THE EXTENT OF THE HOUSING SHORTAGE

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War has always left in its wake grave problems of economic and social adjustment. World War II required an unprecedented mobilization of the nation's human and material resources to meet the total war effort of our enemies and has left unprecedented problems of economic and social reconversion. Among the most acute of these problems is that relating to housing.

The acute housing problem which faces us today, however, is more than a heritage of the war alone. It is also, in part, a product of the great dislocation resulting from almost a decade of depression which preceded the war. The cumulative effect of these catastrophic forces is evident in the extent of the current housing shortage.

Measuring the extent of the housing shortage is not as simple a problem as may seem upon first consideration. It is a task beset by a number of difficulties of both an economic and social character. To begin with, an analysis of the supply of housing relative to effective demand would produce quite different results than would an analysis in respect to social need. Moreover, in a transitional period, such as the present, complicated by rising prices, material shortages, temporary housing, production bottlenecks, and the changing aggregate and distribution of income payments, both the supply and the demand schedules for housing are particularly difficult to quantify. Any attempt to measure the social need for housing is handicapped by the lack of any widely accepted objective standards of either need for, or quality of, housing units. Another difficulty in dealing with this problem arises from the fact that most of the information available on a current basis is restricted to national data. Since the population is highly mobile while housing is immobile, and since both the war and the depression produced great population shifts, the national picture tends to obscure the problem as it actually exists in the specific local community.

For purposes of this paper, we shall not attempt to deal with the supply of housing in relation to effective demand; we shall rather focus on the problem of supply in relation to the needs of the population. Let us turn first to a consideration of some basic population data in the light of which some evaluation of the need for housing can be undertaken.

THE POPULATION FACTOR

Families. Houses are built for people. The clusterings of people and the form of residential structures, take many forms in the United States today. The United States Census provides information not only on the total number of persons but also on the number of "families." The census "family," however, is not the family as commonly recognized; it is rather a convenient administrative unit for purposes of canvassing the population. In essence, the census "family" is a group of persons related or unrelated who live together and share common housekeeping arrangements. Included in this concept are single persons living alone in a housing unit and groups of unrelated persons living in common quarters such as a rooming house but not including institutions.[1] Thus, the census "family" may include more than one family in the commonly accepted definition of the term. A husband and wife with or without children living with the wife's parents, for example, although a separate family unit, would be counted as part of one family in the census returns. For purposes of clarity we shall refer to the family in common usage as the "social family"[2] as distinguished from the "census family" described above.

The social family for purposes of housing can be classified into two different types. The first—the "normal family" consisting of the male head living with his wife with or without children and with or without other persons (the other persons, by definition, of course, never include a husband and wife living together). The second—"all other types"—which include various forms of "broken families" and combinations of related and unrelated persons, other than a married couple living together.

Thus, on July 1, 1940, there were approximately 35.1 millions of census families; these census families included 37.5 million social families of which 29 million were normal social families and 8.5 millions were other social families.

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[1] By census definition a "private family" comprises a family head and all other persons in the home who are related to the head by blood, marriage, or adoption, and who live together and share common housekeeping arrangements. A person living alone is counted as a one person private family. A family head sharing his living accommodations with one or more unrelated persons, or providing rooms for the use of lodgers, servants, or hired hands is also counted as a one person private family. A group of related persons residing permanently or for an indefinite period in an apartment hotel is counted as a private family.

The term "private household" is used in the 1940 population census to include the related family members (who constitute the "private family") and the lodgers, servants, and hired hands, if any, who regularly live in the home. Thus the number of private households is the same as the number of private families, but the total number of persons in private households includes some individuals who are not members of "private families." U. S. BUR. OF THE CENSUS, THE SIXTEENTH CENSUS OF THE UNITED STATES 1940—POPULATION AND HOUSING—"FAMILIES—GENERAL CHARACTERISTICS" (1943) 2.

[2] The "social family" is the equivalent of the "census family" plus the census sub-families. For definition of sub-family, see *op. cit. supra* note 1, at 4-5.

