

Evaluation and Research Program of the U.S. Censuses of Population and Housing, 1960: Accuracy of Data on Housing Characteristics

Introduction

This report is one of a series of evaluation and research reports providing measures of quality of the 1960 Censuses of Population and Housing. The evaluation and research reports are designed to serve several purposes:

1. To provide users of census data with measures of the accuracy of the statistics;
2. To guide the Bureau of the Census in improving future censuses and surveys;
3. To provide information on problems of measurement in social and economic surveys.

This report presents information on the accuracy of data for selected characteristics of occupied housing units reported to the 1960 census interviewers, based on independent reinterviews conducted in a sample of housing units included in the census. The reinterview data were obtained in a survey established for this purpose--the Content Evaluation Study for Housing Characteristics (referred to as the CES).

The Bureau of the Census divides all living quarters--places where people live--into housing units and group quarters. Group quarters are found in institutions, dormitories, barracks, and other places where people do not have separate living arrangements. Housing units are found in private homes, apartment buildings, trailers, and other places where *separate* living arrangements exist. A housing unit is usually a group of rooms or a single room occupied as separate living quarters by a family. However, a housing unit may also be occupied by a group of unrelated persons living together or by a person living alone. Vacant living quarters, which are intended for occupancy as separate quarters, are also housing units.

The 1960 Census of Housing provided data on the number of housing units in the United States and characteristics of these units. Considerable geographical detail for these data are presented, e.g., by States, standard metropolitan statistical areas, cities, and so forth. The census includes information for both occupied and vacant units. Group quarters, however, are not considered in the scope of the Housing Census, and they are excluded.

Measurement errors in the Housing Census can arise from a number of different sources such as: housing units missed by enumerators, resulting in undercounts; group quarters misclassified as housing units and vice versa; or the characteristics of housing units erroneously reported. Also, a small number of households may fail to report some information requested of them and adjustments for these units may introduce errors. This report is primarily devoted to the effect on the quality of the census of only one of these sources--errors arising

from erroneous reporting of the characteristics of housing units. Furthermore, most of the data apply to occupied units only. Limited information on the effect of some of the other sources of errors can be inferred from the basic tables of this report but this is of secondary interest. (For some items in the Housing Census, information not reported by the respondents was imputed by the computer on the basis of related information for the household. Imputing of wrong characteristics is treated in the same way as respondents' errors and is included in the quality measures. This is different from the procedures used in matching for the CES for population characteristics which was with the actual census schedule and not with the final computer tapes. The CES for the Population Census does not include the effect of imputation for non-response.)

In this report, the quality of the census has been measured by selecting a sample of housing units included in the census and comparing each census questionnaire for the sample with the result of a reinterview in the same household. The reinterviews were performed about six months after the census as completely independent interviews, that is, the reinterviewers did not have access to the census questionnaires. Most of the analyses are restricted to housing units that were reported as occupied during both enumerations, since it appeared likely that the six-month difference in the timing of the two enumerations might affect the characteristics of units whose occupancy status changed.

Some measures of the quality of a census or survey can be obtained by repeating the identical survey procedures in a reinterview program--for example, respondents' consistency in reporting provides a test of accuracy of data. However, more useful information can frequently be derived by using improved methods. This can shed light on some of the systematic errors in the survey arising from such problems as questionnaire wording and interviewer attitude. The latter approach (using improved methods) was selected for the evaluation of the content of the Census of Housing. Procedures were developed for the CES which, as much as possible, avoided the limitations inherent in an operation as large as the census. (The principal differences between CES and census procedures are described in the section "CES Survey Methods and Design.") Even though the CES was subject to nontrivial errors itself, it provides measures of reliability and bias of the census statistics.

Although there is considerable emphasis on geographic detail in the Housing Census, an evaluation program cannot provide a separate evaluation of each area for which census data are presented without incurring a cost many times that of the census itself. The analysis of the quality of the Housing Census statistics is, therefore, primarily devoted to statistics for the United States as a

whole, although some regional data are also considered. Strictly speaking, the measures of error do not necessarily apply to individual States, cities, or other local areas. However, the evidence appears to indicate that the factors creating these measurement errors are fairly widespread and the errors are more or less consistent in most areas of the country. One cautious note regarding geographic detail should be made, however. This report is not concerned with the effect of a tendency to make consistent errors by an interviewer (resulting in interviewer variance). For summary statistics for large areas, covered by many interviewers, this tendency does not have much influence on the quality of the data. For small areas covered by only a few interviewers (e.g., blocks, tracts, small towns) and for tabulation cells with small frequencies in them, the accuracy of the data may fluctuate severely from area to area or cell to cell depending on the quality of the interviewers in the areas involved. A future report will be concerned with the magnitude of response errors for average small areas of various sizes, but not for specified individual areas.

Data Presented

Measures of simple response variance and bias of the statistics of the 1960 Census of Housing for the following characteristics are included in this report:

- Number of rooms
- Condition of unit
- Plumbing facilities (water supply, toilet, bathtub or shower)
- Access and cooking equipment for multiunit structures
- Number of bathrooms
- Number of bedrooms

Tables 1A-9C contain full cross-classifications of the CES and census data, using the categories for which census data have been published. The census classification is shown in the heading and the corresponding CES classification is in the stub. All data in these tables are shown in terms of the estimated total of units correctly classified as housing units in the census.

Ideally, in order to provide as accurate an evaluation of content errors as possible, matched CES and census data should have been obtained for all units in the CES sample. Practical problems of survey operations made this impossible. Failure to get matched data arose from: households that failed to report information for items studied in the CES; units that could not be matched; units with different tenure or occupancy status reported in the census and CES (the six-month lag between the Housing Census and the CES made the detection of errors in reporting of occupancy status in the census too uncertain for reliability); and so forth. Consequently, the basic cross-classifications of census and CES data are restricted to units for which occupancy or tenure status was identical in the CES and census, and which reported characteristics in the CES.

To clarify the relationship between housing units for which cross-classifications are shown and the total number of units enumerated in the census, both CES and census distributions are shown for the classes of units not included in the cross-classifications. This is done by showing in separate columns and lines of tables 1A-9C housing units which fell into the categories indicated above, such as vacant in either the CES or census, breakdowns not reported, renter occupied in one enumera-

tion and owner occupied in the other. In the tables, the lines and columns containing these data are separated from the cross-classifications by heavy dark lines. The presentation of these data also provides partial information on the effect of other types of response errors in the census, for example, the effect of noninterviews. However, this type of analysis must be done with caution since some of these differences (particularly for occupancy status and tenure) may reflect real changes that occurred in the six-month interval between the original enumeration and reinterview, rather than response errors.

The final column in tables 1A-7--not reported or inconsistent in the census--contains a count of the units which were edited by the computer. (This information is not available for tables 8A-9C.) In the census processing, if there was no entry for a characteristic or if the entry was inconsistent with other items reported for the housing unit, the computer imputed a value, generally on the basis of other information reported for that housing unit. (For example, of the 52,833,000 occupied housing units, the number of rooms was imputed for 327,000.) Since the imputed values were used in the cross-classification of data, some response errors may actually be due to imputation. The last column provides a guide to the maximum amount of the difference that could be accounted for by imputation.

Table 10 shows indexes of response variance and bias for selected housing characteristics. These are shown for all occupied units by tenure. The indexes have been computed for the total United States only. The measures are described below.

Indexes of Response Variance and Bias

The response errors of a particular census or sample survey result arise from the joint effects of response bias and response variance. Measures of these two items can therefore be used as indexes of the accuracy of the data. A brief description of response bias is that it represents systematic errors in reporting data, or the effect of types of errors that are consistent in direction and that would be consistent if it were possible to do independent repetitions of the survey under the same general conditions. Response variance, on the other hand, can be categorized as the effect of errors that tend to cancel out when a large number of observations are made. The paragraphs which follow give a more complete description of these terms. For a fuller discussion, see the report Series ER 60 No. 1, *Evaluation and Research Program of the U.S. Censuses of Population and Housing, 1960: Background, Procedures, and Forms*, and the references in the bibliography of that report.

Under certain fairly general survey conditions, matching information from two sources for identical units can provide estimates of response variance, and to the extent that one of these sources is based on more adequate measurement methods and is acceptable as a standard, it can also provide estimates of bias. Various measures of response variance and bias can then be constructed from the results of this kind of match. The CES compared with the census gives two measurements for each unit reinterviewed for selected items of information and roughly satisfies the conditions given above. A group of such measures, which appear to be useful for analytic purposes, have been computed for each characteristic studied and are shown in table 10. These measures were computed using data for only those units classified as

occupied in both the census and the CES, and for tables classified by tenure, for only those units classified as owner in both the census and the CES, or as renter in both.

Table A.--GENERAL REPRESENTATION OF RESULTS OF ORIGINAL AND REINTERVIEW SURVEYS OF IDENTICAL HOUSING UNITS

Results of the CES	Results of Census		
	1	0	Total
1.....	a	b	a+b
0.....	c	d	c+d
Total.....	a+c	b+d	n=a+b+c+d

Table A shows, in schematic form, the results of the comparison of the census with the CES where the value 1 is assigned to a unit classified as having some specified characteristic and the value 0 otherwise. (Housing units which are not matched or which have no response in the CES for the characteristic being studied are excluded.) As shown in Table A, "a" of the units were classified as having the specified characteristic in both the census and CES, "a+c" were classified as having the characteristic in the census, and "a+b" were classified as having the characteristic in the CES.

If x_i represents the result for a housing unit in the census and y_i represents the result for that same housing unit in the CES, the response difference for that unit is represented as $x_i - y_i = e_i$. e_i is either 0, 1, or -1. The sum of the values of e_i over all housing units included in both the census and the CES is the net difference between the two surveys. In the notation of table A

$$\sum_{i=1}^n e_i = \sum_{i=1}^n (x_i - y_i) = \sum_{i=1}^n x_i - \sum_{i=1}^n y_i =$$

$$(a + c) - (a + b) = c - b$$

The gross difference can be represented by b+c. The values of a, b, c, d, the gross difference, and the net difference are the components of the indexes of response variance and bias.

In evaluating a census statistic, the mean square error (MSE) of that statistic is of particular interest. The components of the MSE are as follows:

$$MSE_{x_c} = \sigma_{x_c}^2 + B_{x_c}^2$$

where $\sigma_{x_c}^2$ is the variance of the census statistic and $B_{x_c}^2$ is the square of the bias of the census statistic. (Generally, the mean square error is defined as having the sampling variance as a third component. For a complete census, the sampling variance vanishes. Even though most of the items analyzed here were sample items in the census, the sample at the national level was so large that the sampling variance is a trivial part of the MSE. For statistics for small cells or small areas, the sampling variance contribution may be important.)

The expected value of the census result minus the expected value of the CES result is equal to the bias of the census statistic. The estimated variance of the individual response difference is

$$s_e^2 = \frac{\sum_{i=1}^n (e_i - \bar{e})^2}{n-1}$$

where e_i is the response difference and $\bar{e} = \frac{\sum e_i}{n}$ represents the mean of the response differences.

Since $e_i = x_i - y_i$, $\sum_{i=1}^n e_i^2 = \sum_{i=1}^n (x_i - y_i)^2$. Whenever the responses in the census and CES are different, $e_i^2 = 1$, since $(x_i - y_i)^2 = (1)^2$ or $(-1)^2$. Whenever the responses are the same, $e_i^2 = 0$. Therefore $\sum_{i=1}^n e_i^2 = b + c$,

the sum of all the differences in response from the census and CES or the gross difference. Now, since $\sum_{i=1}^n e_i = c - b$, s_e^2 can be written as follows:

$$s_e^2 = \frac{b+c}{n-1} - \frac{(c-b)^2}{n(n-1)}$$

The gross difference can be expressed as

$$b+c = (n-1) s_e^2 + \frac{(c-b)^2}{n}$$

The gross difference rate is then

$$\frac{b+c}{n} = \frac{(n-1)}{n} s_e^2 + \frac{(c-b)^2}{n^2}$$

1. Gross difference rate: $g = \frac{b+c}{n} = \frac{(n-1)s_e^2}{n} + \frac{(c-b)^2}{n^2}$

When n is large, the first component of the gross difference rate is approximately equal to the simple response variance of the census statistic. When the difference between the CES and the census is used as a measure of the bias, the second component is the square of the estimated bias of the census statistic. Therefore, the gross difference rate can be viewed as an estimate of the mean square error of the census statistic. If the bias is small, the gross difference rate can be used as a measure of the simple response variance of the response differences.

It can be shown that if the census and a second survey were conducted independently under the same general conditions, the simple response variance of the response difference as developed above would be twice the simple response variance of the census (or of the second procedure). Therefore, under the conditions $g/2$ would be an approximate measure of the response variance of the census, and is, in fact, the measure used in this report.

