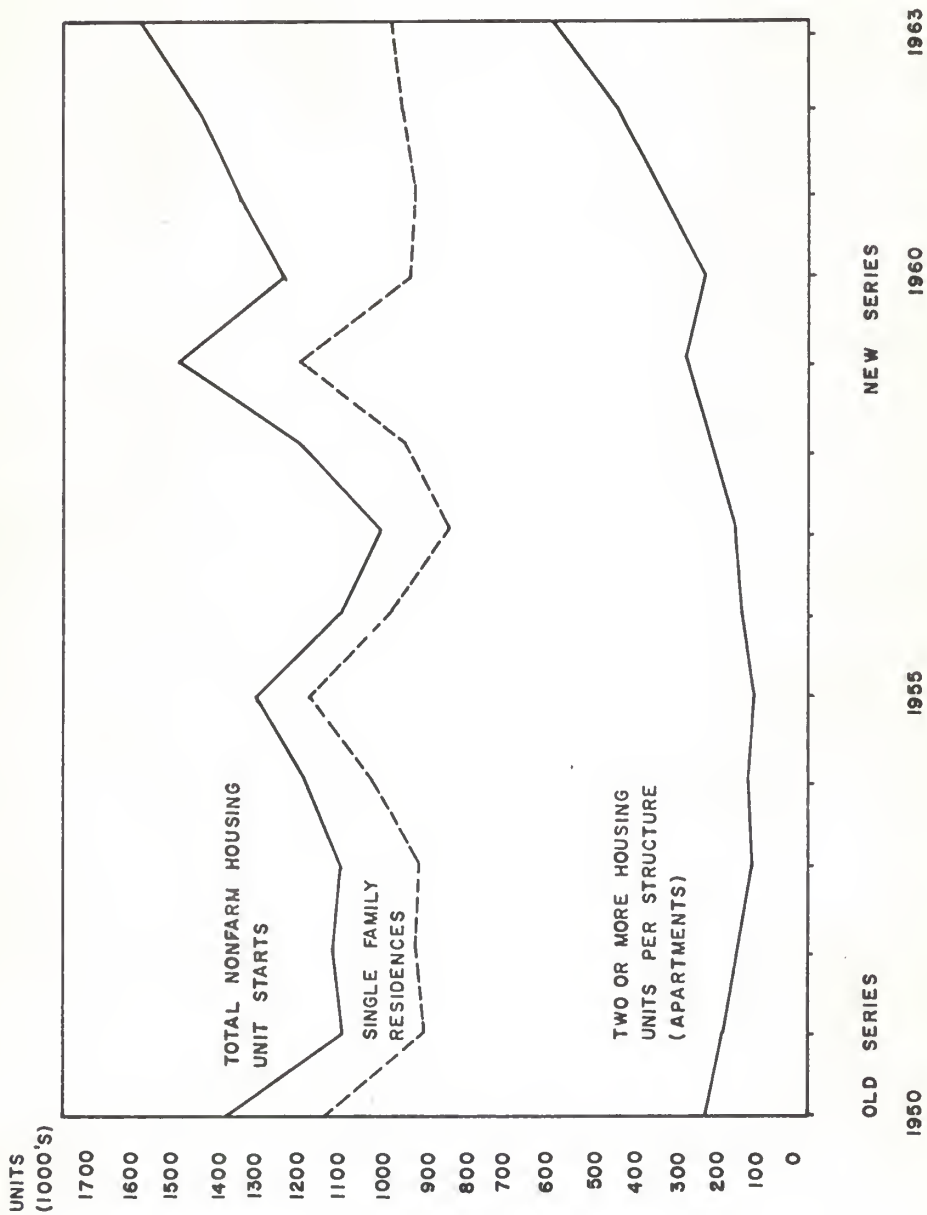


SOURCE: BASED ON DATA FROM THE CENSUS OF HOUSING, 1950, VOL. 1, PART 1, CHAP. 1, P. 3, AND VOL. 1, PART 3, CHAP. 16, P. 20.

FIGURE 2

22

NEW NONFARM HOUSING CONSTRUCTION CYCLES: UNITED STATES



SOURCE: BASED ON DATA FROM TABLE 6.; UNITED STATES STATISTICAL ABSTRACTS; AND "CONSTRUCTION REVIEW", BUREAU OF BUSINESS STATISTICS, (MAY, 1964).

The Bureau of Business Statistics and the Bureau of Census annual estimates for the 1950's vary from a low of 1,042,000 new housing units constructed in 1957 to a high of 1,531,000 units in 1959 (see Table 6). The 1957 figure is based on the Old Series whereas the 1959 number is based on the New Series. The Census Bureau developed the New Series of estimates, beginning with 1959, when preliminary findings of the December, 1959, housing survey became available. These preliminary findings pointed toward a higher rate of construction activity than had been estimated and therefore the new series was initiated.

The new housing unit starts listed in Table 6 include urban and rural nonfarm units. New rural farm units are not included in the data because they were negligible in number and most published financial data on housing construction covers only nonfarm construction. New rural farm housing constructed during the 1959 through 1963 period varied from 22,000 to 28,000 units annually. Besides its present insignificance, new rural farm construction does not have an improved potential for the future. This is because both farm population and farm income are decreasing. On the other hand, nonfarm rural new housing may have a future potential as increased incomes make it possible for more households to maintain more than one residence.

The Building Inspection Department of the city of Topeka has kept accurate records of building permits issued to residents of the city. These records include both numerical and financial data. New housing unit construction figures were compiled from these records. Information concerning the building permits issued for the alterations of or additions to present housing units was also available but it was not

included in Tables 7 and 8. As stated previously, commercial and institutional construction data was not investigated nor compiled.

The years of 1950, 1954, 1957, and 1960 were the peak years in the numerical volume of new housing permits issued in the city of Topeka, according to Table 7. The same data is presented in graphical form in Figure 3. The years in which new building construction passed through the trough or low turning points were 1952, 1956, and 1958. The 1958 low year represented a volume of activity, numerically speaking, equal to the 1950 peak. Five hundred and thirteen housing units were started in 1950 and 531 units were started during 1958. The 1958 year is a trough year only in comparison with the preceding year of 1957 and the years following. Seven hundred and eighty-four housing units were begun in 1957 and 879 units were begun in 1959.

The city of Topeka data formed two cycles of unequal length when the 1957 rise was omitted. The first cycle covered the 1950-1954 period and the second cycle included the years, 1955 through 1960. A comparison of Figure 2 with Figure 3 reveals that the city of Topeka expansionist peak activity preceded that of the nation by one year during the first cycle and followed the national peak activity ending the second cycle by one year.

The construction of single family residences dominated the Topeka housing construction activity during the decade 1950 to 1960. Duplexes and apartments accounted for 21.6% of the new units started in 1953, when new multifamily units achieved a new high. This high proportion of multifamily units was not achieved again until 1961. Multifamily unit starts, according to Table 7, totaled 660 for the ten years and represented 11.5% of all housing units begun during the 1950's.

Table 7.

New Housing Units Started: City of Topeka
(Based on housing building permits issued)

Year	Total housing units started	Family residences started	Number of multifamily units started	Proportion multifamily
1950	523	521	2	00.4%
1951	461	399	62	13.4%
1952	405	357	48	11.8%
1953	528	414	114	21.6%
1954	610	593	17	2.8%
1955	564	544	20	3.5%
1956	467	419	48	10.3%
1957	784	665	119	15.2%
1958	531	465	66	12.4%
1959	879	715	164	18.7%
sub-totals	(5,752)	(5,092)	(660)	11.5%
1960	1,058	948	110	10.4%
1961	928	714	214	23.1%
1962	960	611	349	36.3%
1963	524	346	178	33.9%
sub-totals	(3,470)	(2,619)	(851)	24.5%
Totals	9,222	7,711	1,511	16.4%

Source: Annual Reports of the Building Inspection Department, City of Topeka. Calculations by the writer.

Table 8.

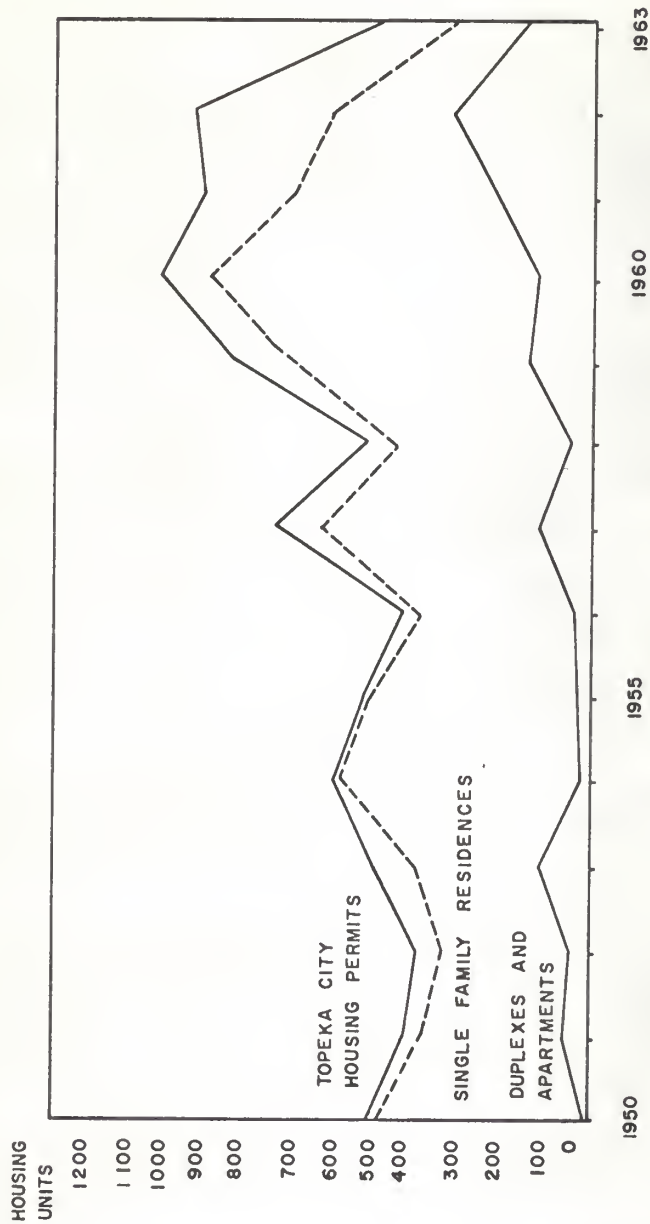
Apartment Units Started and Permits Issued: City of Topeka

Year	Number of multifamily units started	Apartment units started	Duplex apartment units started	Apartment building permits issued
1950	2	0	2	0
1951	62	28	34	3
1952	48	12	36	1
1953	114	106	8	1
1954	17	3	14	1
1955	20	8	12	1
1956	48	16	32	4
1957	119	81	38	6
1958	66	44	22	4
1959	164	112	52	22
sub-totals (660)		(410)	(250)	(43)
1960	110	78	32	7
1961	214	170	44	27
1962	349	117	232	11
1963	178	156	22	9
sub-totals (851)		(521)	(330)	(54)
Totals 1,511		931	580	97

Source: Annual Reports of the Building Inspection Department, City of Topeka. Calculations by the writer.

FIGURE 3

NEW HOUSING CONSTRUCTION CYCLES: CITY OF TOPEKA



SOURCE: BASED ON DATA FROM TABLE 7, AND THE ANNUAL REPORTS OF THE BUILDING INSPECTION DEPARTMENT, CITY OF TOPEKA.

The low years of multifamily housing units construction were 1950 with 00.4% of that year's numerical total, 1954 with 2.8% and 1955 with 3.5%. Only one duplex structure containing two housing units was constructed in 1950, according to Table 8. The number of new building permits for duplex units is not listed in Table 8 because a duplex, by definition, contains only two apartments. In 1959, 22 apartment buildings were approved and 26 building permits were issued for duplex buildings. This resulted in 116 multifamily housing units having been started in 1959. In general, the construction activity of apartments or duplexes tended to reinforce the single family residence construction activity trends in the city of Topeka.