Rates of Population vs. Family Growth. The number of families in the United States has been increasing at a much more rapid rate than has the total population. This seeming paradox (see Table 1) is accounted for by the declining birth rate

TABLE 1. POPULATION AND NUMBER OF FAMILIES, UNITED STATES, 1890 TO 1945.

Year	Population (in thousands)	Census families (in thousands)	Persons per family	Average annual percentage change since preceding census	
				Population	Census families
1945.............	139,621	37,500	3.7	1.2	1.5
1940.............	131,669	34,949	3.8	.7	1.7
1930.............	122,775	29,905	4.1	1.6	2.3
1920.............	105,711	24,352	4.3	1.5	2.0
1910.............	91,972	20,256	4.5	2.1	2.7
1900.............	75,995	15,964	4.8	2.1	2.6
1890.............	62,948	12,690	4.9	—	—

SOURCE: Data for 1890 to 1940 from U. S. BUR. OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES, 1944-45, tables 4 and 44. Population data for July 1, 1945 from Bureau of the Census release, *Population* series P-46, No. 6, July 10, 1946; number of families for July 1, 1945 from *Population*—special reports, series P-46, No. 4, June 1, 1946.

which has resulted in smaller family size and in the aging of the population so as to produce larger proportions of persons of marriageable age. Thus, although the average annual rates of growth of population for the decades 1910-20 and 1920-30 respectively were 1.5 and 1.6 percent, the comparable average annual rates of growth of families were respectively 2.0 and 2.3 percent. During the depression years of the 30's the average annual rate of population growth declined to .7 while that of families dropped only to 1.7. In the war period—1940 to 1945—the rate of population growth rose to 1.2 as a result of the wartime boom in births; the rate of family growth on the other hand declined to 1.5.

These data, while they show that the need for new housing as measured by the number of families is not declining at the same rate as the decline in total population growth, do not tell the whole story. The decline in the rate of growth of census families for example, from the depression years of the 30's to the war years in the first half of the 40's, as a result of census definitions largely reflect the failure of new social families to establish separate household units, or the enforced doubling up of social families in areas of housing shortage.

The need for housing units is more accurately indicated by the number of social families. The number of social families increased at an average annual rate of 2 percent between 1940 and 1945 as contrasted with 1.5 percent for census families. The estimated number of census families by single years from 1930 through 1945 and by 5 year periods from 1945 to 1960, together with the estimated number of social families by type, 1930 to 1945, is shown in the following Table 2.

Family Formation. The growth in the number of normal social families is the net effect of new families added by marriage and established families broken by death and divorce. The rate of net family formation and of its components is a function of a number of variables including factors such as the age and sex com-

TABLE 2.· ESTIMATED NUMBERS OF CENSUS FAMILIES, SOCIAL FAMILIES, AND DWELLING
UNITS, UNITED STATES, 1930 TO 1960..
(numbers in millions)

July 1	Estimated No. Census Families	Estimated Number Social Families			Estimated No. Existing Dwelling Units
		Total	Normal	Other	
1960.............	44.8	....	....	...	....
1955.............	42.9	....	....	...	....
1950.............	40.9	....	....	...	....
1945.............	37.5	41.3	31.8	9.5	40.4
1944.............	37.1	40.8	31.5	9.3	40.1
1943.............	36.9	40.2	31.1	9.1	39.8
1942.............	36.5	39.4	30.4	9.0	39.1
1941.............	35.9	38.4	29.7	8.7	38.2
1940.............	35.1	37.5	29.0	8.5	37.3
1939.............	34.2	36.7	28.4	8.3	36.4
1938.............	33.5	36.0	28.0	8.1	35.7
1937.............	32.9	35.4	27.5	7.9	35.2
1936.............	32.3	34.7	27.0	7.7	34.7
1935.............	31.8	34.0	26.5	7.5	34.2
1934.............	31.2	33.3	26.0	7.3	34.0
1933.............	30.7	32.7	25.6	7.1	33.8
1932.............	30.4	32.2	25.3	6.9	33.6
1931.............	30.2	31.8	25.0	6.7	33.2
1930.............	29.9	31.3	24.7	6.6	32.7