2. Index of inconsistency: $\hat{I} = \frac{g}{2pq} = \frac{g}{p_1 q_1 + p_2 q_2}$

This index shows the ratio of the simple response variance $\frac{g}{2}$ to pq , where p is the average proportion in the census and CES having the specified characteristics. If the CES is viewed as being a repetition of the census,

then pq can be estimated by $\frac{p_1 q_1 + p_2 q_2}{2}$.¹ $p_1 = \left(\frac{a+c}{n}\right)$ is the proportion of housing units in the CES sample having a specific characteristic in the census, $p_2 = \left(\frac{a+b}{n}\right)$ is the proportion of housing units in the CES sample having that same characteristic in the CES,

$$q_1 = 1 - p_1 = \left(\frac{b+d}{n}\right) \text{ and } q_2 = 1 - p_2 = \left(\frac{c+d}{n}\right). \text{ Therefore,}$$

$$\hat{I} = \frac{(b+c)/n}{\left(\frac{a+c}{n}\right) \left(\frac{b+d}{n}\right) + \left(\frac{a+b}{n}\right) \left(\frac{c+d}{n}\right)}$$

A simple interpretation of \hat{I} is as follows. Assume that a sample of n elements is drawn with equal probability and with replacement. Also assume that the between-element covariance of response deviations is zero—that is, that the quality of response of one unit is independent of the quality of any other unit. Then for a sample of one element, the total variance can be expressed as the binomial variance, pq . This is the sum of the simple response variance and the “pure” sampling variance. Therefore, the simple response variance would be equal to or less than pq . Assuming that the bias is small $b+c/2n$ is an estimate of the simple response variance.

As the measurement of the specified characteristic becomes less reliable, but remains unbiased, the simple response variance increases and the sampling variance decreases. When the measurement process becomes equivalent to tossing the same coin for each element ($0 < p < 1$ and constant for all trials) the response variance is equal to the total variance. The index of inconsistency is thus useful in determining the consistency or reliability of a zero-one variate included in the census.

The estimated maximum value for the gross difference rate between the census and CES is $p_1 q_1 + p_2 q_2$. This maximum value is obtained in the assumption that the census and CES were conducted independently or that they were positively correlated. $p_1 q_1 + p_2 q_2$ is very nearly equal to $2pq$ where p is the average proportion in the census and CES having the specified characteristic.

The index of inconsistency lies between 0 and 1 provided the assumptions mentioned above hold. However, the estimator of the index can be greater than 1. Such items have been asterisked in table 10. In all cases, the closer \hat{I} is to 1, the less reliable is the item.

$$3. \text{ Net difference rate: } \bar{e} = \frac{1}{n} \sum_{i=1}^n e_i = \frac{c-b}{n}$$

¹Under other conditions (for example, where there is independent knowledge that the reinterview survey is subject to much less response variability than the census and it is desired to compare the quality of two censuses) it would be more appropriate to use a different estimate of pq . In the example mentioned, the comparison may be improved if the values of p and q are taken from the surveys responsible for most of the response variability. For the sake of uniformity, the same estimator $\frac{(p_1 q_1 + p_2 q_2)}{2}$ will be used in all basic reports in the ER 60

series. For some later analyses of the data, and comparisons of the quality of the 1960 census with other censuses or surveys, a different estimate of pq may be used for some characteristics. For the vast majority of the items, the various forms of the estimates produce almost identical data.

This index, as indicated earlier, gives an estimate of the amount of bias in the census statistic. If the sign is negative, there is an understatement in the census. For example, the net difference rate for the number of owner-occupied units having five rooms is -1.74 percent. One can see by looking at table 1B showing number of rooms for all owner-occupied units that there were more five-room housing units found in the CES than in the census. In fact, the difference amounted to 1.74 percent of all owner-occupied units included in the cross-classifications. On the other hand, the net difference rate for the number of owner-occupied units having eight-or-more rooms is 2.73 percent, implying there were many more eight-room units found in the census than in the CES.

$$4. \text{ Index of net shift relative to CES results: } \frac{\bar{e}}{p_2} = \frac{c-b}{a+b}$$

This index is a measure which shows the ratio of the net difference to the number in the class reported in the CES. The net difference rate for eight-or-more rooms in owner-occupied units is 2.73 percent. The index of net shift relative to the CES total for this characteristic is 36.42 percent. This means that the census estimate of this item was 36.42 percent greater than the CES estimate.

$$5. \text{ Percent of housing units identically distributed relative to CES results: } r = \frac{a}{a+b}$$

Since the CES is taken as the standard, this index gives an indication of the stability of the response relative to the standard. This index has an interesting relationship to the index of inconsistency. When the proportion of the units with a specific characteristic is small, the two indexes are complementary. When the proportion of units in the CES is large, the index of inconsistency provides a more reliable measure of the stability of response. However, “ r ” appears to be a useful index because its form is simpler than the index of inconsistency, and its meaning and implication can be grasped more easily.

Summary of Results

Table B below presents, in summary form, information on the quality of each Housing Census characteristic studied in the evaluation program. It shows (for the total United States, and for total occupied units by tenure) the distribution of the values of the index of inconsistency for each Housing Census characteristic (rooms, condition, etc.). The index of inconsistency gives an indication of the degree to which an item is subject to response variance, so that one can see which characteristics are most affected. Similarly, from table C in which the number of items by category is shown for different values of the net difference rate, one can see which characteristics are subject to bias.

An illustration may make table B clearer. The 9 items listed for “Condition” are the 9 cross-classifications of dilapidated, deteriorating and sound units, by total units, owner-occupied and renter-occupied units. Of these 9 items, 5 had indexes of inconsistency between 50 and 59 percent, the index for one was between 60 and 69 percent, and the indexes for the remaining 3 were all over 70 percent. By reference to table B, some simple comparisons can be made of the response variability of the different subjects included in the Housing Census. For

example, 23 of the 24 classifications under "Number of Rooms" had indexes of inconsistency of less than 50 percent, whereas the indexes for all 9 items under "Condition" were over 50 percent. This implies that number of rooms is subject to much less response variability than condition of housing.

Table C has been constructed in a similar manner and can be used in the same way except there the classification is in terms of the size of the bias.

Table B.--NUMBER OF CLASSES STUDIED, BY HOUSING CHARACTERISTIC AND INDEX OF INCONSISTENCY

Index of inconsistency (percent)	Total classes	Housing characteristic								
		Number of rooms	Condition	Condition by plumbing	Bathing facilities	Toilet facilities	Water supply	Access and cooking facilities	Number of bathrooms	Number of bedrooms
Total classes...	96	24	9	18	3	3	9	3	12	15
00-09.....	-	-	-	-	1	-	-	-	-	-
10-19.....	11	-	-	-	1	2	3	-	4	2
20-29.....	16	4	-	-	1	-	-	-	4	8
30-39.....	25	13	-	3	-	-	3	-	3	3
40-49.....	12	6	-	-	-	1	-	1	1	1
50-59.....	11	-	5	3	-	-	-	1	-	1
60-69.....	4	1	1	2	-	-	-	-	-	-
70 or over.....	17	-	3	10	-	-	3	1	-	-

Table C.--NUMBER OF CLASSES STUDIED, BY HOUSING CHARACTERISTIC AND NET DIFFERENCE RATE

Net difference rate ¹ (percent)	Total classes	Housing characteristic								
		Number of rooms	Condition	Condition by plumbing	Bathing facilities	Toilet facilities	Water supply	Access and cooking facilities	Number of bathrooms	Number of bedrooms
Total classes...	96	24	9	18	3	3	9	3	12	15
0.00-0.09.....	14	3	1	3	1	-	2	-	3	2
0.10-0.49.....	30	8	-	5	2	1	1	1	7	4
0.50-0.99.....	14	4	-	4	-	2	-	2	1	1
1.00-1.99.....	16	5	3	3	-	-	-	-	1	4
2.00-2.99.....	10	4	1	-	-	-	2	-	-	3
3.00-3.99.....	8	-	2	2	-	-	3	-	-	1
4.00-4.99.....	2	-	1	-	-	-	1	-	-	-
5.00 or over.....	2	-	1	1	-	-	-	-	-	-

¹Positive and negative values of the net difference rate have been grouped together. For example, a net difference rate of -.53 was included in the group 0.50 to 0.99.

CES Survey Methods and Design

The data presented in this report are based on a national, multi-stage probability sample of housing units enumerated in the 1960 Census of Housing. The sample consisted of about 5,000 housing units located in approximately 2,500 area segments. These segments were a subsample of the segments used in the 1959 Survey of Components of Change and Residential Financing conducted as part of the 1960 Census of Housing. Bureau of the Census, Working Paper No. 16, *Procedural Report on the 1960 Censuses of Population and Housing*, contains a detailed description of the sample design used in the 1959 survey, as well as the enumeration methods.

In order to produce as accurate data as possible for the CES, procedures were used that differed from those in the census in several important respects:

1. Superior interviewers were selected and they were given more intensive training than was possible for the census interviewers;
2. The CES interviewers were paid hourly rates instead of the piece rates used in the census;
3. The CES interviewers conducted an intensive interview in the 5,000 housing units in October 1960. The CES interviewers probed much more deeply than did the regular census questionnaire into the physical layout of the

housing units, in order to get as accurate information as possible on the characteristics being studied. Bureau of the Census report *ER 60 No. 1* contains a copy of the CES questionnaire.

The CES interviewer had no knowledge of the census answers for the characteristics being studied, and no reconciliation between the census and CES was attempted. The data obtained during the CES for the census units were matched in a computer operation with the final edited census data (which included imputations for unknowns and inconsistencies that were a part of the computer edits of the basic census results).

A ratio estimation procedure at the regional level was utilized in weighting the sample results to produce the estimates shown in this report. Separate ratio estimation procedures were used for total occupied units, owner-occupied units, and renter-occupied units. The estimation procedures were as follows:

1. The U.S. data, not shown by tenure, were estimated using a ratio estimation procedure for each region. Within each region, an estimate was made of the total occupied and total vacant units, including only those units correctly classified as housing units in the census.

Within the class of census occupied units, the data were estimated by use of the following formula:

$$X' = \sum_{i=1}^4 \frac{x_i}{y_i} Y_i$$

where X' is the estimate shown in this report for the total United States occupied units.

x_i is the simple expansion estimate (i.e., multiplied by the reciprocal of the probability of selection) of units correctly classified as housing units having a specified characteristic in a region. For example, x_i could be the CES estimate of the number of occupied units in the northeast region having six rooms.

y_i is the simple expansion estimate of the total number of units correctly classified as housing units in the region based on the CES sample. y_i could be the total number of occupied units in the northeast region from the CES sample.

Y_i is the census count of housing units in the specified region, less an estimate of the number of erroneously enumerated units in the region. For example, Y_i could be the number of units correctly classified as housing units reported in the census in the northeast region.

2. U.S. data shown in this report by tenure were estimated using a similar ratio estimation procedure but with eight ratio estimation classes—the same four regions separately by owner and renter. Again, only units correctly classified as housing units were used in the estimation procedure.

Limitations of Data

1. Since the figures are based on sample data, they are subject to sampling variability. Table D indicates the approximate sampling variability of the CES estimates presented in this report for all items except number of bathrooms and number of bedrooms, as a function of the

size of the estimate. For the number of bathrooms, an estimate of the standard error can be approximated by multiplying the appropriate figures in table C by 1.1 and for the number of bedrooms by 2.2. (These two items were collected for only a subsample of households in the census sample.) The estimates of sampling variability given in this table are expressed as standard errors. (The chances are 2 out of 3 that the difference due to sampling variability between an estimate and the figure that would have been obtained from a complete enumeration is less than the standard error.)

The standard errors in table D apply to the estimates appearing in any cell of the cross-classifications in tables 1A-9C. The gross difference and net difference are, of course, of particular interest in any analysis. The standard error of these two items can be considered as approximately identical for any characteristic, and may be obtained by using the standard error in table C for an estimate of the size of the gross difference. As an illustration of the use of table D, refer to table 1A. This table shows that there were an estimated 1,845,000 housing units classified as 5 room units by the census interviewer and as 4 room units by the CES interviewer. By linear interpolation in table D it can be seen that the standard error of this cell is about 225,000. The gross difference for 5-room housing units was 7,148,000 and the net difference -502,000. Table C shows that the standard error of an estimate of 7,148,000 is about 430,000, and this is, therefore, the standard error of both the gross difference of 7,148,000 units and of the net difference of -502,000 units.

Table D.--APPROXIMATE STANDARD ERRORS OF CES ESTIMATES

Size of estimate	Standard error
25,000	27,000
50,000	40,000
100,000	55,000
500,000	125,000
1,000,000	165,000
2,500,000	275,000
5,000,000	385,000
10,000,000	495,000
20,000,000	650,000
30,000,000	600,000

2. Errors in published census reports on characteristics of housing units due to response errors by interviewers or respondents can arise in a number of different ways—from misclassification of these characteristics by the interviewer or respondent, by omission in the Census of Housing of units with the specified characteristics, by duplicate enumeration of some units, or by including in the Census of Housing living quarters which should not have been classified as housing units. The tables in this report relate only to classification errors in those units reported as occupied in both the census and the CES. The effect on the statistics of housing units erroneously enumerated or missed in the census is not included. Also, information on units which were vacant in both the census and the CES is not included. Such information will be included in a later report in the ER 60 series which will show the net cumulative effect of the errors of omission and erroneous enumerations as well as information on vacant units.