Multifamily housing unit construction also represented a minor share of the total new units added to the national inventory. Duplex unit starts totaled 396,000 for the ten year period (1950 to 1960). New structures containing three or more housing units added 1,482,000 apartments to the national housing stock during the same decade. The 1,878,000 multifamily units, listed in Table 6 for the years 1950 through 1959, were equal to 15.6% of the total new starts. The twelve million new nonfarm housing starts which were reported for the years 1950 through 1959 included 10,140,000 new single family residence structures. The annual estimates of new single family residences started are shown on Table 6.

New apartments and duplex apartments represented a greater proportion of new additions for the whole nation than they did in the city of Topeka (15.6% versus 11.5%). The national annual rate of multifamily housing construction was more stable than that for single family housing. Table 6 and Figure 2 show that, on a national basis, multi-

family housing construction activity contributed little to the 1950, 1955, and 1959 peak years and less to the 1953 and 1957 low years. In numerical terms, 1953 was the lowest year with only 167,000 multifamily units constructed in the fifty states. The peak year of the 1950 to 1960 decade was 1959 when 303,000 new multifamily units were started and presumed constructed.

The new housing construction section of this report could be summarized with the statement that both the United States and the Topeka SMA experienced two cycles during the 1950 to 1960 period. The Topeka SMA had a small sub-cycle or fluctuation in 1957 when an increase in construction occurred. The two short building cycles, on a national basis, took place between 1950 and 1955, and from 1955 to 1959. The Topeka SMA main short building cycles developed between 1950 and 1954 and from 1954 to 1960. The first national short building cycle was about five years in duration and the second building cycle lasted for about four years. The first Topeka SMA short building cycle was approximately four years in length and its second building cycle continued for about six years.

The research on national and local short building cycles was completed by Dr. Clarence D. Long in 1940. The 1950 and 1960 census material and the later Bureau of Business Statistics estimates substantially support Dr. Long's earlier findings. He found that the nine short building cycles, prior to 1940, averaged slightly over four years in length. The two national building cycles during the decade of the 1950's repeated this time pattern. The Topeka SMA building cycles varied slightly from the national pattern. This would have been expected since the growth rate was the greater in the Topeka

SMA and because reactions to local demographic and economic changes are usually more extreme in the smaller portion of the whole nation. Even so, the two Topeka SMA short building cycles did not vary enough to invalidate Dr. Long's conclusions.

Part E. Mobility of Consuming Households

The large unit size and permanency of construction resulted in small annual increments to the inventory. Housing typically may last from two to three generations (42 to 63 years) and this accounts for the lack of a so-called "replacement market" in housing. Rather than abandoning and destroying their present housing, consumers will trade up into better class housing as their incomes rise. The majority of families moved into higher valued homes as their income increased above the community average. Family mobility is the unit of measurement for shifts by the population among housing units.

Arnold E. Chase, employed by the Bureau of Labor Statistics in Washington, D. C., reported that one-fifth of our population changed their place of residence during the twelve months ending March, 1956.¹ The American people, according to Mr. Chase, were motivated by both the desire for and opportunity for improved economic and social conditions. Also, certain regions of the nation enjoyed a more rapid economic and business expansion rate than other regions. The flow of the population increase, during the 1950 to 1960 decade, was toward the South and West regions.

¹Arnold E. Chase, "Housing Demand in the United States, 1957-1965," Monthly Labor Review (Feb., 1958), p. 143.

Population tended to be more stable in the Northeast and North Central regions. Table 9, National Population Trends by Regions, 1940 to 1960, presents data from the 1940, 1950, and 1960 censuses of population.

Table 9.

National Population Trends by Regions, 1940 to 1960

Data Item	Northeast 9 states	North Central 12 states	South 16 states	West 13 states
1940 Census	35,976,777	40,143,332	41,665,901	13,883,265
Proportions	27.3%	30.5%	31.7%	10.5%
10 year increase	3,501,209	4,317,340	5,531,187	6,306,697
Proportions	17.8%	22.0%	28.1%	32.1%
Rate of increase	9.7%	10.8%	13.3%	45.6%
1950 Census	39,477,986	44,460,762	47,197,088	20,189,962
Proportions	26.1%	29.4%	31.3%	13.4%
10 year increase	5,199,833	7,158,377	7,776,025	7,863,142
Proportions	18.6%	25.5%	27.8%	28.1%
Rate of increase	13.2%	16.1%	16.5%	38.9%
1960 Census	44,677,819	51,619,139	54,973,113	28,053,104
Proportions	25%	28%	31%	16%

Source: Population data was taken from the Census of Population, 1960, Vol. I, Part 1, p. 16.

The West region enjoyed a 45.6% rate of increase during the 1940's and a 38.9% rate of increase during the 1950's. The north-eastern states region had the most stable population with 9.7% rate of increase for the decade of the 1940's and a 13.2% rate of increase for the decade of the 1950's. The West region (13 states) had the greatest absolute increase in population for both decades. In 1950 nearly one out of every three persons in the West region was a new resident. These new residents consisted of new births and migrants from other

regions of the nation. Ten years later, in 1960, one out of every four residents had not been living in that region in 1950. Again, the increase in population includes the excess of new births over deaths and the excess of in-migration over out-migration.

The thirteen western states had a population of 13,883,265 in 1940 and they represented 10.5% of the national total (see Table 9). Their population increased to 20,189,962 in 1950, and their share of the nation's residents increased to 13.4%. The West region's rate of growth decreased 10% during the 1950 to 1960 period (from 45.6% to 38.9%). In contrast, the rate of increase improved for the other three regions of the nation. In spite of this improvement throughout the older regions of the nation, the West region's rate of increase was still more than double that for any other geographical region. The West region represented 16% of the total American population in 1960. The remainder of the population was rather evenly divided: Northeast--25%; North Central--28%; and South--31%.

The North Central region, which includes the state of Kansas and the city of Topeka, had a population increase which was slightly under the national average for the decade of the 1950's. The population for the nation increased from 151,325,798 in 1950 to 179,323,175 in 1960. This represented an increase of 18.5% for the decade. The twelve states which make up the North Central region enjoyed a 16.1% rate of increase for the ten year period. Their combined population increased from 44,460,762 in 1950 to 51,619,139 in 1960. This 7,158,377 net increase in population represented the excess of births over deaths, but out-migration was greater than in-migration from the other

three regions of the nation.¹

The rural to urban migration reinforces the inter-regional migration. Rural farm population totaled 25,058,000 for the 50 states in 1950. Ten years later, in 1960, rural farm population had decreased to 20,541,000. This represented an 18% drop in population. Meanwhile, urban and rural nonfarm population increased from 126,267,798 in 1950 to 158,782,175 in 1960. The urbanization trend and the geographical trends resulted in increased housing demand in specific regions and localities. Mr. Chase concludes:

Out migration has not resulted in an excessive increase in vacant dwelling units in any section of the country, however, but merely in a smaller number of additional dwelling units being required in the slower growing sections. It is apparent, therefore, that while migration and mobility have been important factors in determining where new housing should be built, they have not added to the overall national demand for additional housing.²

Respondents to the 1960 census of housing were asked to state when they had moved into their present residential quarters. They also were asked the location of their previous residency. Table 10, Year Present Household Moved into Housing Unit: 1960, shows the mobility tendency of the American people. More than one-fifth of American households had changed their residency location during the fifteen month period of January 1, 1959, to March 31, 1960. The mobility characteristic of this nation takes on added importance when it is converted into the number of persons. The average household had three or four persons (3.3 persons) in it. The 11,785,926 households which moved during this short period represented a total of 38,894,000 indi-

¹United States Statistical Abstract, 1961, p. 12.

²Arnold E. Chase, op. cit., p. 143.

viduals or a population larger than the combined total for the states of New York, California, and Florida. This dynamic factor generated additional business and employment in both the housing construction and the real estate industries although its direct effects are difficult to measure.

Table 10.

Year Present Household Moved into Housing Unit: 1960

Period	United States		Topeka SMA	
	Number	Percent	Number	Percent
Total occupied units	53,023,875	100%	43,625	100%
1959 through March 1960	11,785,926	22.2%	11,913	27.3%
1958	5,118,462	9.7%	4,933	11.3%
1957	4,122,210	7.8%	3,483	8.0%
1954 to 1926	8,861,540	16.7%	6,960	15.9%
1953 or earlier	23,135,736	43.6%	16,336	37.4%

Source: Calculated from data in Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 22, and Vol. I, Part 4, Chap. 18, p. 23.

The rate of change or movement between housing units decreased as the period of tenure lengthened, as shown in Table 10. Only 9.7% of the households in the United States, enumerated in 1960, had moved during 1958 and less than 8% had changed housing units during 1957. Respondents to the 1960 census who had moved into their present quarters (as of the enumeration date) during the years 1954, 1955, and 1956 represented an average annual rate of movement of less than 6%.

The Topeka Standard Metropolitan Area (co-extensive with Shawnee County) experienced a greater degree of recent mobility than the nation

as a whole. Twenty-seven percent of the Topeka SMA households had moved into their present (April 1, 1960) homes during the January 1, 1959, through March 31, 1960, period (Table 10). This trend would have been assumed since the Topeka SMA rate of population growth was greater than that for the nation during the 1950's (34% versus 18.5%). The population of the Topeka SMA was 105,418 in 1950 and 141,286 in 1960 (see Table 11). The city of Topeka included 79.9% of the metropolitan area's population in 1950 and 85.5% of the metropolitan area's population in 1960. These proportions were calculated from the County Assessor's population estimates.

Shawnee County, as shown on Table 11, enjoyed two periods of great population growth between 1950 and 1960. The first growth peak was achieved during 1952 when a net gain of 6,266 persons took place. The Korean conflict and the rapid expansion of Forbes Air Force base continued during the early 1950's and these factors may have influenced the population growth.

The second period of rapid population growth in the Topeka SMA took place during 1956 and 1957. A net gain of over 8,000 persons was estimated for these two years by the county assessor's office. The year to year population increases, shown on Table 11, for the city of Topeka progressed at a more stable rate than the county except during 1956 and 1958. Large tracts of residential sub-divisions were annexed to the city of Topeka during these years.¹ These annexations transferred about 15,000 persons into the city limits in 1956 who previously

¹Abram Pratt, City Engineer, Records of the Engineering Department, 1955 through 1958.

Table 11.

Topeka and Shawnee County Population Estimates and Annual Increases
(Includes both civilian and military population)

Year	Date of estimates	Topeka City	Increase for year	Shawnee Co. (Topeka SMA)	Increase for year
1950	Mar. 1	87,626	3,432	109,696	4,877
1950*	Apr. 1	(78,791)*	---	(105,418)*	---
1951	Mar. 1	91,058	2,579	114,573	2,201
1952	Mar. 1	93,637	1,324	116,774	6,266
1953	Mar. 1	94,961	1,081	123,040	4,460
1954	Mar. 1	96,042	2,237	127,500	3,210
1955	Mar. 1	98,279	1,735	130,710	2,390
1956	Mar. 1	100,014	15,468	133,100	4,160
1957	Mar. 1	115,482	2,201	137,260	3,900
1958	Mar. 1	117,683	4,627	141,160	2,390
1959	Jan. 1	122,310	1,796	143,550	1,560
1960	Jan. 1	124,106	914	145,110	1,240
1960*	Apr. 1	(119,484)*	---	(141,286)*	---
1961	Jan. 1	125,022	996	146,350	915
1962	Jan. 1	126,016	786	147,265	902
1963	Jan. 1	126,802	813	148,167	911
1964	Jan. 1	127,615		149,078	

*Census Bureau Enumerations

Source: Annual population estimates prepared by the Shawnee County Assessor's Office. Calculations by the writer.

had been classified as living in Shawnee County but outside the city of Topeka.

The Topeka SMA or Shawnee County population living in apartments, duplexes, and single family residences totaled 136,205 in 1960.¹ This equaled 96.6% of the 141,286 total Shawnee County population. The remainder of the 1960 population, 3.4%, lived in group quarters including hotels, motels, camps, and military facilities. The average number of persons per dwelling unit in the Topeka SMA was 3.1 persons in 1960. This figure was calculated by dividing the population in housing units by the number of occupied dwelling units in 1960.

The Topeka SMA also experienced a greater rate of migration during 1958 than that of the nation as a whole, according to Table 10. The national rate for 1958 was 9.7% whereas the Topeka SMA rate of migration was 11.3%. And finally, only 37.4% of the 1960 Topeka SMA households had been living in the same housing unit for at least 6½ years or since 1953. Nationally, 43.6% of the households were still living in the same house or apartment as they had in 1953, as shown in Table 10.