SOURCE: Estimated number of census families 1931 to 1939 derived from data presented in research memorandum prepared by Division of Research and Statistics, Bureau of Foreign and Domestic Commerce, June 1943 (with subsequent revisions). Data for 1941 and later years from Paul C. Glick, *op. cit. infra* footnote 14. Estimated number of existing dwelling units, 1930 to 1939 and 1941 to 1944 from BFDC research memo referred to above. All other periods derived from U. S. Bureau of the Census data. For sources of data on social families see note Table 3. For the years 1940 to 1945 the normal families include the families of members of the Armed Forces, even though the husbands were absent from home.

position of the population, trends in mortality, changing social attitudes, changing
laws, and the business cycle. In addition to these factors there is of course, the
major impact of the disruptive forces of war.

Even cursory analysis of the rate of family formation for the years 1930 to 1945
(see Table 3) indicates not only the wide fluctuation of this rate but, also, its cor-
relation with the various stages of the business cycle and of the war. During this
period, the rate of family formation dropped to a low point of 9.1 (per 1,000 existing
families) in the heart of the depression in 1932, and rose to a peacetime high for this
period of 22.8 in 1940. The combination of boom prosperity and psychological and
social factors associated with the passage of the Selective Service Act and mobiliza-
tion pushed the rate of family formation to 24.8 in 1941 and to a high point of 25.3
in 1942. With the large expeditionary forces abroad in 1943 and 1944 the formation
of new families dropped precipitously to 15.1 and 10.0 respectively. The end of the
war and demobilization of the armed services resulted in an increase in formation
of new families as indicated by the rate of 11.7 in 1945.

During the period of depression the decline in the rate of family formation was
due mainly to the drop in the number of marriages which more than offset the
decrease in divorces and the drop in the death rate. The increase in family forma-
tion with economic recovery reflects largely the increase in the marriage rate, which
again more than offset the increase in divorces and deaths. The wartime boom in

TABLE 3. ESTIMATED RATE OF FAMILY FORMATION, UNITED STATES, 1930 TO 1945.
(numbers in thousands)

Year	Estimate No. of normal families on Jan. 1	Estimated number broken by			Estimated No. added by marriages	Net addition	Estimated No. of normal families July 1	Rate of family formation, per 1,000 normal families
		Total	Death	Divorce				
1945........	31,609	1,247	745	502	1,618	371	31,795	11.7
1944........	31,294	1,137	737	400	1,452	315	31,452	10.0
1943........	30,824	1,107	748	359	1,577	470	31,059	15.1
1942........	30,053	1,001	680	321	1,772	771	30,439	25.3
1941........	29,318	961	668	293	1,696	735	29,686	24.8
1940........	28,657	935	671	264	1,596	661	28,988	22.8
1939........	28,179	926	675	251	1,404	478	28,418	16.8
1938........	27,727	879	635	244	1,331	452	27,953	16.2
1937........	27,190	914	665	249	1,451	537	27,458	19.6
1936........	26,727	906	670	236	1,369	463	26,959	17.2
1935........	26,236	836	618	218	1,327	491	26,482	18.5
1934........	25,757	823	619	204	1,302	479	25,997	.18.4
1933........	25,411	752	587	165	1,098	346	25,584	13.5
1932........	25,182	753	593	160	982	229	25,297	9.1
1931........	24,902	781	597	184	1,061	280	25,042	11.2
1930........	24,566	791	599	192	1,127	336	24,734	13.6

SOURCE: Estimated on the basis of U. S. Census data presenting: number of married persons, spouse present; age of husband by age of wife; mortality tables. Also, U. S. Public Health Service data on numbers of marriages and divorces and annual fluctuations in the death rate.

family formation was associated, of course, with the phenomenal rise in the marriage rate despite the rising divorce and death rates. The relatively small increase in the rate of family formation in 1945, despite the large increase in the number of marriages, was occasioned by the unusually high divorce and death rates which resulted in broken families.