3. The CES interviewer obtained the reinterview data in October 1960, six months after the census interview. Since this report is limited to structural characteristics of housing, it is unlikely that the time difference could account for much real change. However, it is possible that some of the changes in classification may have been real changes occurring over the six-month period. For example, a deteriorating housing unit may have become dilapidated in the intervening time. The time differential between original interview and reinterview is particularly important for nonstructural housing items, such as tenure, and for the characteristics of the occupants of the units, and the CES cannot be used as a measure of quality for such items.

4. An assumption necessary for a meaningful interpretation of the net error is that the CES schedule is the standard of accuracy. Though it seems reasonable to assume that the detailed probes elicited more accurate answers, the CES was still probably subject to some error.

5. Another limitation related to the view that the CES was the standard of accuracy is that it provided for no reconciliation of the data. In the 1950 study and in the CES for population characteristics, the interviewer had access to the census answers, and probed further whenever there were any differences. In this study, the interviewer had no knowledge of the census answers. For some units which were classified differently in the CES and the census, a reconciliation operation might have revealed the census figures as being correct.

6. The matching operation between the census and CES housing units could have introduced some errors. The match was done by the computer on the basis of page number in the census, number of rooms and number of persons in the housing unit. Any unit matching on all three categories was accepted as a true match. Editing procedures were carried out on the remaining units. It is possible that some of the cases accepted as matched units were really not the same unit. Therefore, some of the differences in classification may be due to units which were incorrectly matched.

7. Finally, as mentioned previously, the measures of quality shown here can only be approximately applied to statistics for local areas. For small areas, the correlations between response errors, caused by interviewers' patterns in making errors, is likely to dominate as a source of response variance. The effect of these correlations is not included in this report.

Related Reports

The concepts used in determining the classification of the data in both the 1960 census and the CES are described in *1960 Census of Housing; Volume 1, States and Small Areas*. The published tables showing detailed housing characteristics are in the same volume. For a description of how the census was conducted, see Bureau of the Census, Working Paper No. 16, *Procedural Report on the 1960 Censuses of Population and Housing*.

Series ER 60 No. 1 *Evaluation and Research Program of the U.S. Censuses of Population and Housing, 1960: Background, Procedures and Forms* contains a copy of the questionnaire and other forms used in the CES. Additional reports in the ER 60 series will provide data on other aspects of the accuracy of the censuses, e.g., response errors in the Census of Population, coverage errors, etc. In particular, for a more complete analysis of the quality of the Census of Housing, it is necessary to combine the effect of coverage errors (underenumeration or overenumeration) and processing errors with response errors. Information on coverage errors will be found in other ER 60 reports, to be published.

For a discussion of some of the indexes of response variance and bias as related to the Current Population Survey, see Bureau of the Census, Technical Paper No. 6, *The Current Population Survey Reinterview Program*. The mathematical derivation of some of the indexes is contained in "The Estimation and Interpretation of Gross Differences and the Simple Response Variance," by Morris H. Hansen, William N. Hurwitz, and Leon Pritzker, (to be published).

A study similar to the CES, the Post-Enumeration Survey, was conducted in 1950. Results of that study are available in Bureau of the Census, Technical Paper No. 4, *The Post-Enumeration Survey: 1950*, as well as in unpublished papers. The results of the 1960 Content Evaluation Study for Housing Characteristics are not entirely comparable with those of the 1950 Post-Enumeration Study. In comparing the results of the two studies it should be noted that reported differences in quality may arise, in part, from improvement in procedures in the 1960 evaluation study, changes in accuracy between the 1950 and 1960 Censuses, or both. Any comparisons of the 1960 results with the 1950 data should be made only with appreciation of the above qualifications. Later reports will present definitive analyses and comparisons as data will permit.

Evaluation and Research Program, 1960 Censuses

Table 1A.—NUMBER OF ROOMS FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification											
	Total (1)	Vacant in census (2)	Reported in census as occupied									Not reported or inconsistent in census ¹ (12)
			Total (3)	1 room (4)	2 rooms (5)	3 rooms (6)	4 rooms (7)	5 rooms (8)	6 rooms (9)	7 rooms (10)	8 rooms or more (11)	
UNITED STATES												
Total units.....	57,752	4,919	52,833	1,143	2,016	6,352	10,965	13,882	9,959	4,716	3,800	327
Occupancy not reported in CES.....	1,259	304	955	197	28	108	158	170	218	52	24	20
Occupancy reported in CES.....	56,493	4,615	51,878	946	1,988	6,244	10,807	13,712	9,741	4,664	3,776	307
Vacant in CES.....	4,496	2,821	1,675	129	147	368	450	367	105	59	50	36
Occupied in CES.....	51,997	1,794	50,203	817	1,841	5,876	10,357	13,345	9,636	4,605	3,726	271
Number of rooms not reported.....	624	60	564	46	7	75	41	139	115	59	82	-
Number of rooms reported.....	51,373	1,734	49,639	771	1,834	5,801	10,316	13,206	9,521	4,546	3,644	271
1 room.....	957	119	838	536	227	53	3	10	5	-	4	14
2 rooms.....	2,236	245	1,991	158	1,314	419	74	23	-	3	-	9
3 rooms.....	6,339	299	6,040	40	198	4,614	970	114	33	8	63	10
4 rooms.....	11,626	454	11,172	29	71	571	8,169	1,845	358	46	83	47
5 rooms.....	14,051	343	13,708	8	11	84	854	2,882	2,399	276	193	54
6 rooms.....	9,688	186	9,502	-	13	25	197	1,192	6,212	1,403	459	39
7 rooms.....	3,866	52	3,814	-	-	-	21	114	428	2,502	749	35
8 rooms or more.....	2,610	36	2,574	-	-	35	28	25	85	308	2,092	63
NORTHEAST												
Total units.....	14,679	1,220	13,459	389	337	1,929	2,484	2,786	2,767	1,520	1,247	104
Occupancy not reported in CES.....	374	104	270	38	9	29	38	63	75	-	18	-
Occupancy reported in CES.....	14,305	1,116	13,189	351	328	1,900	2,446	2,723	2,692	1,520	1,229	104
Vacant in CES.....	1,037	766	271	40	40	15	110	66	-	-	-	26
Occupied in CES.....	13,268	350	12,918	311	288	1,885	2,336	2,637	2,692	1,520	1,229	78
Number of rooms not reported.....	284	-	284	4	-	29	23	74	52	55	47	-
Number of rooms reported.....	12,984	350	12,634	307	288	1,856	2,313	2,583	2,640	1,465	1,182	78
1 room.....	340	44	296	204	43	44	-	-	5	-	-	6
2 rooms.....	393	51	342	89	206	33	14	-	-	-	-	9
3 rooms.....	1,894	45	1,849	-	39	1,630	113	31	9	-	27	3
4 rooms.....	2,530	81	2,449	14	-	113	1,991	236	89	19	27	9
5 rooms.....	2,670	35	2,635	-	-	36	173	1,970	364	60	52	32
6 rooms.....	2,931	67	2,864	-	-	-	62	336	1,962	408	96	3
7 rooms.....	1,258	-	1,258	-	-	-	-	10	148	872	227	3
8 rooms or more.....	968	27	941	-	-	-	-	-	63	105	772	16
NORTH CENTRAL												
Total units.....	16,667	1,329	15,338	263	457	1,325	2,698	4,914	2,908	1,502	1,271	107
Occupancy not reported in CES.....	228	27	201	15	-	37	50	14	80	-	5	-
Occupancy reported in CES.....	16,439	1,302	15,137	248	457	1,288	2,648	4,900	2,828	1,502	1,266	107
Vacant in CES.....	1,217	860	357	46	10	98	18	61	72	24	28	10
Occupied in CES.....	15,222	442	14,780	202	447	1,190	2,630	4,839	2,736	1,478	1,238	97
Number of rooms not reported.....	64	-	64	17	-	13	-	5	-	4	20	-
Number of rooms reported.....	15,158	437	14,721	185	447	1,177	2,630	4,834	2,736	1,474	1,218	97
1 room.....	227	8	219	148	62	9	-	-	-	-	-	-
2 rooms.....	543	75	468	12	307	122	27	-	-	-	-	-
3 rooms.....	1,386	89	1,297	10	47	830	322	74	9	5	-	-
4 rooms.....	3,033	111	2,922	15	27	148	2,030	580	75	13	34	12
5 rooms.....	4,893	46	4,847	-	-	31	155	3,692	747	131	90	9
6 rooms.....	3,027	67	2,960	-	4	10	59	450	1,812	440	184	10
7 rooms.....	1,228	41	1,187	-	-	-	9	28	93	798	259	28
8 rooms or more.....	821	-	821	-	-	27	28	9	19	87	651	38
SOUTH												
Total units.....	16,974	1,520	15,454	255	675	1,795	3,656	3,957	3,047	1,216	853	69
Occupancy not reported in CES.....	374	96	278	83	15	17	11	74	50	28	-	18
Occupancy reported in CES.....	16,600	1,424	15,176	172	660	1,778	3,645	3,883	2,997	1,188	853	51
Vacant in CES.....	1,529	828	701	11	65	145	255	152	33	28	12	-
Occupied in CES.....	15,071	596	14,475	161	595	1,633	3,390	3,731	2,964	1,160	841	51
Number of rooms not reported.....	255	55	200	9	7	33	13	60	63	-	15	-
Number of rooms reported.....	14,816	541	14,275	152	588	1,600	3,377	3,671	2,901	1,160	826	51
1 room.....	147	37	110	89	17	-	-	-	-	-	-	-
2 rooms.....	658	57	601	33	430	104	12	19	-	3	-	-
3 rooms.....	1,712	41	1,671	30	84	1,251	243	9	15	3	36	7
4 rooms.....	4,009	188	3,821	-	37	210	2,786	590	175	14	9	2
5 rooms.....	4,119	166	3,953	-	11	12	261	2,769	798	67	35	-
6 rooms.....	2,585	43	2,542	-	9	15	63	231	1,760	382	82	26
7 rooms.....	978	9	969	-	-	-	12	37	150	588	182	7
8 rooms or more.....	608	-	608	-	-	8	-	16	3	103	478	9
WEST												
Total units.....	9,432	850	8,582	236	547	1,303	2,127	2,225	1,237	478	429	47
Occupancy not reported in CES.....	283	77	206	61	4	25	59	19	13	24	1	2
Occupancy reported in CES.....	9,149	773	8,376	175	543	1,278	2,068	2,206	1,224	454	428	45
Vacant in CES.....	713	367	346	32	32	110	67	88	-	7	10	-
Occupied in CES.....	8,436	406	8,030	143	511	1,168	2,001	2,118	1,224	447	418	45
Number of rooms not reported.....	21	-	21	16	-	-	5	-	-	-	-	-
Number of rooms reported.....	8,415	406	8,009	127	511	1,168	1,996	2,118	1,224	447	418	45
1 room.....	243	30	213	95	105	3	10	-	-	-	-	8
2 rooms.....	642	62	580	24	371	160	21	4	-	-	-	-
3 rooms.....	1,347	124	1,223	-	28	903	292	-	-	-	-	-
4 rooms.....	2,054	74	1,980	-	7	100	1,402	439	19	-	13	24
5 rooms.....	2,369	96	2,273	8	-	5	265	1,451	490	18	36	13
6 rooms.....	1,145	9	1,136	-	-	-	13	175	678	173	97	-
7 rooms.....	402	2	400	-	-	-	-	39	37	243	81	-
8 rooms or more.....	213	9	204	-	-	-	-	-	-	13	191	-

¹This column contains a count of units edited by the computer and for which a value was imputed. The count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-11.