A study published by the Topeka Welfare Planning Council, reported that more than 31,000 persons (age 5 or over) had moved into the city of Topeka during the five year interval between 1955 and 1960.² They found that 42.6% of the population five years old and over lived in the same house in 1960 as they had in 1955. Another 26.3% of this same age group lived in a different house in 1960 than they had in 1955

¹Census of Housing, 1960, Vol. I, Part 1, Chap. 18, p. 23.

²Bradford W. Sheafor, "People and Housing in Topeka," Topeka Welfare Planning Council, p. 17.

but still in the city of Topeka. The other categories of the population born in 1954 or earlier included: those who had moved into Topeka from a different house in Shawnee County but outside the city limits, 4.3%; those who moved into Topeka from a home outside Shawnee County, 22.6%; and those whose former residence had been outside the United States or had moved but not reported, 4%. The 1950 Census of Housing did not record mobility or migration information.

A comparison of the Topeka SMA data with the city of Topeka mobility data is difficult because the cutoff dates are different. In rough terms, at least 62.6% of the Topeka SMA households moved during the 1954 to 1960 interval. This percentage was calculated from the right marginal column of Table 10. City of Topeka households who moved at least once between 1955 and 1960 represented 57.4% of the 1960 population five years old and over.¹ These statistics indicate that the rate of mobility was rather similar for both the Topeka SMA and the city of Topeka.

The renter/owner ratio may have been a sub-factor in determining household mobility. Nearly 39% of all renters in the nation moved during the 1959-1960 interval. In comparison only 12.2% of the owners changed their place of residence during the 1959-1960 fifteen month period. Only 25% or one-fourth of the 1960 renters were still living in the same housing unit as they had in 1953. In contrast, over half of the homeowners (55.2%) had not moved during the 6½ year period since 1953.² These figures point toward the conclusion that renters tended

¹Bradford W. Sheafor, loc. cit.

²Calculated from data in the Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 22.

to move at least twice as often as owners on an average national basis. Also, a locality which had a high tenancy rate could also have a high mobility rate.

Part F. Ownership and Tenancy Rates

The renter/owner ratio may be used to measure either the tenancy rate or the ownership rate. The first factor in the ratio represents the portion of the total occupied dwelling units which house renters. The second factor in the ratio is equal to the portion of total occupied dwelling units which are occupied by homeowners. The numbers in the ratios represent percentages of the total and should equal 100% when they are combined.

The Topeka SMA's 1950 renter/owner ratio was 35:65. Owners occupied 21,434 of the Shawnee County housing units enumerated in 1950 and renters were living in another 11,340 units.¹ Slightly less than two-thirds of the Shawnee County occupied housing units were the homes of owners in 1950.

The 1950 average renter/owner ratio for the fifty states was 45:55.² The whole nation, on the average, had a substantially lower ownership rate in 1950 than that present in the Topeka SMA. Only slightly more than half of all households in the nation owned their living quarters in 1950.

The Topeka SMA renter/owner ratio was 33.5:66.5 in 1960. Owners occupied 29,015 of the Topeka SMA housing units enumerated in 1960.

¹Census of Housing, 1950, Vol. I, Part 3, Chap. 16, p. 38.

²Census of Housing, 1950, Vol. I, Part 1, Chap. 1, p. 1.

Renters were living in another 14,610 of the total occupied housing units in 1960.¹ Total occupied housing units in the Topeka SMA were 43,625 according to Table 10. A comparison of the 1950 and 1960 renter/owner ratios for the Topeka SMA reveals that both the renter proportion and the owner proportion remained rather stable during this decade.

The national ownership rate increased during the decade of the 1950's. The 1960 renter/owner ratio was 38:62 for the fifty states.² Home ownership increased in both the Topeka SMA and the nation as a whole between 1950 and 1960. But the marked increase in ownership as a proportion of the total occupied units in the United States did not take place as strongly in the Topeka SMA. Even so, the Topeka SMA was able to maintain a higher rate of homeownership than the United States in general (66.5% versus 62% in 1960). These ratios may lead one to conclude that, historically, the Topeka SMA population has placed a high social value upon homeownership. Additional research on this point would have been needed to prove this conclusion definitely.

In summary, the Topeka SMA had a lower tenancy rate and a higher mobility trend than the United States in 1960. A comparison of the Topeka SMA renter mobility with the national rental mobility trend was not possible because of a lack of Topeka SMA information. The United States as a whole, even though it had the greater proportion of renter households, had a lower mobility than the Topeka SMA. Therefore, a high tenancy rate did not, for the United States, result in a

¹Census of Housing, 1960, Vol. I, Part 4, Chap. 18, p. 23.

²Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 1.

high mobility trend. The preceding analysis of the construction cycle characteristics and the mobility and ownership trends forms the basis for the following investigation of the 1960 housing inventories of the United States and the Topeka SMA.

Part G. 1960 Housing Inventory

The respondents to the 1960 Census of Housing were asked to state the year in which their housing structure had been built. Enumerators asked the neighbors, adjacent to the vacant structures, in what year they thought the vacant structure had been constructed. The census enumerator was given the authority to adjust these estimates for the vacant units if the replies which he received from the neighbors seemed erroneous. Figure 4 presents data on the 1960 housing inventory both for the United States and the Topeka SMA. The composition of the inventory is expressed in intervals based on the year the structure was built. Housing units which were built between 1950 and 1960 but which were destroyed before December, 1959, did not influence these 1960 statistics although some of these units may have been included in the figures listed in Table 6, New Nonfarm Housing Units Started: United States.

The total residential housing inventory for the United States in 1960 consisted of 58,318,000 units.¹ These housing or dwelling units, as they were called in the 1950 census, had been built and designed for year-around permanent occupancy. Hotel rooms, motel units, and facilities for group living were classified as non-residential and

¹Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 2.

were excluded from the "housing inventory."

The year intervals shown in Figure 4 are for either five year or ten year periods. The year given as the construction date for the housing unit may decrease in accuracy as the age of the structure increased because of two reasons. The first reason may be that fewer of the original occupants lived in the housing unit as time progressed. This may have resulted in second-hand information. The second reason, mentioned here, is that the year of construction was given from the respondent's memory rather than from objective records such as contained by data listing the dates when building permits were issued.

Even building permit information was qualified by two assumptions. The first assumption was that the construction estimates given on the building permit in reality reflected the actual cost to the builder. The Bureau of the Census felt that often the stated estimated cost turned out to be too low. The second assumption, used in analyzing building permit data, was the assumption that a structure was constructed in the same year in which the permit was issued. A single family residence may take three to five months to complete. Larger apartment buildings may take up to 18 months to complete. On the other hand, the validity of this second assumption is underscored by the fact that usually the least construction activity takes place during the winter season. Housing units are usually being completed during the last months of the calendar year. Often new construction projects are then postponed until climatic conditions improve during the late winter. The greatest building activity usually takes place in spring with a secondary peak often in evidence during the fall months. The summer slowdown in construction activity is usually rather

Table 12.

United States and Topeka SMA 1960 Housing Inventories

Year Unit Built	Age of Structure	Estimated Number	Inventory Proportion
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United States Inventory, 1960:

1955 to 1960	1 to 5 years	8,490,000 units	14.6%
1950 to 1954	10 to 6 years	7,556,000 units	13.0%
1940 to 1949	20 to 11 years	8,640,000 units	14.8%
1930 to 1939	30 to 21 years	6,512,000 units	11.2%
1929 and earlier	31 years plus	27,121,000 units	46.5%
Total housing units		53,318,000 units	100.1%

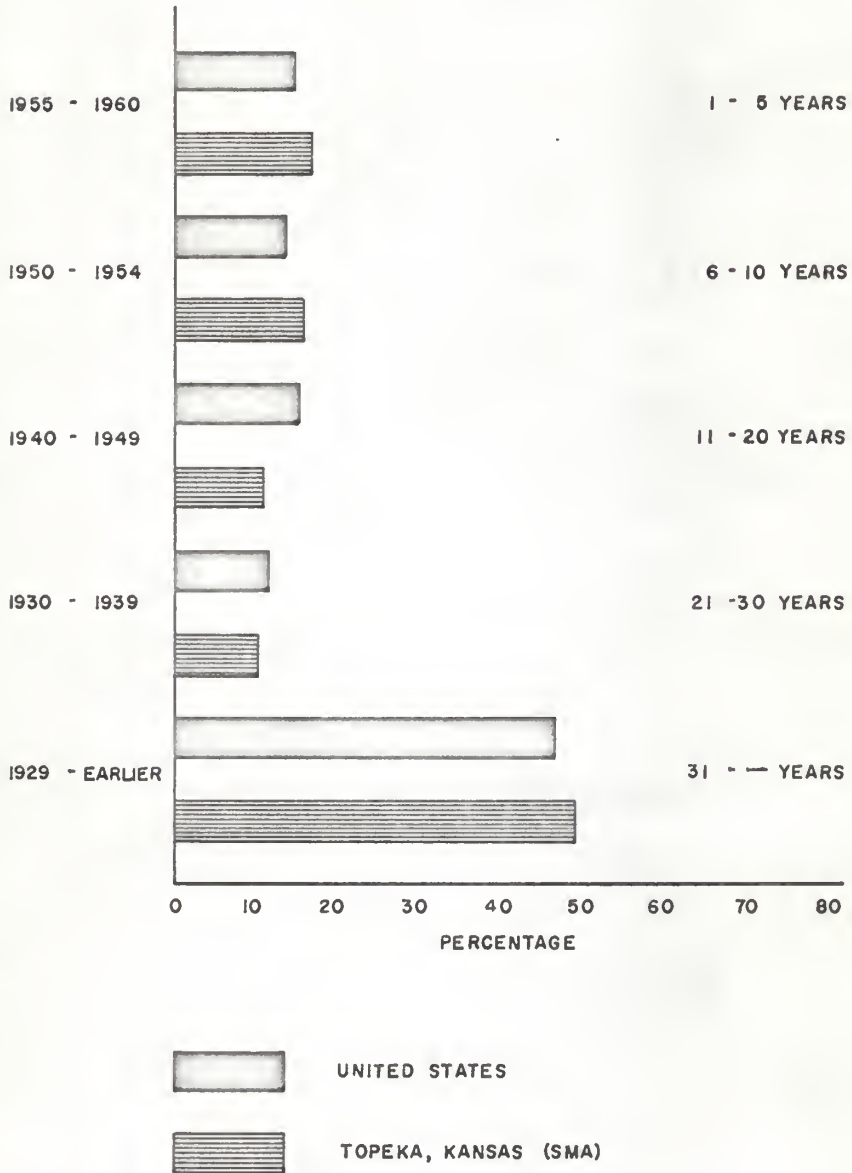
Topeka Metropolitan Area (Kansas) Inventory, 1960:

1955 to 1960	1 to 5 years	7,580 units	16.5%
1950 to 1954	10 to 6 years	6,750 units	14.7%
1940 to 1949	20 to 11 years	4,914 units	10.7%
1930 to 1939	30 to 21 years	4,652 units	10.1%
1929 or earlier	31 years plus	22,114 units	47.9%
Total housing units		46,010 units	99.9%

Note: United States units totals rounded to the nearest 1,000, percentages to the nearest tenth.

Source: Based on data from Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 18, and Vol. I, Part 4, Chap. 18, p. 20.

FIGURE 4
COMPARISON OF HOUSING UNITS' AGE COMPOSITION: 1960
HOUSING INVENTORY BY YEAR STRUCTURE BUILT



SOURCE: BASED ON DATA FROM THE CENSUS OF HOUSING, 1960, VOL. I, PART 1, CHAP 1, P. 18 AND VOL. I, PART 4, CHAP. 18, P. 20.

mild and does not compare with the winter's seasonal decline.

The Bureau of the Census reported that 145,594,897 persons out of a 1950 total population in the United States of 151,325,798 lived in structures classified as "residential housing units."¹ The remaining 5,700,000 inhabitants or 3.8% of the total lived in various forms of group quarters. Both the number and the proportion of persons living in group quarters decreased during the 1950's. The possible reasons for this drop were not studied in this paper. The Census Bureau reported that the United States had 179,323,175 inhabitants as of April 1, 1960. Of this total, 175,263,469 lived in standard housing units as defined in this report.² The remaining 4,059,706 persons or 2.3% of the total population lived in various forms of group quarters in 1960.