The total number of census families in the United States increased from 29.9 millions in 1930 to 37.5 millions in 1945, or by 7.6 millions. The number of social families, however, is estimated to have increased during this interval from 31.3 millions to 41.3 millions, or by 10 million units. The normal social families increased from 24.7 to 31.8 millions, or by 7.1 millions; while the category "other social families" rose from 6.6 to an estimated 9.5 millions. The annual changes in the total numbers of families, reflects, of course, the irregularity in the rate of family formation.

Births. The need for new housing although indicated by the rate of family formation is also affected by other important factors. Chief among them is perhaps the pressures created by the addition of children to a family. The birth rate is a factor which must be considered in any attempt to estimate the need for *specific* types of housing in terms of numbers of, size of, and quality of units.

The birth rate also is a function of a number of social and economic variables and has been markedly affected by the periods of depression and war under consideration (see Table 4). The birth rate dropped sharply with the downward swing in the business cycle, rose with recovery, and reached high points for this period during the early war years. Births decreased during the period in which we had

TABLE 4. NUMBER OF BIRTHS AND BIRTH RATES, UNITED STATES, 1930 TO 1945.

Year	Reported number of births (in millions)	BIRTH RATE PER 1,000 POPULATION		Year	Reported number of births (in millions)	BIRTH RATE PER 1,000 POPULATION	
		Reported	Adjusted[1]			Reported	Adjusted[1]
1945.........	2.74	19.8	21.1	1937........	2.20	17.1	18.7
1944.........	2.79	20.2	21.5	1936........	2.14	16.7	18.4
1943.........	2.93	21.5	22.9	1935........	2.16	16.9	18.7
1942.........	2.81	21.0	22.3	1934........	2.17	17.2	19.0
1941.........	2.51	18.9	20.3	1933........	2.08	16.6	18.4
1940.........	2.36	17.9	19.4	1932........	2.18	17.4	19.2
1939.........	2.27	17.3	18.8	1931........	2.23	18.0	19.9
1938.........	2.29	17.6	19.2	1930........	2.33	18.9	20.9

[1]Adjusted for under-reporting of births.
SOURCE: Derived from data presented in "Estimating Completeness of Birth Registration in the United States, 1935-1944," Vital Statistics Special Report, Vol. 23, No. 9, Oct. 1946, National Office of Vital Statistics, U. S. Public Health Service.

large expeditionary forces abroad and at the present time are again increasing as a result of demobilization.

In general the birth rate, with a lag of somewhat less than one year, is fairly highly correlated with the marriage rate and thus, also, to a considerable extent with the rate of family formation. The combined influence of the depression and war which resulted in a great peaking of family formation and births since 1940 are no small factors in the acuteness of the current housing problem.

THE HOUSING FACTOR

The Dwelling Unit. Housing in the United States takes many forms in respect both to structure and quality. American families are housed in structures ranging from the one room wooden shack to the palatial mansion, from the single family unit to the mammouth apartment house structure, and from the purely residential unit to the mixed structure which includes not only residences but also forms of business or industry.

Most of the information available on the number and characteristics of American housing come from the only complete census of housing ever taken in this country— the 1940 Census of Housing taken in conjunction with the 16th Decennial Census of the United States. In taking the housing census, units occupied by institutional populations such as are found in military installations, penal institutions, etc., were excluded from the enumeration.[3] The census distinguished between the structure and the dwelling unit and excluded from its count all structures which did not contain residential dwelling units. The residential structure is "a building which contains one or more dwelling units." Occupied and vacant dwelling units were counted in the housing enumeration. The occupied dwelling unit as used in the 1940 housing census is defined, "as the living quarters occupied by one household."[4]

[3] U. S. BUR. OF THE CENSUS, SIXTEENTH CENSUS OF THE UNITED STATES: 1940, HOUSING, Vol. II, part 1 (1943) 2.
[4] See *op. cit. supra* note 1 for source.

The vacant dwelling unit is defined as a unit, vacant at the time of enumeration and either for sale or rent or held for occupancy by an absent household.

On April 1, 1940, there were 37.3 million dwelling units enumerated in the United States of which 34.8 were occupied, 1.9 vacant and for sale or rent, and .6 vacant but not for sale or rent.