Accuracy of Data on Housing Characteristics

Table 1B.—NUMBER OF ROOMS FOR ALL OWNER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census by census classification												
	Total (1)	Vacant in census (2)	Renter occupied in census (3)	Reported in census as owner occupied									Not reported or inconsistent in census ¹ (13)
				Total (4)	1 room (5)	2 rooms (6)	3 rooms (7)	4 rooms (8)	5 rooms (9)	6 rooms (10)	7 rooms (11)	8 rooms or more (12)	
Total units.....	57,752	4,919	20,097	32,736	101	409	1,155	5,442	10,202	8,105	4,032	3,290	150
Occupancy or tenure not reported in CES..	2,304	385	877	1,042	10	9	60	194	238	331	131	69	-
Occupancy and tenure reported in CES....	55,448	4,534	19,220	31,694	91	400	1,095	5,248	9,964	7,774	3,901	3,221	150
Vacant in CES.....	4,478	2,821	1,258	399	-	-	46	142	166	35	10	-	-
Occupied in CES.....	50,970	1,713	17,962	31,295	91	400	1,049	5,106	9,798	7,739	3,891	3,221	150
Renter occupied in CES.....	19,274	1,073	16,949	1,252	3	61	96	287	343	247	86	129	30
Owner occupied in CES.....	31,696	640	1,013	30,043	88	339	953	4,819	9,455	7,492	3,805	3,092	120
Number of rooms not reported.....	59	-	10	49	-	-	-	-	-	19	-	30	-
Number of rooms reported.....	31,637	640	1,003	29,994	88	339	953	4,819	9,455	7,473	3,805	3,062	120
1 room.....	120	-	20	100	37	45	-	3	11	4	-	-	-
2 rooms.....	459	11	81	367	33	204	90	31	9	-	-	-	-
3 rooms.....	1,166	49	63	1,054	10	75	621	270	20	25	5	28	7
4 rooms.....	6,030	166	339	5,525	-	9	177	2,967	1,028	256	16	72	15
5 rooms.....	10,357	190	191	9,976	8	2	39	434	7,331	1,787	263	112	19
6 rooms.....	7,893	144	138	7,611	-	4	-	105	935	5,001	1,172	394	17
7 rooms.....	3,259	45	97	3,117	-	-	-	9	96	353	2,038	621	-
8 rooms or more.....	2,353	35	74	2,244	-	-	26	-	25	47	311	1,835	62

¹This column contains a count of units edited by the computer for number of rooms and for which value was imputed. The count is a portion of the total owner-occupied units. The imputed values are included in the numbers in columns 4-12.

Table 1C.—NUMBER OF ROOMS FOR ALL RENTER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification												
	Total (1)	Vacant in census (2)	Owner occupied in census (3)	Reported in census as renter occupied									Not reported or inconsistent in census ¹ (13)
				Total (4)	1 room (5)	2 rooms (6)	3 rooms (7)	4 rooms (8)	5 rooms (9)	6 rooms (10)	7 rooms (11)	8 rooms or more (12)	
Total units.....	57,752	4,919	32,736	20,097	1,010	1,540	5,086	5,426	3,848	1,936	743	508	134
Occupancy or tenure not reported in CES..	2,304	385	1,042	877	209	53	180	207	137	73	9	9	20
Occupancy and tenure reported in CES....	55,448	4,534	31,694	19,220	801	1,487	4,906	5,219	3,711	1,863	734	499	114
Vacant in CES.....	4,478	2,821	399	1,258	126	142	318	304	196	72	49	51	35
Occupied in CES.....	50,970	1,713	31,295	17,962	675	1,345	4,588	4,915	3,515	1,791	685	448	79
Owner occupied in CES.....	31,696	640	30,043	1,013	-	48	99	261	364	94	115	32	-
Renter occupied in CES.....	19,274	1,073	1,252	16,949	675	1,297	4,489	4,654	3,151	1,697	570	416	79
Number of rooms not reported.....	24	-	10	14	14	-	-	-	-	-	-	-	-
Number of rooms reported.....	19,250	1,073	1,242	16,935	661	1,297	4,489	4,654	3,151	1,697	570	416	79
1 room.....	814	107	23	684	486	141	53	-	-	-	-	4	12
2 rooms.....	1,705	234	35	1,436	114	991	272	46	10	-	3	-	9
3 rooms.....	4,956	250	96	4,610	31	112	2,783	534	91	-	3	36	2
4 rooms.....	5,510	284	447	4,779	30	44	340	2,638	648	73	6	-	5
5 rooms.....	3,574	153	315	3,106	-	9	25	320	2,222	460	12	57	30
6 rooms.....	1,823	42	199	1,582	-	-	8	54	179	1,112	188	41	13
7 rooms.....	585	3	64	518	-	-	-	12	-	49	358	99	8
8 rooms or more.....	283	-	63	220	-	-	8	30	-	3	-	179	-

¹This column contains a count of units edited by the computer for number of rooms and for which a value was imputed. The count is a portion of the total renter-occupied units. The imputed values are included in the numbers in columns 4-12.

Evaluation and Research Program, 1960 Censuses

Table 2A.—CONDITION OF HOUSING UNIT FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification						
	Total (1)	Vacant in census (2)	Reported in census as occupied				Not reported or inconsistent in census ¹ (7)
			Total (3)	Sound (4)	Deteriorating (5)	Dilapidated (6)	
UNITED STATES							
Total units.....	57,752	4,919	52,833	43,541	6,976	2,316	353
Occupancy not reported in CES.....	1,259	304	955	773	148	34	20
Occupancy reported in CES.....	56,493	4,615	51,878	42,768	6,828	2,282	333
Vacant in CES.....	4,496	2,821	1,675	1,143	403	129	29
Occupied in CES.....	51,997	1,794	50,203	41,625	6,425	2,153	304
Condition not reported.....	1,450	100	1,350	1,140	170	40	8
Condition reported.....	50,547	1,694	48,853	40,485	6,255	2,113	296
Sound.....	39,835	1,084	38,751	35,792	2,703	256	282
Deteriorating.....	7,227	407	6,820	3,928	2,275	617	9
Dilapidated.....	3,485	203	3,282	765	1,277	1,240	5
NORTHEAST							
Total units.....	14,679	1,220	13,459	11,751	1,186	522	130
Occupancy not reported in CES.....	374	104	270	240	4	26	-
Occupancy reported in CES.....	14,305	1,116	13,189	11,511	1,182	496	130
Vacant in CES.....	1,037	766	271	171	87	13	26
Occupied in CES.....	13,268	350	12,918	11,340	1,095	483	104
Condition not reported.....	585	-	585	534	39	12	-
Condition reported.....	12,683	350	12,333	10,806	1,056	471	104
Sound.....	10,280	224	10,056	9,466	520	70	99
Deteriorating.....	1,821	103	1,718	1,088	378	252	-
Dilapidated.....	582	23	559	252	158	149	5
NORTH CENTRAL							
Total units.....	16,667	1,329	15,338	12,778	2,112	448	43
Occupancy not reported in CES.....	228	27	201	189	12	-	-
Occupancy reported in CES.....	16,439	1,302	15,137	12,589	2,100	448	43
Vacant in CES.....	1,217	860	357	285	46	26	3
Occupied in CES.....	15,222	442	14,780	12,304	2,054	422	40
Condition not reported.....	296	27	269	177	89	3	-
Condition reported.....	14,926	415	14,511	12,127	1,965	419	40
Sound.....	12,314	221	12,093	11,027	988	78	37
Deteriorating.....	1,912	98	1,814	909	753	152	3
Dilapidated.....	700	96	604	191	224	189	-
SOUTH							
Total units.....	16,974	1,520	15,454	11,400	2,882	1,172	149
Occupancy not reported in CES.....	374	96	278	197	73	8	18
Occupancy reported in CES.....	16,600	1,424	15,176	11,203	2,809	1,164	131
Vacant in CES.....	1,529	828	701	438	195	68	-
Occupied in CES.....	15,071	596	14,475	10,765	2,614	1,096	131
Condition not reported.....	393	63	330	290	31	9	-
Condition reported.....	14,678	533	14,145	10,475	2,583	1,087	131
Sound.....	10,190	361	9,829	8,876	861	92	128
Deteriorating.....	2,507	88	2,419	1,351	879	189	3
Dilapidated.....	1,981	84	1,897	248	843	806	-
WEST							
Total units.....	9,432	850	8,582	7,612	796	174	31
Occupancy not reported in CES.....	283	77	206	147	59	-	2
Occupancy reported in CES.....	9,149	773	8,376	7,465	737	174	29
Vacant in CES.....	713	367	346	249	75	22	-
Occupied in CES.....	8,436	406	8,030	7,216	662	152	29
Condition not reported.....	176	10	166	139	11	16	8
Condition reported.....	8,260	396	7,864	7,077	651	136	21
Sound.....	7,051	278	6,773	6,423	334	16	18
Deteriorating.....	987	118	869	580	265	24	3
Dilapidated.....	222	-	222	74	52	26	-

¹This column contains a count of units edited by the computer and for which a value was imputed for condition of housing unit. The count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-6.

Accuracy of Data on Housing Characteristics

Table 2B.—CONDITION OF HOUSING UNIT FOR ALL OWNER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification							
	Total	Vacant in census	Renter occupied in census	Reported in census as owner occupied				Not reported or inconsistent in census ¹
				Total	Sound	Deteriorating	Dilapidated	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Total units.....	57,752	4,919	20,097	32,736	28,589	3,336	811	157
Occupancy or tenure not reported in CES..	2,304	385	877	1,042	969	68	5	-
Occupancy and tenure reported in CES.....	55,448	4,534	19,220	31,694	27,620	3,268	806	157
Vacant in CES.....	4,478	2,821	1,258	399	314	64	21	-
Occupied in CES.....	50,970	1,713	17,962	31,295	27,306	3,204	785	157
Renter occupied in CES.....	19,274	1,073	16,949	1,252	958	182	112	3
Owner occupied in CES.....	31,696	640	1,013	30,043	26,348	3,022	673	154
Condition not reported.....	230	-	40	190	135	52	3	-
Condition reported.....	31,466	640	973	29,853	26,213	2,970	670	154
Sound.....	27,059	489	760	25,810	<u>24,254</u>	1,435	121	151
Deteriorating.....	3,263	104	169	2,990	1,703	<u>1,068</u>	219	3
Dilapidated.....	1,144	47	44	1,053	256	467	<u>330</u>	-

¹This column contains a count of units edited by the computer and for which a value was imputed for condition of housing unit. The count is a portion of the total owner occupied units. The imputed values are included in the numbers in columns 4-7.

Table 2C.—CONDITION OF HOUSING UNIT FOR ALL RENTER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification							
	Total	Vacant in census	Owner occupied in census	Reported in census as renter occupied				Not reported or inconsistent in census ¹
				Total	Sound	Deteriorating	Dilapidated	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Total units.....	57,752	4,919	32,736	20,097	14,959	3,647	1,491	189
Occupancy or tenure not reported in CES..	2,304	385	1,042	877	674	147	56	28
Occupancy and tenure reported in CES.....	55,448	4,534	31,694	19,220	14,285	3,500	1,435	161
Vacant in CES.....	4,478	2,821	399	1,258	819	330	109	28
Occupied in CES.....	50,970	1,713	31,295	17,962	13,466	3,170	1,326	133
Owner occupied in CES.....	31,696	640	30,043	1,013	703	237	73	-
Renter occupied in CES.....	19,274	1,073	1,252	16,949	12,763	2,933	1,253	133
Condition not reported.....	270	21	10	239	158	72	9	-
Condition reported.....	19,004	1,052	1,242	16,710	12,605	2,861	1,244	133
Sound.....	12,745	594	778	11,373	<u>10,211</u>	1,058	104	125
Deteriorating.....	3,965	301	298	3,366	1,925	<u>1,072</u>	369	3
Dilapidated.....	2,294	157	166	1,971	469	731	<u>771</u>	5

¹This column contains a count of units edited by the computer and for which a value was imputed for condition of housing unit. The count is a portion of the total renter occupied units. The imputed values are included in the numbers in columns 4-7.