The United States population living in occupied housing units increased from 145,594,897 in 1950 to 175,263,469 in 1960. This 29,669,572 person increase equaled 20.3% of the 1950 total inhabitants living in occupied housing units. The total population increase was only 18.5% for the 1950 to 1960 decade. The more rapid national rate of increase for total inhabitants of occupied housing units, together with the increase in housing inventory, resulted in a drop in the mean number of persons per housing unit. The 1950 mean was 3.4 persons and the 1960 mean was 3.03 persons per housing unit.

The national occupied housing inventory totaled 53,023,875 dwelling units in 1960, according to Table 10. This represented a 91%

¹Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 22.

²Ibid.

occupancy rate and a 9% vacancy rate. A slightly greater than ten million unit net increase in occupied housing units took place between 1950 and 1960. The 1950 Census of Housing listed 42,826,281 occupied housing units, according to Table 2. The net increase for the decade equaled 23.8% of the 1950 number of occupied housing units. This discussion of national population and housing inventory changes may be summarized by stating that while both factors grew, the greater expansion in physical housing units resulted in a decrease in persons per housing unit.

The Census of Housing reported 32,774 occupied dwelling units in the Topeka SMA in 1950, according to Table 3. The average number of persons per housing unit stood at 3.1 for this local area in 1950. The Topeka SMA also had a 96% occupancy rate and a 4% vacancy rate during the same year. Therefore the 1950 situation can be summarized by the statement that the Topeka SMA had a higher occupancy rate than the nation as a whole and, at the same time, a smaller average number of persons per occupied dwelling or household (3.1 versus 3.4 persons).

The Topeka SMA occupancy rate changed only slightly when it is compared with the figure for 1960. The total occupancy rate was 95% and the total vacancy rate was 5% for the Topeka SMA in 1960. The total number of occupied housing units is given in Table 10 and the total number of units in the 1960 housing inventory is given in Table 12. The national occupancy rate decreased from 93% in 1950 to 91% in 1960. The 1950 nation-wide vacancy rate was 7% and ten years later it had increased to 9% of the total housing inventory. A comparison of the Topeka SMA occupancy rates with the United States rates reveals that the Topeka SMA occupancy rate was the greater in both

1950 and 1960. This agrees with the small percentage drop in occupancy rates experienced by both geographical areas during the ten year period.

The Topeka SMA total population in 1950 was 105,418 of which 99,965 lived in occupied dwelling units. The remaining approximately 5,453 persons lived in group quarters, hotels, camps, etc.¹ Ten years later, or in 1960, the Topeka SMA total population was 141,286. This included 136,205 persons living in occupied dwelling units and about 5,081 individuals who were living in group quarters.² The number of persons not living in regular housing such as duplexes, apartments, or residences was essentially the same at both census dates in the Topeka Standard Metropolitan Area. Since the number of occupied housing units increased to 43,625 (see Table 10), the average number of individuals per housing unit still was 3.1 persons in 1960. This stability in the number of persons per housing unit leads to the conclusion that the Topeka SMA construction industry kept pace with the population increases during the 1950 to 1960 period.

This study of the national and local average persons per occupied housing unit could be restated in terms of households. A household, as previously defined, includes all persons living in one dwelling unit, either a family and/or unrelated individuals. The size of the average household is only a measurement device since a

¹Census of Housing, 1960, Vol. I, Part 1, Chap. 18, p. 23.

²Ibid.

household, in reality, must have either two, three, or more persons (whole persons). Therefore the average household remained at the same size (3.1 persons) for both census dates in the Topeka SMA. The average size per household throughout the United States decreased from 3.4 persons in 1950 to 3.03 individuals in 1960. The two geographical areas had more similar sized average households in 1960 than was the case ten years previously.

The high rate of housing construction during the 1950's substantiates the estimate that more than 27% of the 1960 housing inventory had been built since April 1, 1950. This inventory included 8,490,000 units or 14.6% which were one to five years old (see Table 12). The six to ten year old units totaled 7,556,000 and represented 13% of the 1960 housing inventory. The pace of construction, when based on a comparison of these two five year intervals, continued at about the same average rate for the decade as a whole. The peaks and troughs in housing construction activity were discussed in a previous section of this report.

The eleven to twenty year age group of housing structures in existence on April 1, 1960, totaled 8,640,000 units. This figure represents nearly 15% of the 1960 housing inventory for the United States. The twenty-one to thirty year age group (structures built from 1930 through 1939) consisted of a smaller share (11.2%) of the national housing stock, according to Figure 4 and Table 12. This lower proportion may have resulted from the under-activity in housing construction during the depression years and a greater number of recent demolitions within this age group. Natural catastrophies such as floods, high winds, and earthquakes during the 1940 to 1960 year

period may have removed an appreciable amount of housing units out of the inventory. The danger of destruction through fire also may have increased with age. Many fires in older homes may have been caused by the rapid deterioration and overloading of the structure's electrical wiring and central heating systems.

Nearly one-half of the nation's 1960 housing inventory consisted of structures thirty-one years old or older. The housing structures built in 1929 or earlier were estimated to total 27,121,000 in 1960 or equal to 46.5% of the total inventory (see Table 12). Statistics on the older housing units are complicated by the definition that when a large, older home is converted into a number of smaller apartments, the age of the structure remains the same whereas the interiors of the apartments are new. As the market price for larger, older homes in the central city decreases, owners may have tended to remodel the interior room arrangement and installed additional plumbing and electrical wiring so that the old structures became a multiunit income property rather than a single family residence. Investigators of urban housing trends have noticed this process as taking place near the central business districts.

In simple terms, approximately one-fourth of the 1960 national housing inventory was less than ten years old; one-seventh was eleven to twenty years old; one-ninth was 21 to 30 years old; and one-half was 31 years old or older.

The age groupings of the 1960 Topeka SMA housing inventory were similar to the national age grouping proportions although small differences existed. The Topeka SMA newer units were more numerous proportionally and the Topeka SMA older units were older, according

to Figure 4. Then it followed that the Topeka SMA medium-aged housing units represented a smaller proportion of the total than was the case with the 1960 national housing inventory.

The Topeka SMA housing units in the 11 through 30 year old brackets represented 21% of the total inventory, as shown on Table 12. In comparison, the housing structures built between 1930 and 1949 throughout the nation as a whole equaled 26% of the 1960 national inventory. According to Figure 1, Shawnee County may have experienced a very slow rate of new construction during the fifteen years, 1930 through 1944. This conclusion is based on the small proportion of the 1950 inventory contained by the 20 through 6 year old age groups.

Nearly one-third of the Topeka SMA housing inventory for 1960 consisted of units ten years old or less. Housing units eleven to twenty years old equaled one-tenth of the total. Another tenth of the inventory stock in 1960 represented housing units built between 1930 and 1939 (21 through 30 years old). And finally, nearly one-half (47.9%) of the 1960 Topeka SMA inventory was 31 years old or older in 1960, according to Table 12. The proportion of older homes in the Topeka SMA inventory definitely decreased during the decade of the 1950's (52.8% to 47.9%).

This decrease in the proportion of older homes was accelerated during 1961 and 1962 by the Keyway Urban Renewal project. This project had been initiated in order to rehabilitate a 28 square block area just northeast of the central business district. This federal and community project resulted in the removal of 600 to 700 housing units from the Topeka SMA inventory. Most of these homes were deteriorating and many were dilapidated. Census tract #2, which included

21 square blocks of the Keyway Urban Renewal project, had 33% of its housing as dilapidated, 38% as being deteriorating, and only 29% as being in a sound condition.¹

A consistent record of new housing units built in Shawnee County but outside the city boundaries and beginning in 1950 is not available. The county assessor's office has attempted to compile this information since 1959. An analysis of the 1960 Topeka SMA housing inventory revealed that new housing units had been added at an average annual rate of approximately 1,300 units per year for the previous decade. Approximately six thousand new housing units were started in the city of Topeka during the 1950 to 1960 period, according to Table 7. The remainder of the estimated 13,000 new housing units were built in the Topeka Standard Metropolitan Area but outside the then existing city boundaries. Many of these housing units, which originally had been constructed outside of the city limits, were taken in during the 1955 through 1958 annexation program. The building activity fluctuation pattern which transpired in the area outside the city limits but inside the Topeka SMA, between 1950 and 1960, was presumed to be similar to the one which existed within the city of Topeka, as shown on Table 7 and Figure 3.

The increase in the 1960 housing inventory in the Topeka SMA was also reflected in the 1960 construction employment figures. A breakdown of construction employment among highway, commercial, and residential housing was difficult because of rapid job changing. Therefore only total construction employment totals were used in

¹Sheafor, op. cit., p. 68.

this report.

The Topeka SMA had 3,815 persons employed in construction during 1960, according to Table 1. This is 7.5% of the area's total employment in 1960. The rapid rate of housing construction in the Topeka SMA may have attracted additional workers. Nationally, construction employees did not constitute as great a proportion of the total employed labor force as was the case in the local area. Only approximately six percent of the United States total employment was engaged in construction work.

Part H. Summary of the Demographic Determinant

The preceding detailed analysis of demographic factors and physical stock changes must be presented in a summary form before the financial determinants of housing construction activity are studied. The important housing factors discussed in this chapter are population change, changes in the average size of households, occupancy and vacancy rates, occupant mobility, housing inventory changes, and housing construction fluctuations.

The population of the United States increased from 151,325,798 persons on April 1, 1950, to 179,323,175 persons on April 1, 1960. This population increase of 27,997,377 persons is equal to 18.5% for the decade. A small proportion of our national population at any one time resides in hotels, motels, barracks or camps, and other types of group quarters. The persons living in these types of transitory residence are subtracted from the total population in order to compute the total dwelling unit population. This chapter dealt primarily with the great majority of the population which lived in

single family residences or apartments.

The 1950 Census of Housing reported that 42,826,281 dwelling units were occupied at that time. These dwelling units, residences and apartments, were providing shelter to their occupants on a permanent, residential basis. The 1950 national housing inventory also included approximately 3,029,627 vacant housing units. Therefore, 93% of the then existent housing was being occupied and about 7% was vacant for various reasons. The national population estimated to be living in permanent dwelling units and the number of occupied dwelling units in 1950 resulted in a national average or mean of 3.4 persons per household.

In comparison, the Topeka SMA (Shawnee County) had a 1950 population of 105,418. The Topeka SMA population not living in group quarters or in transitory housing was estimated to total 99,965. The 1950 Census of Housing listed 32,774 occupied dwelling units or consuming households in the Topeka SMA. Ten years later the number of occupied dwelling units in the Topeka SMA had increased to 43,625 units or households. The population of the Topeka SMA increased from 105,418 in 1950 to 141,286 in 1960. This represented a 34% increase in inhabitants.

The city of Topeka, during the same decade, increased 51% in population and 188% in land area. This more rapid population gain by the city of Topeka than the Topeka SMA resulted from the annexations of county land to the city during the late 1950's. Even so, the Topeka SMA population grew at nearly double the rate than was the case for the United States (34% versus 18%).

Annual increments to the standing stock of inhabited dwelling

units were only sufficient to maintain the 3.1 average number of persons per household in the Topeka SMA. In comparison, the average number of persons per household declined nationally. The average household in 1950 in the United States had 3.4 persons. This average decreased to 3.05 persons per household in 1960. Less crowding and doubling up may have occurred in the United States during 1960 than was the case in 1950. The national housing construction industry more than kept pace with the increases in inhabitants during this decade. The national average size of households decreased during the ten year period studied to equal the 1960 Topeka SMA average.

The Topeka SMA had a higher ownership rate than the United States in both 1950 and 1960. The local area maintained its higher ownership proportion at the end of the decade although ownership, on a national basis, increased more percentage points. Both of the 1960 owner occupied rates were near the 66.7% mark. Renters or tenants lived in approximately one-third of the occupied housing inventory in 1960 (Topeka SMA--33.5%, U.S.--38%).

Although financial factors were not dealt with in this chapter, the preceding analysis of the Topeka SMA population expansion and housing inventory growth revealed no items which would have affected the Kansas economy adversely. A monetary appraisal and evaluation of the Topeka SMA housing inventory in 1960 was not attempted. Therefore an average residential investment per household as of 1960 was not computed.