Net Addition to Dwelling Units. Although no complete census data are available on the total number of dwelling units except for 1940, estimates have been made by single years from 1930 through 1945. These estimates, although subject to considerable error,[5] illustrate the pattern in the growth of new housing during the depression and the war. The rate of net additions to total dwelling units fell sharply from the level of 15 and 12 net additional units per 1,000 existing units in 1931 and 1932, to the depression low of 6 in the period from 1933 through 1935. The rate of net additions to dwelling units rose sharply with recovery to a level of 14 and 15 per 1,000 units in the years 1936 through 1938. With the impact of the defense and early war production program it reached 20 in 1939, a peak of 25 in 1940, and dropped to 23 by 1942. As a result of material shortages and war priorities the net additional dwelling units dropped to a rate of 18 per 1,000 in 1943, and to near depression lows of 8 and 7 respectively in 1944 and 1945. For the entire period 1930 through 1945 the number of dwelling units in the United States increased by 7.7 millions from 32.7 to 40.4 millions.

Quality of Dwelling Units. Not all of these dwelling units, however, were inhabitable, and those inhabitable varied greatly in quality. Data on the number of units unavailable for habitation are obtainable only for 1940 and 1945.

In November, 1945, the Bureau of the Census conducted a sample survey of dwelling units in the United States which included an enumeration of units not available for habitation. Of the 2 million dwelling units so reported, 1.3 were vacant dwelling units not for sale or rent[6] and .7 millions were deemed uninhabitable. Thus, in 1945 of the 40.4 total existing dwelling units, 38.4 were actually available for family use.

In 1940 the number of dwelling units not available for habitation was approximately 1.0 million of which .6 million were vacant but not for sale or rent and the remainder vacant and unfit for habitation.[7] In 1940, therefore, of the 37.3 millions existing dwelling units, 36.3 were actually available for family occupancy.

Of the dwelling units available for human habitation an appreciable number are of substandard quality and not only indicate social need for additional housing but

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[5] The estimate for 1945 is more reliable than that of other non-census-years since it is based on a comprehensive sample of the nation's housing. See U. S. BUR. OF THE CENSUS, HOUSING—special reports, Series H-46 (1946) Nos. 1 and 2.

[6] These include units held for absent households such as summer cottages, units to be demolished, units in litigation, units undergoing extensive repairs, etc.

[7] The concept "vacant and unfit for habitation," is not identical for 1940 and 1945. In 1945 the enumerators were instructed to record as not habitable, "units in need of major repairs where similar units in the same neighborhood are not occupied, as well as units unfit for human habitation" (see *op. cit. supra* note 5, in Series H-46, No. 2). In 1940 vacant units for sale or rent, but classified as in need of major repairs, were considered as "unfit for habitation" for the purposes of this paper.

undoubtedly also affect both the supply and demand schedules for housing. In periods of prosperity the substandard housing of the type existent in both the urban and rural slums of the nation augment the demand for new housing since their occupants attempt to obtain better housing. Once new dwelling units become available the slum housing tends to disappear from the available housing supply because it attracts no new residents. This is particularly true in the present economic climate characterized by a large volume of accumulated savings and a high level of current income payments. Of these two factors the latter is undoubtedly the more important as it affects effective demand for housing among our less advantaged economic groups. As indicated above, no attempt is made in this paper to measure the effects of substandard housing on the housing supply and demand schedules although data are presented to give some approximation of the extent to which such substandard units contribute to the social need for housing.

It is difficult to obtain a clear cut definition of substandard housing but there is some agreement on what constitutes adequate housing.[8] The mass data collected by the Bureau of the Census in which the quality of housing is necessarily based on a combination, in varying degree, of the judgment of the enumerator and the respondent, are subject to considerable error, particularly with respect to individual housing units. Yet the data on quality of housing as reported in the census fall into patterns which indicate that for large areas they are reasonably valid measures of poor or inadequate facilities.