Evaluation and Research Program, 1960 Censuses

Table 3A.—CONDITION OF HOUSING UNIT AND PLUMBING FACILITIES FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census by census classification												Not reported or inconsistent in census ¹
	Total	Vacant in census	Reported in census as occupied									Dilapidated	
			Total	Sound			Deteriorating						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
UNITED STATES													
Total units.....	57,752	4,919	52,833	43,541	40,387	289	2,865	6,976	4,108	299	2,569	2,316	1,260
Occupancy not reported in CES.....	1,259	304	955	773	700	-	73	148	49	-	99	34	31
Occupancy reported in CES.....	56,493	4,615	51,878	42,768	39,687	289	2,792	6,828	4,059	299	2,470	2,282	1,229
Vacant in CES.....	4,496	2,821	1,675	1,143	1,029	-	114	403	180	7	216	129	66
Occupied in CES.....	51,997	1,794	50,203	41,625	38,658	289	2,678	6,425	3,879	292	2,254	2,153	1,163
Condition not reported.....	1,450	100	1,350	1,140	1,011	-	120	170	109	28	33	40	58
Condition reported.....	50,547	1,694	48,853	40,485	37,647	289	2,549	6,255	3,770	264	2,221	2,113	1,105
Plumbing facilities not reported.....	185	25	160	127	122	-	5	29	-	-	29	4	-
Plumbing facilities reported.....	50,362	1,669	48,693	40,358	37,525	289	2,544	6,226	3,770	264	2,192	2,109	1,105
Sound.....	39,702	1,084	38,618	35,692	34,038	186	1,468	2,674	1,945	97	632	252	956
With all plumbing facilities.....	36,997	987	36,010	33,931	32,372	105	294	1,936	1,813	47	76	143	721
Lacking hot water only.....	271	18	253	178	103	64	11	43	17	13	13	32	9
Lacking other facilities.....	2,434	79	2,355	1,583	363	17	1,203	695	115	37	543	77	226
Deteriorating.....	7,187	382	6,805	3,913	2,985	87	841	2,275	1,391	119	765	617	49
With all plumbing facilities.....	4,882	182	4,700	2,920	2,784	34	102	1,441	1,312	85	44	339	33
Lacking hot water only.....	184	29	155	90	82	8	5	17	28	10	10	10	-
Lacking other facilities.....	2,121	171	1,950	903	119	45	739	779	62	6	711	268	16
Dilapidated.....	3,473	203	3,270	753	502	16	235	1,277	434	48	795	1,240	100
NORTHEAST													
Total units.....	14,679	1,220	13,459	11,751	11,221	27	503	1,186	991	9	186	522	251
Occupancy not reported in CES.....	374	104	270	240	197	-	43	4	-	-	4	26	-
Occupancy reported in CES.....	14,305	1,116	13,189	11,511	11,024	27	460	1,182	991	9	182	496	251
Vacant in CES.....	1,037	766	271	171	144	-	27	87	77	-	10	13	26
Occupied in CES.....	13,268	350	12,918	11,340	10,880	27	433	1,095	914	9	172	483	225
Condition not reported.....	585	-	585	534	516	-	18	39	35	-	4	12	-
Condition reported.....	12,683	350	12,333	10,806	10,364	27	415	1,056	879	9	168	471	225
Plumbing facilities not reported.....	90	25	65	32	32	-	-	29	-	-	29	4	-
Plumbing facilities reported.....	12,593	325	12,268	10,774	10,332	27	415	1,027	879	9	139	467	225
Sound.....	10,237	224	10,013	9,456	9,200	27	229	491	421	-	70	66	220
With all plumbing facilities.....	9,899	197	9,702	9,212	2,121	27	64	451	418	-	33	39	188
Lacking hot water only.....	29	-	29	26	26	-	-	3	3	-	-	-	4
Lacking other facilities.....	309	27	282	218	53	-	162	37	-	-	37	27	28
Deteriorating.....	1,786	78	1,708	1,078	902	-	176	378	332	9	37	252	-
With all plumbing facilities.....	1,478	46	1,432	880	823	-	57	349	322	9	18	203	-
Lacking hot water only.....	53	-	53	53	53	-	-	-	-	-	-	-	-
Lacking other facilities.....	255	32	223	145	26	-	119	29	10	-	19	49	-
Dilapidated.....	570	23	547	240	230	-	10	158	126	-	32	149	5
NORTH CENTRAL													
Total units.....	16,667	1,329	15,338	12,778	11,746	104	928	2,112	1,397	84	631	448	384
Occupancy not reported in CES.....	228	27	201	189	189	-	-	12	-	-	12	-	-
Occupancy reported in CES.....	16,439	1,302	15,137	12,589	11,557	104	928	2,100	1,397	84	619	448	384
Vacant in CES.....	1,217	860	357	271	271	-	14	46	17	-	29	26	30
Occupied in CES.....	15,222	442	14,780	12,304	11,286	104	914	2,054	1,380	84	590	422	354
Condition not reported.....	296	27	269	177	142	-	35	89	51	28	10	3	13
Condition reported.....	14,926	415	14,511	12,127	11,144	104	879	1,965	1,329	56	580	419	341
Plumbing facilities not reported.....	56	-	56	56	56	-	-	-	-	-	-	-	-
Plumbing facilities reported.....	14,870	415	14,455	12,071	11,088	104	879	1,965	1,329	56	580	419	341
Sound.....	12,258	221	12,037	10,971	10,280	56	635	988	746	37	205	78	303
With all plumbing facilities.....	11,064	187	10,877	10,172	10,044	49	79	663	652	9	2	42	157
Lacking hot water only.....	75	-	75	49	42	-	-	23	14	-	9	3	5
Lacking other facilities.....	1,119	34	1,085	750	194	-	556	302	80	28	194	33	141
Deteriorating.....	1,912	98	1,814	909	674	48	187	753	469	19	265	152	29
With all plumbing facilities.....	1,258	33	1,225	676	619	34	23	477	441	13	23	72	20
Lacking hot water only.....	17	-	17	9	9	-	-	8	-	-	3	5	-
Lacking other facilities.....	637	65	572	224	46	14	164	268	28	3	237	80	9
Dilapidated.....	700	96	604	191	134	-	57	224	114	-	110	189	9
SOUTH													
Total units.....	16,974	1,520	15,454	11,400	10,055	138	1,207	2,882	1,133	196	1,553	1,172	446
Occupancy not reported in CES.....	374	96	278	197	172	-	25	73	37	-	36	8	22
Occupancy reported in CES.....	16,600	1,424	15,176	11,203	9,883	138	1,182	2,809	1,096	196	1,517	1,164	424
Vacant in CES.....	1,529	828	701	438	378	-	60	195	65	2	128	68	10
Occupied in CES.....	15,071	596	14,475	10,765	9,505	138	1,122	2,614	1,031	194	1,389	1,096	414
Condition not reported.....	393	330	290	259	259	-	31	31	12	-	19	9	37
Condition reported.....	14,678	533	14,145	10,475	9,246	138	1,091	2,583	1,019	194	1,370	1,087	377
Plumbing facilities not reported.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Plumbing facilities reported.....	14,678	533	14,145	10,475	9,246	138	1,091	2,583	1,019	194	1,370	1,087	377
Sound.....	10,190	361	9,829	8,876	8,307	86	483	861	475	60	326	92	281
With all plumbing facilities.....	9,273	337	8,936	8,342	8,205	29	108	548	469	38	41	46	260
Lacking hot water only.....	167	18	149	103	35	57	11	17	-	13	4	29	-
Lacking other facilities.....	750	6	744	431	67	-	264	296	6	9	281	17	21
Deteriorating.....	2,507	88	2,419	1,351	872	39	440	872	379	86	414	189	13
With all plumbing facilities.....	1,339	22	1,317	861	839	-	22	399	338	58	3	57	10
Lacking hot water only.....	114	29	85	28	20	8	47	17	22	5	10	10	-
Lacking other facilities.....	1,054	37	1,017	462	13	31	418	433	24	3	406	122	3
Dilapidated.....	1,981	84	1,897	248	67	13	168	843	165	48	630	806	83

See footnote at end of table.

Accuracy of Data on Housing Characteristics

Table 3A.—CONDITION OF HOUSING UNIT AND PLUMBING FACILITIES FOR ALL OCCUPIED HOUSING UNITS, BY REGION—Continued
 [Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census by census classification												
	Total	Vacant in census	Reported in census as occupied									Dilapidated	Not reported or inconsistent in census ¹
			Total	Sound			Deteriorating			Dilapidated	Not reported or inconsistent in census ¹		
				Total	With all plumbing facilities	Lacking hot water only	Lacking other facilities	Total	With all plumbing facilities				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	
WEST													
Total units.....	9,432	850	8,582	7,612	7,365	20	227	796	587	10	199	174	179
Occupancy not reported in CES.....	283	77	206	147	142	-	5	59	12	-	47	-	9
Occupancy reported in CES.....	9,149	773	8,376	7,465	7,223	20	222	737	575	10	152	174	170
Vacant in CES.....	713	367	346	249	236	-	13	75	21	5	49	22	-
Occupied in CES.....	8,436	406	8,030	7,216	6,987	20	209	662	554	5	103	152	170
Condition not reported.....	176	10	166	139	94	-	45	11	11	5	103	16	8
Condition reported.....	8,260	396	7,864	7,077	6,893	20	164	651	543	-	-	136	162
Plumbing facilities not reported...	39	-	39	39	34	-	5	-	-	-	-	-	-
Plumbing facilities reported.....	8,221	396	7,825	7,038	6,859	20	159	651	543	5	103	136	162
Sound.....	7,017	278	6,739	6,389	6,251	17	121	334	303	-	31	16	152
With all plumbing facilities...	6,761	266	6,495	6,205	6,202	-	3	274	274	-	-	16	116
Lacking hot water only.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Lacking other facilities.....	256	12	244	184	49	17	114	60	29	-	31	-	36
Deteriorating.....	982	118	864	575	537	-	38	265	211	5	49	24	7
With all plumbing facilities...	807	81	726	503	503	-	-	216	211	5	-	7	3
Lacking hot water only.....	-	-	-	-	-	-	-	-	-	-	-	-	-
Lacking other facilities.....	175	37	138	72	34	-	38	49	-	-	49	17	4
Dilapidated.....	222	-	222	74	71	3	-	52	29	-	23	26	3

¹This column contains a count of the units edited by the computer and for which a value was imputed for condition of housing unit or plumbing facilities. This count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-12.

Evaluation and Research Program, 1960 Censuses

Table 3B.—CONDITION OF HOUSING UNIT AND PLUMBING FACILITIES FOR ALL OWNER-OCCUPIED HOUSING UNITS

(Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics)

CES classification	Housing units correctly included in census, by census classification														Not reported or inconsistent in census ¹
	Total	Vacant in census	Renter occupied in census	Reported in census as owner occupied										Dilapidated	
				Total	Sound			Deteriorating				Dilapidated			
					Total	With all plumbing facilities	Lacking hot water only	Lacking other facilities	Total	With all plumbing facilities	Lacking hot water only		Lacking other facilities		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
Total units.....	57,752	4,919	20,097	32,736	28,589	27,019	177	1,393	3,336	2,013	126	1,197	811	579	
Occupancy or tenure not reported in CES..	2,304	385	877	1,042	969	898	-	71	68	57	-	11	5	4	
Occupancy and tenure reported in CES.....	55,448	4,534	19,220	31,694	27,620	26,121	177	1,322	3,268	1,956	126	1,186	806	575	
Vacant in CES.....	4,478	2,821	1,258	399	314	296	-	18	64	20	-	44	21	-	
Occupied in CES.....	50,970	1,713	17,962	31,295	27,306	25,825	177	1,304	3,204	1,936	126	1,142	785	575	
Renter occupied in CES.....	19,274	1,073	16,949	1,252	958	922	24	12	182	89	-	93	112	34	
Owner occupied in CES.....	31,696	640	1,013	30,043	26,348	24,903	153	1,292	3,022	1,847	126	1,049	673	541	
Condition not reported.....	230	-	40	190	135	135	-	-	52	21	28	3	3	-	
Condition reported.....	31,466	640	973	29,853	26,213	24,768	153	1,292	2,970	1,826	98	1,046	670	541	
Plumbing facilities not reported.....	92	-	4	88	58	52	-	6	30	-	-	30	-	-	
Plumbing facilities reported.....	31,374	640	969	29,765	26,155	24,716	153	1,286	2,940	1,826	98	1,016	670	541	
Sound.....	26,996	489	756	25,751	24,225	23,334	99	792	1,405	1,014	27	364	121	476	
With all plumbing facilities.....	25,433	467	620	24,346	23,261	22,041	71	149	1,014	960	18	36	71	390	
Lacking hot water only.....	198	8	29	161	101	63	24	10	29	16	-	13	31	9	
Lacking other facilities.....	1,365	14	107	1,244	863	230	-	633	362	38	9	315	19	77	
Deteriorating.....	3,248	104	169	2,975	1,688	1,243	52	393	1,068	639	58	371	219	30	
With all plumbing facilities.....	2,176	26	71	2,079	1,256	1,179	-	77	669	615	32	22	154	30	
Lacking hot water only.....	110	29	11	70	29	21	8	-	33	9	20	4	8	-	
Lacking other facilities.....	962	49	87	826	403	43	44	316	366	15	6	245	57	-	
Dilapidated.....	1,130	47	44	1,039	242	139	2	101	467	173	13	281	330	35	

¹This column contains a count of units edited by the computer and for which a value was imputed for condition of housing unit or plumbing facilities. The count is a portion of the total owner occupied units. The imputed values are included in the numbers in columns 4-13.