No evidence was found in this study of the Topeka SMA building cycles which disagreed with Dr. Louis Winnick's contention that the consuming population tended to invest less in the housing structure

during the twentieth century. The changes or lack of changes in the average number of persons per household may be related to Dr. Winnick's theory. The Topeka SMA average rate of 3.1 persons per occupied dwelling unit remained constant during the decade of the 1950's. The average number of persons per household decreased for the nation as a whole between 1950 and 1960 until it was equal to the lower average identified with the Topeka SMA. Additional information concerning the consumer's housing preferences is included in the following chapter which deals with the income determinant of housing construction.

The national occupancy rate (owners plus renters) decreased from 93% in 1950 to 91% in 1960. Conversely, the national dwelling unit vacancy rate increased from 7% in 1950 to 9% in 1960. The 1960 vacancy rate for the whole United States, according to housing authorities including Mr. Arnold E. Chase, was sufficient to provide an adequate market choice for prospective purchasers or renters.

The Topeka SMA combined occupancy rate decreased from 96% in 1950 to 95% in 1960. The vacancy rate in this local area increased from 4% in 1950 to 5% in 1960. The high occupancy characteristic of the Topeka SMA was maintained during both the beginning and ending of the decade studied.

The high rate of population increase and the 22.6% migration into the city of Topeka from outside the Topeka SMA were two factors which may have contributed to the high occupancy rate. The national occupancy rate was lower than the Topeka SMA rate at both dates. The variance between the national rate and the local rate increased from three percentage points in 1950 to four percentage points in 1960.

The low vacancy rates present in the Topeka SMA may have pointed toward a tight housing market. This scarcity of available housing may have been a characteristic of the Topeka situation during the whole decade.

The population mobility determinant of housing construction activity includes the above summarized occupancy and vacancy rates. A larger vacancy rate is thought to facilitate household migration if the income factor is favorable. A net out-migration tends to depress the new housing construction because the used vacant houses can provide a source of housing for any excess of population births over deaths.

All four main regions of the United States had an increase in population during the decade of the 1950's through an excess of births over deaths. In-migration was not sufficient to offset out-migration in the North Central region. This region includes 12 states surrounding the Topeka SMA. The West region, including 13 states, enjoyed a 39% net increase in population between 1950 and 1960. This resulted from both the natural increase of births over deaths and a large surplus of in-migration over out-migration. Thirty-two percent of the United States households moved between January 1, 1958, and March 31, 1960. In comparison, more than 38% of the Topeka SMA households reported to the census enumerators that they had moved during the same 27 month period. The movement of Topeka inhabitants might have been even greater if the local vacancy rate had been higher.

Housing construction activity in the Topeka SMA had more fluctuations during the 1950 to 1960 period than was the situation for the whole United States. A comparison of Figure 2 with Figure 3

reveals that the Topeka SMA had a brief construction boom in 1957 which was not reflected on a national scale. Also, the short building cycle during the early 1950's ended one year sooner in the Topeka SMA than for the whole nation. If the 1957 one year rise in Topeka housing construction is overlooked, then the second short building cycle in the Topeka SMA began one year earlier than the similar national cycle and ended one year later. In spite of these variations, the 1950 to 1960 national and Topeka SMA building cycles seem to agree with Dr. Clarence D. Long's theory that short building cycles averaged approximately 51 months in length.

Some of the demographic and physical unit characteristics discussed in this chapter had financial connotations and interacted with economic trends. These relationships are studied in the next chapter.

CHAPTER III

INCOME AS A MAJOR DETERMINANT OF HOUSING ACTIVITY

The rate of change in population as expressed in households was a major determinant of housing construction activity during the 1950 to 1960 decade. Changes in household income formed the other major determinant of housing construction activity. The 1950 decennial census was the first to attempt to formulate per family income data. Census enumerators had previously feared that individuals would be reluctant to give them accurate estimates of their gross and net incomes. They believed that many families or consuming units had not kept detailed records with the result that some items of income were forgotten and would be left unreported. Also, incomes above \$10,000 were not differentiated into additional class levels so data describing the upper income families was lacking in the 1950 census.

The reliability of government income estimates was improved during the 1950 to 1960 decade. As a result, the 1960 Census of Population contained more useful income information and its estimates were substantially in agreement with the later findings of the U. S. Treasury Department. The U. S. Treasury Department's income estimates are based on income tax filings and therefore usually become available after a number of months have elapsed.

All dollar amounts in this report are expressed in current dollars except column five on Table 13. The thirteen year period covered in this study, 1950 to 1963, resulted in some price inflation.

Therefore, the increases in per residence construction costs and in household income shown in this paper are not as large in real terms as the dollar amounts indicate.

Financial data which may be helpful in the study of the new housing market is available from a number of government sources. The Bureau of Labor Statistics gathered and published information on employment numbers and earnings. The Office of Business Economics formulated annual estimates of the number and income of families and unrelated individuals. The Census of Housing enumerated the number of households (consuming units) living in occupied dwelling units but did not procure estimates of income on a per dwelling unit basis. The Census of Population enumerated the number and estimated income of families and unrelated individuals every ten years. These various sources of pertinent information resulted in slightly different but similar figures for the income and population factors as they relate to housing consumption.

The Bureau of Business Economics family number and income data was used in this chapter for the nation-wide statistics. The household totals and disposable income estimates given in the "Survey of Buying Power" were used to describe the city of Topeka situation. City of Topeka data was used because the new housing unit information contained by Table 7 and Figure 3 is based on the same geographical area. Sufficient new housing unit data, on a year by year basis, was not available for the whole Topeka SMA, therefore year by year income estimates for the Topeka SMA were not used in this report paper.

Part A. Per Family After Tax Income

The Office of Business Economics of the U. S. Department of Commerce prepares estimates of (after federal income tax) personal income by families and unrelated individuals. The number of households varied slightly from the number of families and unrelated individuals. For example, in 1960 the census bureau estimated the number of households or occupied dwelling units at 53,023,875, whereas the families and unrelated individuals (consuming units) totaled 56,100,000, according to Table 13. The 1950 Census of Housing enumerated 42,826,281 households and the Office of Business Economics estimated 48,900,000 families and unattached individuals for the same year.¹

The definition of an "unattached individual" is meant to include "persons other than institutional inmates who are not living with any relatives."² For example, two unrelated career women who shared an apartment would be classified as making up one household for housing statistics purposes but they would be classified as two unrelated individual units when families and unrelated individuals are counted.

Per family and unrelated individual after tax or disposable income increased from \$4,070 in 1950 to \$6,130 in 1960, according to the Office of Business Economics.³ This represents a 50% increase

¹United States Statistical Abstract, 1961, p. 317.

²U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957, p. 161.

³Jeanette M. Fitzwilliams, "Size Distribution of Income in 1963," Survey of Current Business (April, 1964), p. 4.

in current dollars for the decade. The increase in real average income per family and unrelated individuals, according to Table 13, was also impressive (from \$5,110 to \$6,320 using constant 1963 dollars). This 1950 to 1960 increase in real income represents a 24% increase in purchasing power. The personal consumption expenditures price index was the one used as price deflator.

The 1954 and 1958 low points or recessions in national business activity are apparent, as shown on Table 13. This is because personal income and national business trends tend to interact. After tax personal income per family and unrelated individual (average or mean) declined from \$5,500 in 1953 to \$5,480 in 1954, using 1963 constant dollars. The same type of income dropped from \$6,040 in 1957 to \$5,990 in 1958, again using 1963 constant dollars for comparison purposes. Numerically, a small increase in income was experienced for every year during the 1950 to 1963 period when income was expressed in current dollars. The same favorable income trend appeared for every year, with the two exceptions mentioned above, when income was measured in real terms or in constant dollars.

The 1960 census reported that the median (mid-point) income of primary families and individuals in the United States was \$6,000 for the owner occupied housing units in 1959. The median family income, when owners and renters were combined, was \$5,660 in 1959. The median income of the total primary families and unrelated individuals was estimated at \$4,300 for the same year. These median figures led to the conclusion that renter families had a lower income than home-owner families and that unrelated individuals, as a consuming class, had substantially lower incomes. In 1959 there were 44,780,000 families

Table 13.

Families and Unrelated Individuals and Cost/Income Ratios: United States

Year	Cost/Income Ratio	Number of families and unrel.individuals	Per unit disposable income current dollars	Per unit disposable income 1963 dollars ¹
1949	----	47,800,000 ²	\$3,860	\$4,920
1950	2.11	48,900,000	4,070	5,110
1951	2.10	49,500,000	4,420	5,210
1952	2.07	50,200,000	4,570	5,280
1953	2.07	50,500,000	4,810	5,500
1954	2.19	51,200,000	4,840	5,480
1955	2.23	52,200,000	5,090	5,740
1956	2.26	52,800,000	5,400	5,990
1957	2.32	53,600,000	5,610	6,040
1958	2.28	54,600,000	5,670	5,990
1959	2.26	55,300,000	5,940	6,210
1960	2.25	56,100,000	6,130	6,320
1961	2.23	57,300,000	6,220	6,370
1962	2.20	57,900,000	6,510	6,600
1963	2.23	58,700,000	6,720	6,720

Source: Office of Business Economics, Survey of Current Business, Vol. 44, No. 4, April, 1964, pp. 3 and 4.

¹Fitzwilliams, op. cit., p. 4. "The price indexes used as deflators are those employed in deflating the personal consumption expenditure series in the national income accounts."

²Number of families and unrelated individuals to nearest 100,000.

Table 14.

Construction Cost and Cost/Income Ratio: City of Topeka
(New Privately Owned, Single Family Residences)

Year	Total estimated construction cost	Average construction cost per new unit	Average per household disposable income	Cost/income ratio
1950	\$ 3,871,300	\$ 7,430	\$ 5,289	1.40
1951	3,837,850	9,610	5,308	1.81
1952	3,346,200	9,370	5,648	1.66
1953	4,434,900	10,712	5,514	1.94
1954	6,616,400	11,158	5,141	2.12
1955	6,617,100	12,160	5,420	2.24
1956	5,543,700	13,230	5,364	2.46
1957	9,126,800	13,724	5,506	2.49
1958	6,691,025	14,389	5,344	2.69
1959	9,328,519	13,047	5,623	2.32
1960	12,993,030	13,700	6,012	2.27
1961	10,147,700	14,200	6,155	2.30
1962	8,502,984	13,910	6,750	2.06
1963	5,222,310	15,090	6,941	2.17

Source: Annual Reports by the Building Inspection Department, City of Topeka; "Survey of Buying Power," Sales Management Magazine, Annual Issues, 1950 through 1963. Calculations by the writer.

and the number of unrelated individuals equaled approximately 10,520,000, according to the Office of Business Economics. These two classes constituted the 55,300,000 consuming units estimated for 1959 (see Table 13). The families of the Topeka SMA had a median income (before income taxes) of \$5,931 in 1959.¹ This was \$271 or 5% above the national family median income of \$5,660.² These amounts indicated that related families in Shawnee County had a higher income than the national average for 1959. The 1960 census reported that in the United States 21.4% of the families had personal incomes under \$3,000 during 1959. The Topeka SMA family distribution pattern showed that 15.9% of their families had less than \$3,000 income. The highest income class (families with \$10,000 or more income) represented 15.1% of the national numerical total whereas the \$10,000 or more income families in Shawnee County represented 14.5% of the county's total. In conclusion, it seemed that the Topeka SMA families in 1959 represented a slightly better housing market demand than the families of the nation as a whole.

Sales Management, a retail trade magazine, has compiled annual population, household, income, and retail sales estimates beginning with 1929. Estimates are published for the nation, each state, each county, and each major city in the nation. This data is published annually in the issue entitled, "Survey of Buying Power." The publishers of "Survey of Buying Power" attempt, in cooperation with the Bureau of the Census, the Bureau of Business Statistics, and private

¹Census of Population, 1960, Vol. I, Part 18, p. 216.

²Census of Population, 1960, Vol. I, Part 1, p. 227.

research institutes, to provide reasonably accurate estimates which could be useful to retailers, manufacturers, wholesalers, and other businessmen. The statisticians who compiled these estimates converted census income figures and other data from government sources into a per household and a per capita basis. Per household income has become an important measure of the housing consuming unit.

Building contractors, real estate brokers, and retailers who serve the housing industry in specific localities might have found these estimates helpful in their planning and decision-making processes. For example, suburban land developers could decide to accelerate their activities if the effective buying income and the population were increasing in their locality. Conversely, they might decide to postpone their real estate development plans if the effective buying income and the population in their locality was stationary or declining.