In both the 1940 Census of Housing and the 1945 Sample Survey conducted by the Census Bureau, the enumerator reported the number of dwelling units "in need of major repairs,"[9] and the number with running water and various combinations of toilet and bath facilities. For purposes of this paper two definitions of substandard housing are employed. The first—"a"—in the main that followed by the National Housing Agency[10] includes: in urban areas all dwelling units reported as in need of major repairs plus other dwelling units which do not have both a private bath and flush toilet; in rural areas (including both farm and non-farm areas) all dwelling units in need of major repairs. The second definition—"b"—simply considers all units as described as in need of major repairs as being substandard. These definitions of substandard units obviously are open to debate, but in general they may certainly be taken as at least approximations of the number of units which would fall below acceptable housing standards in accordance with the American standard of living.

In applying the first definition of substandard housing we find that of the 36.3 million housing units available for habitation in 1940, 9.8 millions, or 27 percent, were substandard; in 1945 of the 38.4 million units available for habitation, 7.5, or

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[8] SEN. COMMITTEE PRINT No. 8, 79th Cong., 2d Sess. (1946) 3, 4 (Report by Samuel J. Dennis on "Standards for Measuring Housing Needs").

[9] A repair is regarded as major "when its continued neglect will seriously impair the soundness of the structure and create a hazard to its safety as a place of residence," or if "the structure is already unsound." See U. S. BUR. OF THE CENSUS, op. cit. supra note 3, at 195.

[11] U. S. NAT. HOUSING AGENCY, HOUSING NEEDS (National Housing Bulletin No. 1, 1944) 15.

20 percent, were substandard. The decline in the number of substandard units between 1940 and 1945 undoubtedly reflects renovations particularly in 1940 and 1941, made possible by the increased income payments in the pre-war and early war boom.

In accordance with the second and more conservative definition of substandard housing, approximately 6.3 million units, or 17 percent, were substandard in 1940; and 4.3 million, or 11 percent, were substandard in 1945. It may be argued that this conservative definition is the more reasonable measure of housing construction needs because the urban dwelling unit without a bath and toilet is not necessarily structurally unsound. But the fact that there is a high correlation between need of major repairs and the absence of toilet and bath would suggest that there is reasonable basis for defense of the broader definition of substandard units.

RELATION OF HOUSING TO POPULATION

The extent of the housing shortage is the difference between the social need for housing and the available housing supply. The extent of the housing shortage will, therefore, obviously differ with variations in the definition of "social need" and "available supply."

The social need for housing can be defined in several ways. It could be described as being measured by the number of census families—that is households including sub-families—in some "normal" period of time. It could, also, be defined as consisting of the total number of social families. Unfortunately adequate data are not available to obtain any norm for doubled-up families, although the data reported in the 1940 census might be used as an estimate of such a norm. The fact that the 1940 census was taken after a long period of depression and in an economic situation characterized by the presence of approximately 8 million unemployed would indicate that these data undoubtedly overstate the number of doubled-up families for purposes of a norm.

In the light of these considerations and in order to present a possible range in estimates the social need for housing will be measured in three ways as follows:

1. The number of social families.
2. The number of census families—that is, households including sub-families in the proportions reported in the 1940 census.
3. The number of census families—that is, households including sub-families, in half the proportion reported in the 1940 census.

The first of these approximations of social need for housing affords the highest estimate and assumes that a dwelling unit should be available for every social family. The second of these measures of social need for housing is the lowest estimate, and assumes the desirability of doubling up in housing to the extent reported in the 1940 census. The third is an intermediate estimate of the social need for housing with the arbitrary assumption that half the doubling up reported in the 1940 Census can be considered as "normal."

The available supply of housing is also defined in three ways:

1. Dwelling units currently occupied, plus dwelling units vacant for sale or rent and fit for habitation.

2. Dwelling units currently occupied, minus "a" substandard dwelling units, plus those vacant for sale or rent and fit for habitation. (See definition "a" above, page 10.)

3. Dwelling units currently occupied minus "b" substandard units, plus those vacant for sale or rent and fit for habitation. (See definition "b" above, page 10.)

The first is the highest estimate of housing supply and assumes that every occupied dwelling unit is fit for continued human habitation. The second is the lowest estimate of housing supply and assumes that dwelling units in need of major repairs in both urban and rural areas and dwelling units without bath and toilet in urban areas are not fit for continued habitation. The third is an intermediate estimate of housing supply and assumes that only dwelling units in need of major repair are not fit for habitation.