Table 3G.—CONDITION OF HOUSING UNIT AND PLUMBING FACILITIES FOR ALL RENTER-OCCUPIED HOUSING UNITS

(Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics)

CES classification	Housing units correctly included in census, by census classification														Not reported or inconsistent in census ¹
	Total	Vacant in census	Owner occupied in census	Reported in census as renter occupied										Dilapidated	
				Total	Sound			Deteriorating				Dilapidated			
					Total	With all plumbing facilities	Lacking hot water only	Lacking other facilities	Total	With all plumbing facilities	Lacking hot water only		Lacking other facilities		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)		
Total units.....	57,752	4,919	32,736	20,097	14,959	13,384	113	1,462	3,647	2,107	173	1,367	1,491	674	
Occupancy or tenure not reported in CES..	2,304	385	1,042	877	674	589	-	85	147	22	-	125	56	47	
Occupancy and tenure reported in CES.....	55,448	4,534	31,694	19,220	14,285	12,795	113	1,377	3,500	2,085	173	1,242	1,435	627	
Vacant in CES.....	4,478	2,821	399	1,258	819	725	-	94	330	156	6	168	109	66	
Occupied in CES.....	50,970	1,713	31,295	17,962	13,466	12,070	113	1,283	3,170	1,929	167	1,074	1,326	561	
Owner occupied in CES.....	31,696	640	30,043	1,013	703	512	31	160	237	167	-	70	73	23	
Renter occupied in CES.....	19,274	1,073	1,252	16,949	12,763	11,558	82	1,123	2,933	1,762	167	1,004	1,253	538	
Condition not reported.....	270	21	10	239	158	158	-	72	59	-	-	13	9	38	
Condition reported.....	19,004	1,052	1,242	16,710	12,605	11,400	82	1,123	2,861	1,703	167	991	1,244	500	
Plumbing facilities not reported.....	60	26	-	34	34	34	-	-	-	-	-	-	-	-	
Plumbing facilities reported.....	18,944	1,026	1,242	16,676	12,571	11,366	82	1,123	2,861	1,703	167	991	1,244	500	
Sound.....	12,711	594	778	11,339	10,177	9,567	42	568	1,058	756	72	230	104	421	
With all plumbing facilities.....	11,571	521	703	10,347	9,562	9,432	34	96	724	679	28	17	61	296	
Lacking hot water only.....	76	9	15	52	38	30	-	14	-	-	-	-	-	-	
Lacking other facilities.....	1,064	64	60	940	577	105	-	472	320	77	30	213	43	125	
Deteriorating.....	3,939	275	298	3,366	1,925	1,469	32	424	1,072	697	61	314	269	17	
With all plumbing facilities.....	2,704	154	228	2,322	1,429	1,378	32	19	720	649	53	18	173	4	
Lacking hot water only.....	75	-	29	46	34	34	-	-	12	-	8	4	-	-	
Lacking other facilities.....	1,160	121	41	998	462	57	-	405	340	48	-	222	196	13	
Dilapidated.....	2,294	157	166	1,971	469	330	8	131	731	250	34	447	771	62	

¹This column contains a count of all units edited by the computer and for which a value was imputed for condition of housing unit or plumbing facilities. The count is a portion of the total renter occupied units. The imputed values are included in the numbers in columns 4-13.

Table 4.—BATHING FACILITIES FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification						
	Total	Vacant in census	Reported in census as occupied				Not reported or inconsistent in census ¹
			Total	Bathtub or shower, exclusive use	Bathtub or shower, shared use	No bathtub or shower	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
UNITED STATES							
Total units.....	57,752	4,919	52,833	46,166	1,208	5,459	1,260
Occupancy not reported in CES.....	1,259	304	955	788	134	33	31
Occupancy reported in CES.....	56,493	4,615	51,878	45,378	1,074	5,426	1,229
Vacant in CES.....	4,496	2,821	1,675	1,272	94	309	66
Occupied in CES.....	51,997	1,794	50,203	44,106	980	5,117	1,163
Bathing facilities not reported.....	1,760	371	1,389	1,261	63	65	204
Bathing facilities reported.....	50,237	1,423	48,814	42,845	917	5,052	959
Bathtub or shower, exclusive use...	44,132	1,274	42,858	42,247	160	451	858
Bathtub or shower, shared use.....	1,183	126	1,057	267	743	47	35
No bathtub or shower.....	4,922	23	4,899	331	14	4,554	66
NORTHEAST							
Total units.....	14,679	1,220	13,459	12,673	438	348	251
Occupancy not reported in CES.....	374	104	270	233	29	8	-
Occupancy reported in CES.....	14,305	1,116	13,189	12,440	409	340	251
Vacant in CES.....	1,037	766	271	221	37	13	26
Occupied in CES.....	13,268	350	12,918	12,219	372	327	225
Bathing facilities not reported.....	533	47	486	432	-	54	28
Bathing facilities reported.....	12,735	303	12,432	11,787	372	273	197
Bathtub or shower, exclusive use...	12,101	261	11,840	11,662	62	116	197
Bathtub or shower, shared use.....	413	33	380	70	210	-	-
No bathtub or shower.....	221	9	212	55	-	157	-
NORTH CENTRAL							
Total units.....	16,667	1,329	15,338	13,562	346	1,430	385
Occupancy not reported in CES.....	228	27	201	189	12	-	-
Occupancy reported in CES.....	16,439	1,302	15,137	13,373	334	1,430	385
Vacant in CES.....	1,217	860	357	297	22	38	31
Occupied in CES.....	15,222	442	14,780	13,076	312	1,392	354
Bathing facilities not reported.....	505	135	370	361	-	9	74
Bathing facilities reported.....	14,717	307	14,410	12,715	312	1,383	280
Bathtub or shower, exclusive use...	12,888	243	12,645	12,456	24	165	224
Bathtub or shower, shared use.....	479	56	423	130	274	19	28
No bathtub or shower.....	1,350	8	1,342	129	14	1,199	28
SOUTH							
Total units.....	16,974	1,520	15,454	11,889	271	3,294	445
Occupancy not reported in CES.....	374	96	278	209	47	22	22
Occupancy reported in CES.....	16,600	1,424	15,176	11,680	224	3,272	423
Vacant in CES.....	1,529	828	701	479	32	190	9
Occupied in CES.....	15,071	596	14,475	11,201	192	3,082	414
Bathing facilities not reported.....	475	133	342	323	17	2	87
Bathing facilities reported.....	14,596	463	14,133	10,878	175	3,080	327
Bathtub or shower, exclusive use...	11,406	423	10,983	10,749	74	160	318
Bathtub or shower, shared use.....	222	34	188	59	101	28	-
No bathtub or shower.....	2,968	6	2,962	70	-	2,892	9
WEST							
Total units.....	9,432	850	8,582	8,042	153	387	179
Occupancy not reported in CES.....	283	77	206	157	46	3	9
Occupancy reported in CES.....	9,149	773	8,376	7,885	107	384	170
Vacant in CES.....	713	367	346	275	3	68	-
Occupied in CES.....	8,436	406	8,030	7,610	104	316	170
Bathing facilities not reported.....	247	56	191	145	46	-	15
Bathing facilities reported.....	8,189	350	7,839	7,465	58	316	155
Bathtub or shower, exclusive use...	7,737	347	7,390	7,380	-	10	119
Bathtub or shower, shared use.....	69	3	66	8	58	-	7
No bathtub or shower.....	383	-	383	77	-	306	29

¹This column contains a count of units edited by the computer and for which a value was imputed for bathing facilities. The count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-6.

Evaluation and Research Program, 1960 Censuses

Table 5.—TOILET FACILITIES FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification						
	Total	Vacant in census	Reported in census as occupied				Not reported or inconsistent in census ¹
			Total	Flush toilet, exclusive use	Flush toilet, shared use	No flush toilet	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
UNITED STATES							
Total units.....	57,752	4,919	52,833	46,786	1,174	4,873	420
Occupancy not reported in CES.....	1,259	304	955	775	141	39	20
Occupancy reported in CES.....	56,493	4,615	51,878	46,011	1,033	4,834	400
Vacant in CES.....	4,496	2,821	1,675	1,320	95	260	45
Occupied in CES.....	51,997	1,794	50,203	44,691	938	4,574	355
Toilet facilities not reported.....	2,317	214	2,103	1,561	512	30	-
Toilet facilities reported.....	49,680	1,580	48,100	43,130	426	4,544	355
Flush toilet, exclusive use.....	44,026	1,264	42,762	42,274	134	354	259
Flush toilet, shared use.....	521	48	473	199	274	-	-
No flush toilet.....	5,133	268	4,865	657	18	4,190	96
NORTHEAST							
Total units.....	14,679	1,220	13,459	12,832	410	217	92
Occupancy not reported in CES.....	374	104	270	222	30	18	-
Occupancy reported in CES.....	14,305	1,116	13,189	12,610	380	199	92
Vacant in CES.....	1,037	766	271	230	37	4	26
Occupied in CES.....	13,268	350	12,918	12,380	343	195	66
Toilet facilities not reported.....	851	44	807	588	211	8	-
Toilet facilities reported.....	12,417	306	12,111	11,792	132	187	66
Flush toilet, exclusive use.....	12,054	270	11,784	11,669	27	88	66
Flush toilet, shared use.....	178	14	164	59	105	-	-
No flush toilet.....	185	22	163	64	-	92	-
NORTH CENTRAL							
Total units.....	16,667	1,329	15,338	13,743	356	1,239	146
Occupancy not reported in CES.....	228	27	201	189	12	-	-
Occupancy reported in CES.....	16,439	1,302	15,137	13,554	344	1,239	146
Vacant in CES.....	1,217	860	357	306	22	29	10
Occupied in CES.....	15,222	442	14,780	13,248	322	1,210	136
Toilet facilities not reported.....	566	43	523	305	209	9	-
Toilet facilities reported.....	14,656	399	14,257	12,943	113	1,201	136
Flush toilet, exclusive use.....	12,940	251	12,689	12,550	33	106	59
Flush toilet, shared use.....	187	24	163	83	80	-	-
No flush toilet.....	1,529	124	1,405	310	-	1,095	77
SOUTH							
Total units.....	16,974	1,520	15,454	12,111	297	3,046	151
Occupancy not reported in CES.....	374	96	278	209	50	19	18
Occupancy reported in CES.....	16,600	1,424	15,176	11,902	247	3,027	133
Vacant in CES.....	1,529	828	701	502	33	166	9
Occupied in CES.....	15,071	596	14,475	11,400	214	2,861	124
Toilet facilities not reported.....	560	114	446	396	41	9	-
Toilet facilities reported.....	14,511	482	14,029	11,004	173	2,852	124
Flush toilet, exclusive use.....	11,429	396	11,033	10,811	74	148	113
Flush toilet, shared use.....	141	10	131	50	81	-	-
No flush toilet.....	2,941	76	2,865	143	18	2,704	11
WEST							
Total units.....	9,432	850	8,582	8,100	111	371	31
Occupancy not reported in CES.....	283	77	206	155	49	2	2
Occupancy reported in CES.....	9,149	773	8,376	7,945	62	369	29
Vacant in CES.....	713	367	346	282	3	61	-
Occupied in CES.....	8,436	406	8,030	7,663	59	308	29
Toilet facilities not reported.....	340	13	327	272	51	4	-
Toilet facilities reported.....	8,096	393	7,703	7,391	8	304	29
Flush toilet, exclusive use.....	7,603	347	7,256	7,244	-	12	21
Flush toilet, shared use.....	15	-	15	7	8	-	-
No flush toilet.....	478	46	432	140	-	292	8

¹This column contains a count of units edited by the computer and for which a value was imputed for toilet facilities. The count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-6.