The "Survey of Buying Power"'s effective buying income or household disposable income was equivalent to the Bureau of Business Statistics' disposable personal income less payments to Americans abroad and without an inventory adjustment. In 1960 the national effective buying income total was only 1% under the national disposable personal income total.

The after federal income tax income estimates for the city of Topeka are shown in Table 14. The mean per household disposable income increased from \$5,289 in 1950 to \$6,012 in 1960. These amounts were expressed in current dollars. The increase in income per household was \$723. Year to year increases in disposable income per household were experienced every year except in 1953, 1954, 1956, and 1958.

The first high point in city of Topeka disposable income per household (using the "Survey of Buying Power" definition) occurred in 1952. This peak of \$5,648 was not attained again until 1960 when the average was estimated at \$6,012.

The 1960 through 1963 period showed a greater rate of income growth for the city of Topeka than had taken place during the decade of the 1950's. Average per household disposable income or effective buying income was estimated to have risen \$929 or to \$6,941 by 1963, as shown in Table 14. This increase represented a 15% gain in income for the households in Topeka, Kansas, during the three year period. The 1960 through 1963 period experienced income increases at an average annual rate of 5%. In contrast, the 1950 through 1960 decade had income increases which resulted in an average annual rate of only 1.4%. The total increase in per family effective buying income for the 1950 to 1960 decade was 14%, for the city of Topeka.

The United States mean after tax income for families and unrelated individuals rose at an average annual rate of 2.6% for the 1950 to 1960 decade. These national average income amounts increased from \$6,130 in 1960 to \$6,720 in 1963, according to Table 13. This represented a 9.6% increase or \$590 for the three year period. The annual rate of increase for the national mean after tax income for families and unrelated individuals was 3.2% for this recent three year period. These income figures were expressed in current dollars.

Average per household disposable income, in this report, was assumed to be very similar to the "after federal income taxes family income" concept and the phrase, "effective buying income," as used in the "Survey of Buying Power." Therefore the shorter phrase,

"income per household," was used in the following summary analysis.

This discussion of the number of the housing consuming units and average income trends may be summarized with the statement that the city of Topeka shared the nation-wide increase in income per household during the thirteen year period. The national income per household increased 50% during the decade of the 1950's. The city of Topeka income per household increased 14% between 1950 and 1960. The United States income per household was \$4,070 in 1950. Within ten years or in 1960, the national income per household had increased to \$6,130. The city of Topeka income per household increased from \$5,289 in 1950 to \$6,012 in 1960.

The later three year period resulted in a more rapid income per household increase for the city of Topeka than was the case for the nation as a whole. The city of Topeka income per household increased 15% between 1960 and 1963. The national income per household grew nearly ten percent during the same thirty-six month period. The city of Topeka income per household growth rate, based on these two time intervals, increased more slowly than the national rate during the 1950's. The city of Topeka income per household growth rate increased during the 1960's but not sufficiently to overtake the overall national growth rate for the thirteen year period.

The income per household for the city of Topeka increased \$1,652 during the 1950 to 1963 period. This represented a 31% increase over the 1950 Topeka income base. The income per household for the United States grew \$2,650 during the 1950 to 1963 period. This national average increase equaled a 64% growth over the 1950 base year. The national and the city of Topeka incomes per household were

nearly equal in 1960 (\$6,720 versus \$6,941) even though the nationwide income per household had been smaller in 1950 by a significant proportion. This slower income growth, in current dollars, may have supported the stability in the high Topeka SMA occupancy rate and helped to depress the local construction industry before the Topeka SMA vacancy rate had achieved the larger national level. In other words, even though the city of Topeka income per household continuously was above the national average, it did not grow fast enough to generate an over-activity in the local housing construction industry.

Part B. Housing Unit Construction Costs

The single family detached residence is the ideal housing unit where sufficient, reasonably priced land area is available. New apartment houses and other types of multifamily housing are the preferred classification of desired housing where land area prices are very high and population density is extreme. The price trends of new single family residences were studied in this report because they constituted the majority of new housing units constructed in Topeka during recent years.

The Bureau of Census estimated the average construction cost for new, privately owned, single family residences to be \$8,675 in 1950 (Table 15). This nation-wide average cost increased to \$13,775 in 1960. More costly, larger, and, it is assumed, better quality residences were built every year except one, 1958. The 1953-54 recession did not depress the quality of homes being built as the 1957-58 recession did. Evidently, for the United States as a whole,

the recession of the early 1950's affected the construction industry only in the quantity dimension and not in the quality dimension. The 1957-1958 recession resulted in both a decrease in the number of units built (12% less) and a slight decrease in the cost of the average new unit (0.6% less).

The average construction cost estimates on Table 15 are based mainly on the builder's estimates of building costs made at the start of construction and includes all nonfarm one-family units. Rural-farm units are excluded in computing the averages. These averages are affected by changes in cost of materials and labor, variations in the size and design of houses, type of projects started, differences in construction methods, and other variables.¹

The number of new residences started each year has remained comparatively stable during the 1960's whereas the cost of the average new residence has continued to rise for the nation at large. Nine hundred and eighty-seven thousand new homes were started during 1960 and 1,006,000 new residences were started in 1963, according to Table 6. The least number of new starts occurred during 1961 when only 961,000 new single family units were started. A variance of only 45,000 units or 5% separated the year with the lowest annual rate of new construction from that of the highest annual rate experienced during the 1960's. The 19,000 unit variance between the 1960 number and the 1963 estimate of new single family residences was equal to only about 2%.

The average construction cost of new residences built through-

¹United States Statistical Abstract, 1962, p. 756.

out the United States increased from \$13,775 in 1960 to \$14,975 in 1963, according to Table 15. This twelve hundred dollar increase during the 36 month period represented a total increase of 8.1% and an average annual increase in per unit costs of 2.7%.

The financial data for new housing construction in the city of Topeka was computed by dividing the number of units reported as started into the estimated cost or value as listed on the building permits issued. The average estimated construction costs per new single family residence are listed in the middle column of Table 14. The reliability of the cost estimates as listed on the building permits was not tested. These cost estimates were usually made by the contractor or owner before construction started. The accuracy of these cost estimates may have varied with the competence of the contractor making the estimate and amount of minor changes in the house plans which took place during actual construction. The tendency may have been toward under-estimation of costs rather than over-estimation. The averages listed in Table 14 were not adjusted to include the actual expenditures as they were incurred on the construction sites. The figures are the arithmetic average or mean.

Clear trends in new residence construction costs were discernable, in spite of the lack of raw data for the parts of Shawnee County outside the Topeka city limits. The average construction cost per new single family residence in Topeka, Kansas, was \$7,430 in 1950, according to Table 14. The Korean War mobilization may have depressed the construction activity in the higher priced residences during 1950. The following year showed a decrease in the number of new units started (from 521 to 399), whereas the average construction price

Table 15.

United States Construction Cost and New Product Mix Proportions

Year	Average U.S. Construction Cost per unit	Topeka, Kansas		United States	
		Multifamily Housing	Single Family Residence	Multifamily Housing	Single Family Residence
1950	\$ 8,675	0.4%	99.6%	16%	84%
1951	9,300	13.4%	86.6%	17%	83%
1952	9,475	11.8%	88.2%	17%	83%
1953	9,950	21.6%	78.4%	15%	85%
1954	10,625	2.8%	97.2%	12%	88%
1955	11,350	3.5%	96.5%	10%	90%
1956	12,225	10.3%	89.7%	11%	89%
1957	13,025	15.2%	84.8%	16%	84%
1958	12,950	12.4%	87.6%	19%	81%
1959	13,425	18.7%	81.3%	20%	80%
1950-59	----	(11.5%)	(88.5%)	---	---
1960	13,775	10.4%	89.6%	22%	78%
1961	13,875	23.1%	76.9%	28%	72%
1962	14,325	36.3%	63.7%	32%	68%
1963	14,975	33.9%	66.1%	37%	63%
1960-63	----	(24.5%)	(75.5%)	---	---
1950-63	----	(16.4%)	(83.6%)	---	---

Source: United States Statistical Abstract, 1961, p. 761.
Construction Review, Vol. 10, #5, May, 1964, pp. 14 and 16.
 Table 7. New Housing Units Started: City of Topeka.
 Percentage computations were based on housing unit data on
 Table 6 and Table 7.

increased to \$9,610. The average construction cost per new unit increased every year during the early 1950's and reached the \$14,389 per unit peak in 1958. This high average per unit price was not matched until 1961 and not surpassed until 1963. The ten year period, 1950 to 1960, resulted in a \$6,270 total rise in average cost per unit started. This city of Topeka residential expenditure increase represented an average annual increase rate of 8.4% and a total of 84% for the decade.

The 1960 to 1963 interval experienced an overall stabilizing of the average cost of new residences started in Topeka, Kansas. The per unit average increased from \$13,700 in 1960 to \$15,090 in 1963 (Table 14). The difference between the average per residence costs of 1960 and 1963 was not achieved gradually because the average cost for 1962 was below that for 1961 although it was not as low as the \$13,700 which prevailed during 1960. The averages for both 1961 and 1962 were within the 1960 to 1963 range. Therefore it is assumed that the interim fluctuations were temporary and superficial in nature.

The average cost per new residence in 1963 was \$1,390 higher than the 1960 average cost or up 10.1% in Topeka, Kansas. The national average cost per new single residence went up 8.1% during the same three year period. The Topeka average cost per new residence was substantially equal to the national average in 1960 (\$13,700 versus \$13,775). Three years later the variance had increased because the average price of new single residences had increased more rapidly in Topeka than across the nation as a whole. The Topeka average cost estimate was \$15,090 per single unit whereas the nation's average was \$14,975 in 1963. The Topeka construction cost data

followed the expected pattern of being more fluctuating and unstable than that of the United States, the larger statistical sample.

Part C. Cost/Income Ratio Analysis

Mr. L. Jay Atkinson discussed the relationship of new housing costs and family income by using ratio analysis. Mr. Atkinson is on the Industry and Finance Staff of the U. S. Office of Business Economics. In the April, 1960, Survey of Current Business he stated:

Between 1946 and 1959, the median value of new 1-family houses insured by FHA more than doubled, rising from \$6,600 to \$14,300. During the same period the median income of the buyers of these houses made a comparable advance. Accordingly, the ratio of the average value of house to the annual average income of buyers remained quite stable at a little above 2-1.¹

He also reported that the average size of new houses being purchased, in part, with government insured loans, had increased from about 900 square feet in 1948 to an average of nearly 1,100 square feet in 1959.

The cost/income ratios listed in Tables 13 and 14 were calculated by dividing the average annual disposable personal income per family and unrelated individual (the housing consuming unit equivalent) into the average cost per new single family unit constructed. Current dollars were used in all computations. The ratios in Table 13 were presumed to cover a larger sample than only FHA insured houses because both cash sales and mortgage sales of single family residences were included in the national data.

The average incomes of both families and unrelated individuals were used because a few homes have only one person living in them.

¹L. Jay Atkinson, Survey of Current Business (April, 1960), p. 18.

Widows, divorcees, and widowers were examples of unrelated individuals constituting the consuming unit for housing. A lower cost/income ratio inferred that new residences were being built at a cost which was more favorable toward the purchaser. The lower the cost/income ratio, the more rapidly the repayment of the house mortgage out of consecutive annual incomes could take place. The higher the ratio, the more difficult was the partial repayment out of current income.

The 1950 decade started with a low average national cost/income ratio. A number of factors such as low labor wages, low material costs, and small size of house may have combined to produce these low ratios. The lowest cost/income ratios for the United States were present during the 1952-1953 recession years. The ratio rose for the next four years and peaked in 1957, according to Table 13. An investigation of the causes for the 1957 high cost/income ratio revealed that construction costs increased while income remained nearly steady. According to Table 15 the average cost of new one-family homes on a national basis increased from \$12,225 in 1956 to \$13,025 in 1957. This \$800 average increase per residence was reflected in the high 1957 cost/income ratio.

The United States cost/income ratio slowly declined for five consecutive years until it nearly equaled the 1954 level again in 1962. This trend resulted from the fact that disposable family income increased more rapidly than the average construction cost of new homes. The five year increase per consuming unit income was 16% or a net gain of \$900. In comparison, the average cost of new one-family homes increased \$1,300 or 10% between 1957 and 1962.