The Americans are a highly mobile people in at least two senses which affect the extent of the housing shortage. First, large numbers of our people migrate differentially from one to another geographic area.[11] Second, large numbers of our people change their place of residence within the same geographic area. The continuous turnover in housing occupancy necessitates a minimum number of vacant units which may be described as frictionally vacant units.

The only over-all national data on vacancy in the United States are found in the 1940 Census of Housing, and in the 1945 Sample Survey to which reference was made. In 1940 1.9 millions units or 5 percent of all dwelling units were reported as vacant and for sale or rent. Since it is a widespread practice to consider 5 percent as a "normal vacancy rate"[12] this percentage will be employed as our estimate of necessary frictional vacancy.

Varying estimates of the relation of social need for housing to the available supply of housing based on the assumptions outlined above are presented in Table 5 for the year 1945. This table indicates the number of dwelling units needed under the varying assumptions of social need, with allowance for frictional vacancy as defined above.

The lowest estimate of the extent of the housing shortage in 1945 obtained through this analysis, is thus 2 million units. An intermediate estimate is around 8 million units, and the highest estimate, 12.3 million units.

In the judgment of the writers the lowest estimate involves assumptions so unreal as to be unacceptable; without question it greatly understates the need for housing. On the other hand, the highest estimate of the extent of the housing shortage is subject to the criticism that it does not make adequate allowance for the possibility of renovating and modernizing part of the existing residential facilities. Neverthe-

[11] Shryock, *Internal Migration and the War* (1943) 38 J. AM. STATISTICAL ASS'N 16.
[12] U. S. NAT. HOUSING AGENCY, *op. cit. supra* note 10, at 14.

TABLE 5. ESTIMATES OF THE HOUSING SHORTAGE, BASED ON VARYING ESTIMATES OF
SOCIAL NEED AND OF HOUSING SUPPLY, UNITED STATES, 1945.
(numbers in millions)

ESTIMATES OF SOCIAL NEED FOR HOUSING	Number of families	Number including frictional vacancy	Estimates of housing supply—number of dwelling units			Housing shortage under varying assumptions of housing supply		
			a	b	c	a	b	c
High[1]............	41.3	43.4	38.6	34.3	31.1	4.8	9.1	12.3
Intermediate[2]......	40.0	42.0	38.6	34.3	31.1	3.4	7.7	10.9
Low[3]..............	38.7	40.6	38.6	34.3	31.1	2.0	6.3	9.5

[1] Number of social families, see Table 2.
[2] Number of families assuming one-half of the doubling up rate of 1940.
[3] Number of families assuming the doubling up rate of 1940.
a) Number occupied, plus those vacant, for sale or rent and fit for habitation.
b) Number occupied minus those in need of major repairs, plus those vacant, for sale or rent and fit for habitation.
c) Number occupied minus: in urban areas, units in need of major repairs or not having private bath or toilet; in rural areas in need of major repairs. Plus those vacant for sale or rent and fit for habitation.

less, even though the highest estimate obviously is not based on consideration of the ability of the population to pay for additional housing, it probably comes closer than any of the other estimates to a measurement of the extent of the housing shortage in terms of the accepted American standard of living.

The intermediate estimate of 8 million dwelling units presented as a measurement of the housing shortage makes considerable allowance for possible modernization and renovation of the existing housing plant; but it also definitely compromises our professed standard of living.

Since in the nature of the data it is not possible to arrive at a precise and fully objective figure on the extent of the housing shortage it is the judgment of the writers that it is a reasonable statement to describe the social need for housing as ranging from 8 to 12 million units. This, it is to be emphasized, is an estimate of the housing shortage for the year 1945.

How quickly the present deficit can be cut down will depend of course, on the speed with which the combined resources of private and public agencies can produce new residential units. That the rate of construction is low relative to the need is evidenced by the fact that current estimates of the construction of new units indicate approximately 1.2 million units scheduled for initiation in 1946 and 1.5 millions in 1947.[13] At this rate, it will require from five to ten years to eradicate the housing shortage of 1945 without any allowance for new construction to replace obsolescent housing destroyed by fire or other catastrophe and additional housing needed for new families.