Table 6A.—WATER SUPPLY FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification							
	Total	Vacant in census	Reported in census as occupied					Not reported or inconsistent in census ¹
			Total	Hot and cold piped water inside structure	Cold water only piped inside structure	Piped water outside structure	No piped water	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
UNITED STATES								
Total units.....	57,752	4,919	52,833	47,115	2,676	732	2,310	566
Occupancy not reported in CES.....	1,259	304	955	918	21	3	13	31
Occupancy reported in CES.....	56,493	4,615	51,878	46,197	2,655	729	2,297	535
Vacant in CES.....	4,496	2,821	1,675	1,351	207	24	93	53
Occupied in CES.....	51,997	1,794	50,203	44,846	2,448	705	2,204	482
Water supply not reported.....	2,149	186	1,963	1,663	83	62	153	44
Water supply reported.....	49,848	1,608	48,240	43,183	2,365	643	2,049	438
Hot and cold piped water inside structure.....	45,713	1,380	44,333	42,372	1,384	84	286	267
Cold water only piped inside structure.....	139	-	139	9	125	-	5	5
No piped water.....	2,729	154	2,575	123	179	536	1,737	81
No hot water; other water supply not reported ²	1,267	74	1,193	472	677	23	21	85
NORTHEAST								
Total units.....	14,679	1,220	13,459	13,203	191	9	56	100
Occupancy not reported in CES.....	374	104	270	262	-	-	8	-
Occupancy reported in CES.....	14,305	1,116	13,189	12,941	191	9	48	100
Vacant in CES.....	1,037	766	271	258	10	-	3	26
Occupied in CES.....	13,268	350	12,918	12,683	181	9	45	74
Water supply not reported.....	736	25	711	667	32	-	12	27
Water supply reported.....	12,532	325	12,207	12,016	149	9	33	47
Hot and cold piped water inside structure.....	12,348	307	12,041	11,911	121	9	-	43
Cold water only piped inside structure.....	13	-	13	-	13	-	-	-
No piped water.....	50	13	37	4	-	-	33	-
No hot water; other water supply not reported ²	1.21	5	1.16	1.01	1.5	-	-	4
NORTH CENTRAL								
Total units.....	16,667	1,329	15,338	13,888	745	36	669	203
Occupancy not reported in CES.....	228	27	201	201	-	-	-	-
Occupancy reported in CES.....	16,439	1,302	15,137	13,687	745	36	669	203
Vacant in CES.....	1,217	860	357	302	26	-	29	27
Occupied in CES.....	15,222	442	14,780	13,385	719	36	640	176
Water supply not reported.....	421	34	387	286	27	-	74	8
Water supply reported.....	14,801	408	14,393	13,099	692	36	566	168
Hot and cold piped water inside structure.....	13,845	312	13,533	12,879	496	27	131	104
Cold water only piped inside structure.....	42	-	42	-	42	-	-	-
No piped water.....	597	79	518	63	20	9	426	31
No hot water; other water supply not reported ²	317	17	300	157	134	-	9	33
SOUTH								
Total units.....	16,974	1,520	15,454	11,903	1,541	577	1,433	193
Occupancy not reported in CES.....	374	96	278	256	14	3	5	22
Occupancy reported in CES.....	16,600	1,424	15,176	11,647	1,527	574	1,428	171
Vacant in CES.....	1,529	828	701	518	130	15	38	-
Occupied in CES.....	15,071	596	14,475	11,129	1,397	559	1,390	171
Water supply not reported.....	666	115	551	410	24	62	55	9
Water supply reported.....	14,405	481	13,924	10,719	1,373	497	1,335	162
Hot and cold piped water inside structure.....	11,718	391	11,327	10,519	639	24	145	92
Cold water only piped inside structure.....	84	-	84	9	70	-	5	5
No piped water.....	1,854	38	1,816	52	141	450	1,172	46
No hot water; other water supply not reported ²	749	52	697	139	523	23	12	19
WEST								
Total units.....	9,432	850	8,582	8,121	199	110	152	70
Occupancy not reported in CES.....	283	77	206	199	7	-	-	9
Occupancy reported in CES.....	9,149	773	8,376	7,922	192	110	152	61
Vacant in CES.....	713	367	346	273	41	9	23	-
Occupied in CES.....	8,436	406	8,030	7,649	151	101	129	61
Water supply not reported.....	326	12	314	300	-	-	14	-
Water supply reported.....	8,110	394	7,716	7,349	151	101	115	61
Hot and cold piped water inside structure.....	7,802	370	7,432	7,270	128	24	10	28
Cold water only piped inside structure.....	-	-	-	-	-	-	-	-
No piped water.....	228	24	204	4	18	77	105	4
No hot water; other water supply not reported ²	80	-	80	75	5	-	-	29

¹This column contains a count of units edited by the computer and for which a value was imputed for water supply. The count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-7.

²These units contained a bathroom in the CES in which there was no hot water. The respondent was not asked whether there was cold water piped inside the structure. Several units in this category probably belong to the "cold water only" category. Also, the census category "Piped water outside structure" was not provided for in the reinterview questionnaire. An examination of the Form 60-PH-EF-21 shows that the census categories were not adequately provided for in the reinterview. The indexes of response variance and bias were calculated not including the "no hot water; other water supply not reported" category in the reinterview and the "piped water outside structure" category in the census as part of the total number of units with water supply reported.

Evaluation and Research Program, 1960 Censuses

Table 6B.—WATER SUPPLY FOR ALL OWNER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification								
	Total	Vacant in census	Renter occupied in census	Reported in census as owner occupied					Not reported or inconsistent in census ¹
				Total	Hot and cold piped water inside structure	Cold water only piped inside structure	Piped water outside structure	No piped water	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Total units.....	57,752	4,919	20,097	32,736	29,983	1,226	267	1,260	219
Occupancy or tenure not reported in CES.....	2,304	385	877	1,042	983	18	-	41	-
Occupancy and tenure reported in CES.....	55,448	4,534	19,220	31,694	29,000	1,208	267	1,219	219
Vacant in CES.....	4,478	2,821	1,258	399	354	9	10	26	-
Occupied in CES.....	50,970	1,713	17,962	31,295	28,646	1,199	257	1,193	219
Renter occupied in CES.....	19,274	1,073	16,949	1,252	1,047	50	32	123	34
Owner occupied in CES.....	31,696	640	1,013	30,043	27,599	1,149	225	1,070	185
Water supply not reported.....	318	36	26	256	148	49	6	53	9
Water supply reported.....	31,378	604	987	29,787	27,451	1,100	219	1,017	176
Hot and cold piped water inside structure.....	29,398	543	812	28,043	27,126	704	49	164	84
Cold water only piped inside structure.....	96	-	5	91	-	87	-	4	-
No piped water.....	1,340	22	122	1,196	104	91	170	831	36
No hot water; other water supply not reported ² ..	544	39	48	457	221	218	-	18	56

¹This column contains a count of units edited by the computer and for which a value was imputed for water supply. The count is a portion of the total owner occupied units. The imputed values are included in the numbers in columns 4-8.

²These units contained a bathroom in the CES in which there was no hot water. The respondent was not asked whether there was cold water piped inside the structure. Several units in this category probably belong to the "cold water only" category. Also, the census category "Piped water outside structure" was not provided for in the reinterview questionnaire. An examination of the Form 60-PH-EP-21 shows that the census categories were not adequately provided for in the reinterview. The indexes of response variance and bias were calculated not including the "no hot water; other water supply not reported" category in the reinterview and the "piped water outside structure" category in the census as part of the total number of units with water supply reported.

Table 6C.—WATER SUPPLY FOR ALL RENTER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification								
	Total	Vacant in census	Owner occupied in census	Reported in census as renter occupied					Not reported or inconsistent in census ¹
				Total	Hot and cold piped water inside structure	Cold water only piped inside structure	Piped water outside structure	No piped water	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Total units.....	57,752	4,919	32,736	20,097	17,138	1,445	464	1,050	351
Occupancy or tenure not reported in CES.....	2,304	385	1,042	877	819	24	3	31	39
Occupancy and tenure reported in CES.....	55,448	4,534	31,694	19,220	16,319	1,421	461	1,019	312
Vacant in CES.....	4,478	2,821	399	1,258	981	195	16	66	54
Occupied in CES.....	50,870	1,713	31,295	17,962	15,338	1,226	445	953	295
Owner occupied in CES.....	31,696	640	30,043	1,013	691	123	7	192	13
Renter occupied in CES.....	19,274	1,073	1,252	16,949	14,647	1,103	438	761	245
Water supply not reported.....	1,015	80	108	827	671	55	55	46	26
Water supply reported.....	18,259	993	1,144	16,122	13,976	1,048	383	715	219
Hot and cold piped water inside structure.....	16,173	834	909	14,430	13,797	550	30	53	174
Cold water only piped inside structure.....	43	-	-	43	10	23	-	-	4
No piped water.....	1,378	132	160	1,086	11	83	330	662	37
No hot water; other water supply not reported ² ..	665	27	75	563	158	382	23	-	4

¹This column contains a count of units edited by the computer and for which a value was imputed for water supply. The count is a portion of the total renter occupied units. The imputed values are included in columns 4-8.

²These units contained a bathroom in the CES in which there was no hot water. The respondent was not asked whether there was cold water piped inside the structure. Several of the units in this category probably belong to the "cold water only" category. Also, the census category "Piped water outside structure" was not provided for in the reinterview questionnaire. An examination of the Form 60-PH-EP-21 shows that the census categories were not adequately provided for in the reinterview. The indexes of response variance and bias were calculated not including the "no hot water; other water supply not reported" category in the reinterview and the "piped water outside the structure" category in the census as part of the total number of units with water supply reported.

Accuracy of Data on Housing Characteristics

Table 7.—ACCESS AND COOKING EQUIPMENT FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States and differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification								
	Total	Vacant in census	Reported in census as occupied						Not reported or inconsistent in census ¹
			Total	Single unit structures	Reported in census as multiunit structures				
(1)	(2)	(3)	(4)	(5)	Direct access and exclusive cooking equipment	Direct access only	Exclusive cooking equipment only	(9)	
UNITED STATES									
Total units.....	57,752	4,919	52,833	40,189	12,644	12,123	471	50	1,421
Occupancy not reported in CES.....	1,259	304	955	533	422	235	187	-	43
Occupancy reported in CES.....	56,493	4,615	51,878	39,656	12,222	11,888	284	50	1,378
Vacant in CES.....	4,496	2,821	1,675	1,106	569	495	58	16	85
Occupied in CES.....	51,997	1,794	50,203	38,550	11,653	11,393	226	34	1,293
Type of structure not reported.....	584	85	499	399	100	100	-	-	10
Type of structure reported.....	51,413	1,709	49,704	38,151	11,553	11,293	226	34	1,283
Single unit structure.....	38,688	1,061	37,627	36,696	931	931	-	-	772
Multiunit structure.....	12,725	648	12,077	1,455	10,622	10,362	226	34	511
Access or cooking facilities not reported.....	505	88	417	114	303	303	-	-	38
Access and cooking facilities reported.....	12,220	560	11,660	1,341	10,319	10,059	226	34	473
Direct access and exclusive cooking facilities....	11,747	502	11,245	1,279	9,966	2,856	76	34	423
Direct access only.....	397	58	339	34	305	155	150	-	40
Exclusive cooking facilities only.....	76	-	76	28	48	48	-	-	10
NORTHEAST									
Total units.....	14,679	1,220	13,459	7,613	5,846	5,557	355	34	287
Occupancy not reported in CES.....	374	104	270	160	110	53	57	-	-
Occupancy reported in CES.....	14,305	1,116	13,189	7,453	5,736	5,504	198	34	287
Vacant in CES.....	1,037	766	271	19	252	203	49	-	-
Occupied in CES.....	13,268	350	12,918	7,434	5,484	5,301	149	34	287
Type of structure not reported.....	299	25	274	183	91	91	-	-	-
Type of structure reported.....	12,969	325	12,644	7,251	5,393	5,210	149	34	287
Single unit structure.....	7,061	170	6,891	6,764	127	127	-	-	131
Multiunit structure.....	5,908	155	5,753	487	5,266	5,083	149	34	156
Access or cooking facilities not reported.....	109	26	83	11	72	72	-	-	5
Access and cooking facilities reported.....	5,799	129	5,670	476	5,194	5,011	149	34	151
Direct access and exclusive cooking facilities....	5,541	106	5,435	454	4,981	4,908	39	34	135
Direct access only.....	236	23	213	-	213	103	110	-	6
Exclusive cooking facilities only.....	99	-	99	22	-	-	-	-	10
NORTH CENTRAL									
Total units.....	16,667	1,329	15,338	12,371	2,967	2,936	31	-	508
Occupancy not reported in CES.....	228	27	201	121	87	67	13	-	5
Occupancy reported in CES.....	16,439	1,302	15,137	12,250	2,880	2,869	18	-	503
Vacant in CES.....	1,217	860	357	274	83	83	-	-	44
Occupied in CES.....	15,222	442	14,780	11,976	2,804	2,786	18	-	459
Type of structure not reported.....	54	5	49	40	9	9	-	-	-
Type of structure reported.....	15,168	437	14,731	11,936	2,795	2,777	18	-	459
Single unit structure.....	11,980	249	11,731	11,484	247	247	-	-	313
Multiunit structure.....	3,188	188	3,000	452	2,548	2,530	18	-	146
Access or cooking facilities not reported.....	69	8	61	24	37	37	-	-	11
Access and cooking facilities reported.....	3,119	180	2,939	428	2,511	2,493	18	-	135
Direct access and exclusive cooking facilities....	2,971	180	2,791	388	2,403	2,403	-	-	101
Direct access only.....	104	-	104	34	70	52	18	-	34
Exclusive cooking facilities only.....	44	-	44	6	38	38	-	-	-
SOUTH									
Total units.....	16,974	1,520	15,454	13,698	1,756	1,625	115	1.6	351
Occupancy not reported in CES.....	374	96	278	118	160	75	84	-	36
Occupancy reported in CES.....	16,600	1,424	15,176	13,580	1,596	1,549	31	1.6	315
Vacant in CES.....	1,529	828	701	605	96	71	9	1.6	41
Occupied in CES.....	15,071	596	14,475	12,973	1,500	1,478	22	-	274
Type of structure not reported.....	225	55	170	170	-	-	-	-	10
Type of structure reported.....	14,846	541	14,305	12,805	1,500	1,478	22	-	264
Single unit structure.....	13,042	333	12,709	12,462	247	247	-	-	170
Multiunit structure.....	1,804	208	1,596	343	1,253	1,231	22	-	94
Access or cooking facilities not reported.....	119	54	65	10	55	55	-	-	22
Access and cooking facilities reported.....	1,685	154	1,531	333	1,198	1,176	22	-	72
Direct access and exclusive cooking facilities....	1,618	119	1,499	333	1,166	1,166	-	-	72
Direct access only.....	97	35	62	-	22	22	22	-	-
Exclusive cooking facilities only.....	10	-	10	-	10	10	-	-	-
WEST									
Total units.....	9,432	850	8,582	6,507	2,075	2,005	70	-	275
Occupancy not reported in CES.....	283	77	206	134	72	39	33	-	2
Occupancy reported in CES.....	9,149	773	8,376	6,373	2,003	1,966	37	-	273
Vacant in CES.....	713	367	346	208	138	128	37	-	273
Occupied in CES.....	8,436	406	8,030	6,165	1,865	1,828	37	-	273
Type of structure not reported.....	6	-	6	6	-	-	-	-	-
Type of structure reported.....	8,430	406	8,024	6,159	1,865	1,828	37	-	273
Single unit structure.....	6,605	309	6,296	5,986	310	310	-	-	158
Multiunit structure.....	1,825	97	1,728	173	1,555	1,518	37	-	115
Access or cooking facilities not reported.....	208	-	208	69	139	139	-	-	-
Access and cooking facilities reported.....	1,617	97	1,520	104	1,416	1,379	37	-	115
Direct access and exclusive cooking facilities....	1,617	97	1,520	104	1,416	1,379	37	-	115
Direct access only.....	-	-	-	-	-	-	-	-	-
Exclusive cooking facilities only.....	-	-	-	-	-	-	-	-	-

¹This column contains a count of units edited by the computer and for which a value was imputed for access or cooking equipment. The count is a portion of the total occupied units. The imputed values are included in the numbers in columns 3-8.