The ratios listed in Table 13 substantiated Mr. Atkinson's statement that national cost/income ratio had been rather stable and that it varied slightly above the 2 to 1 level.

The city of Topeka cost/income ratio data again showed a greater variance than that for the United States, according to Table 14, although the long-term trends were similar. The Topeka cost/income ratio started at a lower point and rose to a higher point than that of the national average. The 1950 low cost/income ratio of 1.40 may have been due to both a low per unit construction cost and a modest average per household disposable income. The peak cost/income ratio occurred in 1958 although the Topeka 1957 cost/income was also above the national ratio for that year. The extreme variance from the 1950 low of 1.40 to the 1958 high of 2.69 was equal to 90%. In comparison, the national extreme variance from the 1952 low of 2.07 to the 1957 high of 2.32 was only 12%.

The United States and the Topeka cost/income trends were very similar during the 1958 to 1963 period. The ratios of both entities decreased during the first four years of this period and rose slightly during the last year. This similar trend resulted in the cost/income ratio for one-family residences in Topeka being only four one-hundredths of one percent less than the 1963 national average. This variance is insignificant. The above analysis of cost/income ratio trends reveals that the Topeka new housing industry has become more similar to the national industry when unit cost and consumer income variables are considered. The relationship between unit costs and consumer disposable income existent in the city of Topeka tended to become a similar relationship to that which prevailed in the nation

as a whole during recent years.

Part D. New Housing Product Mix

New housing construction consisted of predominately single family residences during the fourteen year period being investigated. This predominance began to be challenged by apartment construction in 1956 and the proportion of single family residences has declined since that year. One-family residences represented 84% of the new housing units started in 1950 for the United States as a whole, according to Table 15. Then followed two years which had a slightly lower proportion of one-family residences. The popularity of single family house building increased to a peak proportion of 90% in 1955, according to Table 15. This predominance was due to the rapid numerical increase in new single family home starts while the volume of multifamily unit construction declined by one-fourth.

The multifamily unit share of new housing construction increased each year during the 1955 through 1959 national housing cycle. Apartment and duplex apartment construction increased from a low of 128,000 units in 1956 to a high of 303,000 units in 1959 (see Table 6). This represented a 235% increase for multiunit construction during the second housing construction cycle of the 1950's. Single family home construction increased from 1,194,000 units in 1955, a peak year, to 1,229,000 units during 1959, the next peak year. The low point for this class of new construction occurred during 1957 when only 873,000 units were produced (see Table 6).

The 1959 peak year of the national short housing cycle resulted from the steady increase in new apartment building and the acceleration

of new single family housing starts present in 1959. The 1958 to 1959 increase in new single family housing units equaled 254,000 units or a 26% increase in one year. A portion of the increased rate may have been due to the New Series of data which was begun in 1959. As mentioned previously, the New Series was designed to be more accurate than the previous series, especially in estimating the construction starts in areas in which no building permits were required. The Old Series of new construction starts also signified that 1959 was a peak year in the housing cycle. It showed a total of 1,379,000 nonfarm units as being started in 1959 which was up 170,000 units over the 1958 total of 1,209,000 (Table 6).

The decade of the 1950's closed with the 1959 year's nation-wide proportion of 80% for nonfarm new one-family homes started and the remaining 20% for nonfarm new multifamily units (see Table 15). Single family homes continued to lose part of their predominance during the 1960's but in 1963 they still represented 63% of all new starts. Duplex apartment and apartment starts in 1963 were estimated at 612,000 and equaled 37% of all new starts. According to Table 6 and Figure 2 the three consecutive years' rise of 1961, 1962, and 1963 was mainly the result of the increased apartment building throughout the nation.

New multifamily housing starts increased in the United States from 288,000 units in 1960 to 612,000 units in 1963. This 324,000 increase in the amount of annual construction resulted in a 213% increase for the three year period or an average annual rate of increase of 71%. In other words, the number of new apartments started per year more than doubled during the three year period.

Single family residence starts dropped off sharply from the 1959 peak to a low of 961,000 units in 1961. According to Table 6, new one-family residence construction had increased to a total of 1,006,000 units in 1963 for the fifty states and the District of Columbia. This 1963 figure was only 10,000 units more than the 1962 total and represented only a minute 00.1% increase. In conclusion, the above analysis indicates that the construction activity of new single family houses remained steady at about the one million units per year level during the early 1960's. Multifamily unit construction more than doubled during these years but this type still accounted for only 37% of the total new housing starts.

The 1950 national housing inventory included 33,229,548 single family residences and 13,753,850 multifamily units.¹ This represented a 70:30 ratio for the housing components as reflected in the 1950 Census of Housing. Ten years later, in 1960, single family residences totaled 44,525,121 units and multifamily units equaled 13,789,563.² These totals represented a 76% single family to 24% multifamily ratio. The 1950 and 1960 figures for single family residences included individual mobile homes and attached units such as family living quarters above the neighborhood grocery store. The 1950 and 1960 multifamily unit totals included both duplex apartments and structures with three or more housing units. A few two-family semidetached units were included in the 33,229,548 total given for

¹Compiled from data in the Census of Housing, 1950, Vol. I, Part 1, Chap. 1, p. 3.

²Compiled from data in the Census of Housing, 1960, Vol. I, Part 1, Chap. 1, p. 42.

1950 because they had been included in the single family semidetached structural census classification.

The above data showed that single family housing increased during the 1950 to 1960 decade whereas new multifamily unit construction only equaled the replacement of apartment units lost or demolished. While the total inventory of housing units increased about 26%, the number of single family detached residences increased 39%. The numerical increase and proportional increase of single family housing during this decade may have reflected the American family's preference for this type of housing.

The change of the United States new housing product mix from, roughly, a 6 to 1 ratio in favor of single housing in 1951 to a 2:1 ratio in 1963 is also shown in the estimated value of the new construction in the city of Topeka. Duplexes and apartments, according to Table 16, contributed only \$369,000 to the city of Topeka's business activity during 1951. Single family residence construction contributed more than ten times that amount or \$3,837,850 during the same year.

In comparison, single family residential building during 1963 added \$5,222,310 to the city's economy and multifamily housing construction totaled \$1,317,000. Even though the average apartment construction cost was less than for the average new single family residence, the 1963 ratio of dollar volume was about 4 to 1. According to Table 16, a similar situation had occurred during 1962. The new single family building industry was estimated to total \$8,502,984 during 1962 in Topeka. The new multifamily housing construction industry was estimated to total \$2,575,376 and this resulted in nearly

a 3 to 1 ratio.

The Topeka SMA had 24,748 single family homes in its 1950 inventory and 9,169 multifamily units. This was a 73:27 ratio.¹ In comparison, single family homes in the Topeka SMA totaled 36,896 and the multifamily housing units enumerated by the 1960 census totaled 9,114.² The 1960 housing stock of the Topeka SMA (Shawnee County) was divided between the two main housing type classifications in an 80:20 ratio. This proportional decrease in the multifamily structural share of the 1960 Topeka SMA housing inventory was not anticipated in view of the rapid expansion of apartment construction during the 1957 through 1960 period. Six hundred and sixty new multifamily housing units were started in the city of Topeka during the decade of the 1950's, according to Table 7. Additional new duplexes or apartments may have been built during the decade inside the Topeka SMA but outside the Topeka city limits. This analysis of multifamily structure construction may be summarized with the statement that even though many new apartment units were added to the standing stock, the U. S. and Topeka decennial census enumerations showed little net numerical change.

The 1960 census number of multifamily dwelling units was slightly less than the total of duplexes and apartments counted during the 1950 census. Therefore there may have been a great loss of 1950 multifamily units during the inter-census ten year period in

¹Compiled from data in Census of Housing, 1950, Vol. I, Part 3, Chap. 16, p. 14.

²Compiled from data in Census of Housing, 1960, Vol. I, Part 4, Chap. 18, p. 21.

Table 16.

Estimated Cost of New Housing Structures: City of Topeka

Year	Total value new construction	Single family residences	Duplex units	Apartment units
1950	\$ 3,874,800	\$ 3,871,300	\$ 3,500	\$ 000
1951	4,206,850	3,837,850	261,000	108,000
1952	3,664,600	3,346,200	238,500	79,900
1953	5,512,500	4,434,900	77,500	1,000,000
1954	6,723,400	6,616,400	98,200	9,000
1955	6,745,600	6,617,100	78,500	50,000
1956	5,849,200	5,543,700	210,500	95,000
1957	10,095,500	9,126,800	275,800	692,900
1958	7,216,025	6,691,025	192,000	333,000
1959	10,548,519	9,328,519	439,000	781,000
1960	13,910,230	12,993,030	278,200	639,000
1961	12,597,200	10,147,700	299,500	2,150,000
1962	11,078,360	8,502,984	1,671,376	904,000
1963	6,539,310	5,222,310	149,000	1,168,000

Source: Annual Reports by the Building Inspection Department: City of Topeka. Based on building permit data.

the Topeka SMA. Many old apartments and duplexes may have been dismantled and replaced by non-residential buildings or the former housing sites may have been converted into parking lots, streets, or recreation areas.

Military personnel housing (except open barracks) was included in both the 1950 and 1960 Topeka SMA censuses. The replacement of old war-emergency wood apartment structures with new single family residences seemed a possibility. Most of the Keyway Urban Renewal evacuation of housing took place during late 1960, 1961, and 1962, and therefore may not have affected the March 31, 1960, census appreciably. Further investigation of the causes and magnitude of the Topeka SMA housing unit losses would have been required before a specific explanation could be given for the low multifamily housing unit share (20%) of the 1960 housing inventory.

The Topeka SMA had a slightly higher proportion of single family residences than was the case for the whole nation in 1950 (73% versus 70%). Apartments and duplexes constituted approximately 30% of the 1950 United States inventory and 24% of the 58,318,000 unit 1960 national housing inventory. Single family residences included 80% of the Topeka SMA standing stock in 1960 whereas the national inventory of the same year had a single family residence share of 76%. The higher proportion of single family residences found in the Topeka SMA in 1950 and 1960 may be a function of size. That is, the smaller the population entity, the lower the proportion of apartments and the greater the proportion of single family houses.

Part E. Summary of the Income Determinant

Per household income is the major financial determinant of new housing construction. Housing specialists, including L. Jay Atkinson, have proposed that the cost of new housing is a minor determinant of the volume of new housing construction. The income per household increased nearly every year in both the Topeka SMA and the United States during the 1950 to 1963 period. The Topeka SMA had an income per household increase of 31% while the whole United States had a 64% increase. These rates were based on after federal income taxes income. Since these thirteen years were part of an inflationary era, income per household grew approximately 32% on a national basis, in constant 1963 dollars. The Topeka SMA enjoyed a larger income per household than the national average in 1950. The Topeka SMA income per household increases were rather modest whereas the United States had a large increase during the thirteen year period, therefore the income per household levels for both geographical areas were very similar in 1960 (\$6,720 and \$6,941).

The average cost or estimated value of new single family residences was \$7,430 in the city of Topeka during 1950. Thirteen years later, in 1963, this average had increased \$7,660 to \$15,090 (see Table 14). The average cost of new residences equaled \$8,675 in the United States in 1950, according to Table 15. The U. S. average construction cost per residence had increased \$6,300 to \$14,975 in 1963. The nation-wide average unit cost increased 73% and the Topeka SMA single residence cost increased 103% during the thirteen year period under study.

This analysis of the income per household and cost per new residence is summarized by the statement that while the former factor performed favorably toward increasing new housing construction activity, the latter factor tended to decrease new housing construction (if measured on a per unit basis). The Topeka SMA had both the smaller percentage increase of income per household and the greater percentage increase in new residence building costs. On the other hand, the United States achieved the larger proportional increase in income per household while construction costs per residence did not grow as rapidly as for the Topeka SMA.

Part of the increases in new residence construction costs may have been due to improved housing quality and larger floorspace. Mr. Arnold E. Chase, a Department of Labor economist, stated that significantly larger and more fully equipped residences were being built in 1956, on the average, than had been the custom in 1950.¹ He believed that the main market problem is to make better housing available at prices which are not only within reach of families in all income brackets, but which also could compete with other goods and services offered to consumers. Mr. L. Jay Atkinson agreed with Mr. Chase as a result of his study of government loan aids to the housing industry.