Considerable interest attaches not only to the present housing shortage but, also, to that which may be expected in the coming years. Dr. Paul C. Glick of the Bu-

[13] See WYATT, VETERANS EMERGENCY HOUSING PROGRAM (Report to the President from Wilson W. Wyatt, Housing Expediter, Feb. 7, 1946). Of these 2.7 millions of units, one-fourth millions are definitely classified as of temporary nature, and thus will require replacement much sooner than would "permanent" structures. Although these are only non-farm homes, the number of farm dwellings is relatively small and would not affect these figures appreciably.

reau of the Census has estimated that the number of census families will increase from 37.5 million in 1945 to 44.8 million in 1960.[14] On the basis of past experience it can be expected that the number of social families will increase at a somewhat faster rate than will the number of census families. It is a minimum figure, therefore, to assume that the social need for housing in 1960 will be increased by 7 million additional units. Actually many more units should be built since (a) the number of social families will increase by more than 7 millions, and (b) of the available housing in 1945, a certain amount will become substandard by 1960 and need replacement. Thus, a projected estimate of 10 million additional units is not unduly excessive, in the opinion of the writers. If this estimate of 10 millions is added to the shortage estimated for 1945 the need for housing by 1960 can be stated as ranging from 18 to 22 million units.[15] In the opinion of the writers the higher estimate probably comes closer than the lower to conforming with the present and ever rising American standard of living.

It is to be emphasized that this over-all estimate of the housing shortage completely obscures great local variations which range from surplus to acute deficit. Unfortunately, adequate data are not at hand for widespread measurement of local variations. Geographic differences in the adequacy of housing are of course, greatly complicated by the nature and direction of internal population movements. Housing unfortunately, is largely fixed and immobile and out-migrants cannot take their dwelling units with them to areas of in-migration. It should be observed, however, that in general, the areas of greatest out-migration are areas with the highest proportion of housing which would be adjudged substandard by any criteria. The general character of population movements in this country tend, therefore, not to produce housing surpluses in areas of out-migration as much as to create greater deficits in areas of in-migration.

Although it is beyond the scope of this paper to indicate local variations in housing needs on the basis of the scraps of information which are available, it is the judgment of the writers that the factors considered in this paper and the methods used may be applied to local situations to obtain at least a first approximation of the social need for housing in the local community.

Experience shows clearly that the construction of new residential units is not highly correlated with the social need for housing. The swings in the construction cycle coincide only very generally with fluctuations in new family formation. Among the problems which face the construction industry and government housing agencies is the problem of achieving greater coincidence between residential construction and social need. That this problem is greatly complicated by the cyclical character of

[14] Paul C. Glick, *Estimates of Numbers of Families in the U. S.: 1940 to 1960*, U. S. BUR. OF THE CENSUS, POPULATION—Special reports, Series P-46, No. 4 (June 1, 1946).

[15] An almost identical estimate was arrived at through a quite different method by J. Frederic Dewhurst of the 20th Century Fund. Mr. Dewhurst estimated that 19.5 millions non-farm dwelling units and 2.9 millions farm units, or a total of 22.4 millions, should be built by 1960. *Hearings before Special Committee to Study and Survey Problems of Small Business Enterprises*, Senate, 79th Cong., 1st Sess. (May, 1945) 7649, 7652 (Problems of American Small Business series, part 64).

our over-all economic activity as well as by the complex relation of the construction and business cycles is clear. But it is also clear that until this intricate series of problems becomes more amenable to control than it has up to the present time, that the American standard of living will continue to be threatened by periods, such as the present, in which we are experiencing a grave housing shortage.

Perhaps some consolation can be found in the fact that the rate of population growth of the nation has been rapidly slowing down. Although the rate of growth of families will not slow down as rapidly, it, too, already shows evidence of deceleration and eventual stability. This undoubtedly will, in time, reduce the pressure for additional housing. This prospect, however, does not alter the hard fact that at the present and for at least several decades we are faced with a serious problem vitally affecting the lives of the American people, for which no easy solution is yet in evidence.