Both the United States and the Topeka SMA experienced a certain unit loss of their 1950 housing stock during the following thirteen years. The abandonment of dilapidated vacant housing units may not encourage new residential construction. The demolition of inhabited

¹Arnold E. Chase, op. cit., p. 144.

dwelling units by floods or wind storms does generate additional construction activity as these units are replaced. The same situation would be present if large numbers of homes were destroyed or moved to make room for freeways or urban renewal projects.

The national new housing construction has been predominantly in single family residences. The construction of new apartment buildings has increased rapidly during the last three years. The movement of urban families to the suburbs, so typical of the late 1940's and the 1950's, may slow down because of the increasing transportation problems. The new multifamily housing structures, built during the 1960's, may decrease this movement away from the city centers by offering consumers a wider range of housing facilities which are nearer the employment centers.

CHAPTER IV

GENERAL SUMMARY AND CONCLUSIONS

Leading authorities on the housing construction industry have contended that the volume of activity, in the United States, is caused by two major determinants. The major demographic determinant is changes in the number of households. These changes are primarily dependent upon increases or decreases in the population.

The population of the Topeka SMA increased from 105,418 in 1950 to approximately 141,286 persons in 1960. This 34% increase in inhabitants compared favorably with the national increase of 18.5% for the same decade. The number of Topeka SMA households (housing consuming units) increased from 32,774 in 1950 to 43,625 in 1960. This 33% increase in physical units compared favorably with the national growth of 23.8% in households or occupied housing units.

The average number of persons per occupied housing unit remained nearly unchanged during the 1950 to 1960 decade. This stability in living space per person was achieved by a dynamic expansion in the Topeka SMA construction industry. The number of new housing starts for 1960 was nearly double the total of new housing starts for 1950. Therefore population increases were a powerful stimulus to Topeka new housing construction.

Approximately thirteen thousand new housing units were built during the 1950 through 1960 period in the Topeka Metropolitan Area. Half of this number was built within the city limits of Topeka while the other half was constructed in the unincorporated area outside

the city boundaries. Many of these homes, originally built in suburban sub-divisions, were annexed to the city between 1956 and 1960.

The major financial determinant of housing construction is changes of income per household. The direction of the changes of income per household is predominantly dependent upon increases or decreases in after taxes income. The measurement of monetary item changes is complicated by the changes in the real value of money (either inflationary or deflationary). The thirteen year period used in this paper was an era of inflation.

Income per household, a near equivalent of per family disposable income, increased from \$5,289 in 1950 for the Topeka SMA to \$6,941 in 1963. This was a 31% increase in current dollars. The income per household, nationally, grew 64% during these thirteen years. Since nearly half of the increases were due to inflationary trends, the income improvement in real terms may have been about 32% for the U. S. and 16% for the Topeka SMA. The national average income per household rose to nearly equal the Topeka SMA level in 1963. Income per household increases provided the purchasing power so that these consuming units were able to buy the new residences available.

Evidently income did not increase enough to greatly increase the proportion of the population living in owned premises. The Topeka SMA ownership rate stood at about 66% at both census dates. The Topeka SMA income increases resulted in attracting new inhabitants to the area. The addition of these new residents did not change the over-all renter and ownership proportions. The local area, in 1960, had a slightly higher ownership proportion than the nation as a whole. A more detailed study of the income increases by income class

brackets might have revealed why home ownership in Topeka did not increase more rapidly.

Two minor housing construction determinants which have been formulated by government economists are the mobility characteristics of the population and the changes in the expenditure per new unit. The former minor determinant is a demographic factor and the latter minor construction determinant is a financial factor.

The Topeka SMA had a higher mobility rate during the late 1950's than was present on a nation-wide scale. More than 31,000 persons moved to Topeka between 1955 and 1960. This increase, together with the above mentioned income improvement, created new demand for housing units and provided the market for both single family residences and rental apartments during the inter-census decade.

The Topeka construction industry appears to respond rapidly to population changes and migration because its 1950 and 1960 housing vacancy rates were low. The Topeka SMA occupancy rate varied between 95% and 96% during the decade. The Topeka SMA vacancy rate, as a result, was usually about 5%. This vacancy rate is much less than the 9% national rate which prevailed in 1960. The local vacancy rate may also have been affected by internal mobility during recent years. Nearly all American cities have had an urban renewal project. The Keyway Urban Renewal project of the early 1960's resulted in the movement of about seven hundred Topeka families and this may have bolstered the local market for new housing.

The Topeka SMA high rate of housing construction attracted a number of construction workers to the area. The local rate of construction employees per hundred was 7.5% in 1960 whereas the national

rate was only six percent. Simultaneously, the Kansas state proportion of construction employment was 6.2% per hundred in civilian employment. Therefore the mobility characteristic of the Topeka SMA inhabitants appeared to support the two major determinants, population growth, and income increases between 1950 and 1960.

The minor housing determinant, changes in the expenditure per new unit, is independent from the major financial determinant (changes in the per household income). Changes in the expenditure per new unit result from increases or decreases in many costs including labor, overhead, materials, land, and credit. The margin of net profit on the various construction inputs also affects the expenditure per new housing unit.

The measurement of per unit construction expenditures is difficult because of the lack of standardization in the final product. The final product may vary in characteristics such as size, design, and quality. Average expenditures per new single family residence in the Topeka SMA rose from \$7,430 in 1950 to \$15,090 in 1963. The average construction expenditure for new apartment units was \$3,850 in 1951 and \$7,480 in 1963. Expenditures per new residence more than doubled during the thirteen year period whereas income per household increased by less than a third. The increased popularity of the lower expenditure new apartment construction during recent years was a partial answer to the increasing costs of single residences. Annual expenditures for new housing in Topeka more than tripled during the decade of the 1950's to total nearly fourteen million dollars during 1960. This increased volume was due to both an increase in consuming unit numbers and an increase in per unit

construction costs.

The change in new housing mix during the thirteen year period decreased the predominance of single family home construction. As a result of this product mix change, the new housing unit average cost (residences and apartments combined) rose from only \$9,147 in 1951 to \$12,476 for 1963 in the city of Topeka. Therefore the average per new unit construction cost increased approximately 36% during the twelve year period. Even with the change in product mix, new housing expenditures have advanced slightly more than incomes in the Topeka SMA (assuming that expenditures and incomes were affected with a similar degree of inflation). Therefore, whereas population increases and a high rate of household mobility may have stimulated the Topeka construction industry, per residence unit costs may have depressed the new housing market.

Dr. Louis Winnick's contention that consumer preferences for housing structure expenditures, in competition with other goods and services, have slowly decreased may not be applied to the new Topeka SMA housing industry. The cost-income ratio for the city of Topeka new single family residences increased from 1.81 to 2.17, according to Table 14. In other words, Topeka purchasers of new homes during 1951 found it easier to partially repay out of current income. Therefore, to the degree that increasing price may be equated with improved quality, Topeka residents were willing to pay for more housing in 1963 even if it meant repayment from more future annual incomes. The increased construction of new apartments in Topeka may point to the tendency for those consumers with a lower preference for housing consumption rather to rent their shelter than to purchase

a residence.

The Topeka SMA and national housing data included in this report disclosed two complete short housing cycles during the decade of the 1950's. These 1950 to 1960 findings gave further validity to Dr. Clarence D. Long's research on housing construction cycles. The volume of new construction in the Topeka SMA was more erratic than was the case for the nation. The Topeka SMA building cycles were less equal in length than the national cycles and may have resulted from lags or leads in the local situation. The Topeka SMA housing construction industry trend was counter to the national trend during 1957 when a brief acceleration in volume took place. The large population increases of 1956 and 1957 may have created this new housing demand. Population growth rate changes was the most important Topeka housing construction determinant.

An upward trend in the number of new units being constructed was present on a nation-wide basis during 1961, 1962, and 1963. During 1963 new United States housing construction may have been nearing the end of a third short building cycle since 1950. The 1962 and 1963 expansionist tendencies were due mainly to increases in multifamily housing starts and may have been an attempt, on the part of general contractors and business investors, to exploit a weakening nation-wide market for single family residences. New single family housing starts just kept pace with the national population increase of 1.8% per year during the early 1960's. Housing construction activity, measured by both expenditures and number of units, has declined continually after the 1960 peak in the city of Topeka. High per unit construction costs (when compared with income)

together with a decrease in the population growth rate have influenced this recent decline.

Limitations of this report include the fact that complete quantitative data for the unincorporated portion of the Topeka Metropolitan Area was lacking for some years. The analysis contained in this paper was based only upon city of Topeka data in these instances. Another limitation is that statistical correlation analysis and market price fluctuations analysis were not included. This paper is a study of the associative and similarity characteristics and causality was not always established.

The determinants of the national housing industry (population increases, household mobility, income changes, and construction cost increases) were found to influence the construction activity in the Topeka SMA during the thirteen year period which was studied. The construction activity trends in the Topeka SMA appeared to be similar to the national trends except during the recent three year period. Recently the Topeka population growth has slowed considerably while local residential construction costs have risen. These Topeka trends explain the recent divergence between national and local new housing unit starts.

The predictions of governmental housing economists would have formed an acceptable informational input for the Topeka building contractors and construction industry businessmen in their planning and decision-making processes during the decade of the 1950's. The recent divergence in housing construction starts found between the nation as a whole and the Topeka SMA enhances the importance of the local trends of each housing determinant.

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THE HOUSING CONSTRUCTION INDUSTRY IN TOPEKA, KANSAS

by

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THE HOUSING CONSTRUCTION INDUSTRY IN TOPEKA, KANSAS

AN ABSTRACT

The purpose of this study was to survey the literature on the subject, compile information, and analyze the new housing construction determinants as they applied to the Topeka Standard Metropolitan Area (SMA). Professional housing industry specialists, representing both the academic community and federal government agencies, have formulated two major determinants and at least two minor determinants of new housing construction trends for the United States as a whole. The actions of these determinants during the thirteen year period, 1950 through 1963, were studied on a national and local basis.

Topeka SMA housing construction information was gathered and compiled from the various related municipal and county offices. This local housing data were analyzed and arranged in order to reflect the actions of the national housing determinants as they influenced the local situation. The Topeka SMA includes the city of Topeka, Kansas, and the rest of Shawnee County. Topeka is both the county seat of Shawnee County and the capital city of Kansas. The city of Topeka more than doubled its geographical size during the 1950 to 1960 period whereas the boundaries of Shawnee County remained unchanged.

The major determinant, changes in population, was a powerful stimulus to the Topeka SMA housing construction during the decade of the 1950's. The Topeka SMA population grew 34% during this decade. This compared favorably with the 18.5% increase which took place for the nation as a whole. The number of occupied dwelling units or consuming households in the Topeka SMA increased 33% during the ten year

interim whereas the national growth totaled 23.8% during the same period. The similar rates of expansion exhibited by both the Topeka SMA number of inhabitants and the number of occupied housing units resulted in no change in the number of persons per household. The United States enjoyed a greater expansion in the number of occupied dwelling units than in population growth with the result that the national average number of persons per household dropped from 3.4 in 1950 to 3.05 in 1960.

Income per household was the second major housing determinant studied. Income per household, as defined in this report, increased 31% in the Topeka SMA during the thirteen year period. Nationally, income per household increased 64% during the same years. The Topeka SMA population growth rate was a more important housing determinant than the local increases of income per household.

The expenditure per new residence and the mobility tendency of the population are the two minor housing determinants which were investigated. The rapid population growth in Topeka was due, in part, to a large in-migration from outside Shawnee County. The average expenditure per new single family residence, as shown on the building permits, rose more rapidly than incomes in the Topeka SMA. Although both geographical entities displayed two short building cycles during the 1950 to 1960 decade, the local activity trends were more erratic and unstable. Little similarity was found between the volume of construction trend patterns which developed since 1960. Topeka SMA population growth slowed down during recent years, while construction costs per housing unit increased. Changes in local housing construction were associated with changes in population growth.

Therefore, the predictions of governmental housing economists would have formed an acceptable informational input for the Topeka building contractors and construction industry businessmen in their planning and decision-making processes during the decade of the 1950's. The recent divergence in housing construction starts found between the nation as a whole and the Topeka SMA enhances the importance of the local trends of each housing determinant. The building construction oriented businessmen in the Topeka area, besides studying the national housing determinants' trends, would benefit if timely local information on these four determinants would become available.