Table 8A.—NUMBER OF BATHROOMS FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification and region	Housing units correctly included in census, by census classification						
	Total (1)	Vacant in census (2)	Reported in census as occupied				
			Total (3)	No bathroom or partial only (4)	One bathroom (5)	One bathroom and partial (6)	Two or more bathrooms (7)
UNITED STATES							
Total units.....	57,752	4,919	52,833	7,584	37,196	3,874	4,179
Occupancy not reported in CES.....	1,259	304	955	180	603	58	114
Occupancy reported in CES.....	56,493	4,615	51,878	7,404	36,593	3,816	4,065
Vacant in CES.....	4,496	2,821	1,675	424	1,112	47	92
Occupied in CES.....	51,997	1,794	50,203	6,980	35,481	3,769	3,973
Number of bathrooms not reported.....	1,666	105	1,561	154	1,224	155	28
Number of bathrooms reported.....	50,331	1,689	48,642	6,826	34,257	3,614	3,945
No bathroom or partial only.....	7,383	490	6,893	5,903	904	11	75
One bathroom.....	35,309	1,023	34,286	914	32,048	859	465
One bathroom and partial.....	3,736	75	3,661	6	899	2,420	336
Two or more bathrooms.....	3,903	101	3,802	3	406	324	3,069
NORTHEAST							
Total units.....	14,679	1,220	13,459	901	10,296	1,275	987
Occupancy not reported in CES.....	374	104	270	57	201	-	12
Occupancy reported in CES.....	14,305	1,116	13,189	844	10,095	1,275	975
Vacant in CES.....	1,037	766	271	66	150	-	55
Occupied in CES.....	13,268	350	12,918	778	9,945	1,275	920
Number of bathrooms not reported.....	597	-	597	80	447	65	5
Number of bathrooms reported.....	12,671	350	12,321	698	9,498	1,210	915
No bathroom or partial only.....	832	89	743	484	259	-	-
One bathroom.....	9,664	221	9,443	211	8,899	207	126
One bathroom and partial.....	1,255	26	1,229	-	310	859	60
Two or more bathrooms.....	920	14	906	3	30	144	729
NORTH CENTRAL							
Total units.....	16,667	1,329	15,338	2,024	11,067	1,338	909
Occupancy not reported in CES.....	228	27	201	14	122	58	7
Occupancy reported in CES.....	16,439	1,302	15,137	2,010	10,945	1,280	902
Vacant in CES.....	1,217	860	357	41	275	33	8
Occupied in CES.....	15,222	442	14,780	1,969	10,670	1,247	894
Number of bathrooms not reported.....	227	10	217	11	154	47	5
Number of bathrooms reported.....	14,995	432	14,563	1,958	10,516	1,200	889
No bathroom or partial only.....	2,269	189	2,080	1,664	377	-	39
One bathroom.....	10,692	195	10,497	288	9,593	447	169
One bathroom and partial.....	1,175	24	1,151	6	370	688	87
Two or more bathrooms.....	859	24	835	-	176	65	594
SOUTH							
Total units.....	16,974	1,520	15,454	4,114	9,123	823	1,394
Occupancy not reported in CES.....	374	96	278	58	153	-	67
Occupancy reported in CES.....	16,600	1,424	15,176	4,056	8,970	823	1,327
Vacant in CES.....	1,529	828	701	249	420	14	18
Occupied in CES.....	15,071	596	14,475	3,807	8,550	809	1,309
Number of bathrooms not reported.....	493	85	408	22	347	24	15
Number of bathrooms reported.....	14,578	511	14,067	3,785	8,203	785	1,294
No bathroom or partial only.....	3,783	163	3,620	3,380	193	11	36
One bathroom.....	8,613	307	8,306	405	7,741	71	89
One bathroom and partial.....	935	25	910	-	128	651	131
Two or more bathrooms.....	1,247	16	1,231	-	141	52	1,038
WEST							
Total units.....	9,432	850	8,582	545	6,710	438	889
Occupancy not reported in CES.....	283	77	206	51	127	-	28
Occupancy reported in CES.....	9,149	773	8,376	494	6,583	438	861
Vacant in CES.....	713	367	346	68	267	-	11
Occupied in CES.....	8,436	406	8,030	426	6,316	438	850
Number of bathrooms not reported.....	349	10	339	41	276	19	3
Number of bathrooms reported.....	8,087	396	7,691	385	6,040	419	847
No bathroom or partial only.....	499	49	450	375	75	-	-
One bathroom.....	6,340	300	6,040	10	5,815	134	81
One bathroom and partial.....	371	-	371	-	91	222	58
Two or more bathrooms.....	877	47	830	-	59	63	708

Note: The number of imputations for inconsistencies and not reported categories are not available for this table.

Table 8B.—NUMBER OF BATHROOMS FOR ALL OWNER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification							
	Total	Vacant in census	Renter occupied in census	Reported in census as owner occupied				
				Total	No bathroom or partial only	One bathroom	One bathroom and partial	Two or more bathrooms
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Total units.....	57,752	4,919	20,097	32,736	3,510	21,855	3,612	3,759
Occupancy or tenure not reported in CES....	2,304	385	877	1,042	100	694	141	107
Occupancy and tenure reported in CES.....	55,448	4,534	19,220	31,694	3,410	21,161	3,471	3,652
Vacant in CES.....	4,478	2,821	1,258	399	86	266	39	8
Occupied in CES.....	50,970	1,713	17,962	31,295	3,324	20,895	3,432	3,644
Renter occupied in CES.....	19,274	1,073	16,949	1,252	237	736	117	162
Owner occupied in CES.....	31,696	640	1,013	30,043	3,087	20,159	3,315	3,482
Number of bathrooms not reported.....	176	-	-	176	50	88	35	3
Number of bathrooms reported.....	31,520	640	1,013	29,867	3,037	20,071	3,280	3,479
No bathrooms or partial only.....	3,404	141	313	2,950	2,519	370	11	50
One bathroom.....	20,927	329	661	19,937	510	18,451	671	305
One bathroom and partial.....	3,503	75	30	3,398	5	877	2,272	244
Two or more bathrooms.....	3,686	95	9	3,582	3	373	326	2,880

Note: The number of imputations for inconsistencies and not reported categories are not available for this table.

Table 8C.—NUMBER OF BATHROOMS FOR ALL RENTER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification							
	Total	Vacant in census	Owner occupied in census	Reported in census as renter occupied				
				Total	No bathroom or partial only	One bathroom	One bathroom and partial	Two or more bathrooms
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Total units.....	57,752	4,919	32,736	20,097	4,040	15,247	303	507
Occupancy or tenure not reported in CES....	2,304	385	1,042	877	218	621	33	5
Occupancy and tenure reported in CES.....	55,448	4,534	31,694	19,220	3,822	14,626	270	502
Vacant in CES.....	4,478	2,821	399	1,258	338	835	5	80
Occupied in CES.....	50,970	1,713	31,295	17,962	3,484	13,791	265	422
Owner occupied in CES.....	31,696	640	30,043	1,013	297	651	11	54
Renter occupied in CES.....	19,274	1,073	1,252	16,949	3,187	13,140	254	368
Number of bathrooms not reported.....	541	27	18	496	40	456	-	-
Number of bathrooms reported.....	18,733	1,046	1,234	16,453	3,147	12,684	254	368
No bathroom or partial only.....	3,961	350	302	3,309	2,821	482	-	6
One bathroom.....	14,203	691	828	12,684	326	12,129	113	116
One bathroom and partial.....	254	-	32	222	-	38	131	53
Two or more bathrooms.....	315	5	72	238	-	35	10	193

Note: The number of imputations for inconsistencies and not reported categories are not available for this table.

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Table 9A.—NUMBER OF BEDROOMS FOR ALL OCCUPIED HOUSING UNITS, BY REGION

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

CES classification	Housing units correctly included in census, by census classification							
	Total	Vacant in census	Reported in census as occupied					Four or more bedrooms (8)
			Total	No bedroom	One bedroom	Two bedrooms	Three bedrooms	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
UNITED STATES								
Total units.....	57,752	4,919	52,833	1,808	7,575	20,618	17,246	5,586
Occupancy not reported in CES.....	1,259	304	955	221	54	344	301	35
Occupancy reported in CES.....	56,493	4,615	51,878	1,587	7,521	20,274	16,945	5,551
Vacant in CES.....	4,496	2,821	1,675	164	217	918	182	194
Occupied in CES.....	51,997	1,794	50,203	1,423	7,304	19,356	16,763	5,357
Number of bedrooms not reported.....	601	60	541	43	131	122	245	-
Number of bedrooms reported.....	51,396	1,734	49,662	1,380	7,173	19,234	16,518	5,357
No bedroom.....	1,504	178	1,326	1,014	287	25	-	-
One bedroom.....	8,191	467	7,724	366	5,956	992	368	42
Two bedrooms.....	20,510	633	19,877	-	724	16,752	1,574	827
Three bedrooms.....	15,934	399	15,535	-	206	1,439	13,088	802
Four or more bedrooms.....	5,257	57	5,200	-	-	26	1,488	2,686
NORTHEAST								
Total units.....	14,679	1,220	13,459	232	1,750	5,147	4,968	1,362
Occupancy not reported in CES.....	374	104	270	-	-	38	207	25
Occupancy reported in CES.....	14,305	1,116	13,189	232	1,750	5,109	4,761	1,337
Vacant in CES.....	1,037	766	271	-	20	138	-	113
Occupied in CES.....	13,268	350	12,918	232	1,730	4,971	4,761	1,224
Number of bedrooms not reported.....	266	-	266	21	-	-	245	-
Number of bedrooms reported.....	13,002	350	12,652	211	1,730	4,971	4,516	1,224
No bedroom.....	226	42	184	163	21	-	-	-
One bedroom.....	2,322	98	2,224	48	1,664	320	150	42
Two bedrooms.....	5,061	111	4,950	-	45	4,317	588	-
Three bedrooms.....	3,274	99	3,175	-	-	334	2,708	133
Four or more bedrooms.....	2,119	-	2,119	-	-	-	1,070	1,049
NORTH CENTRAL								
Total units.....	16,667	1,329	15,338	556	1,583	5,612	4,951	2,636
Occupancy not reported in CES.....	228	27	201	10	-	191	-	-
Occupancy reported in CES.....	16,439	1,302	15,137	546	1,583	5,421	4,951	2,636
Vacant in CES.....	1,217	860	357	18	53	152	53	81
Occupied in CES.....	15,222	442	14,780	528	1,530	5,269	4,898	2,555
Number of bedrooms not reported.....	56	5	51	-	-	51	-	-
Number of bedrooms reported.....	15,166	437	14,729	528	1,530	5,218	4,898	2,555
No bedroom.....	685	63	622	528	94	-	-	-
One bedroom.....	1,723	141	1,582	-	1,387	195	-	-
Two bedrooms.....	5,620	84	5,536	-	-	4,624	282	630
Three bedrooms.....	5,448	105	5,343	-	49	399	4,438	457
Four or more bedrooms.....	1,690	44	1,646	-	-	-	178	1,468
SOUTH								
Total units.....	16,974	1,520	15,454	316	2,010	7,160	4,902	1,066
Occupancy not reported in CES.....	374	96	278	144	54	-	80	-
Occupancy reported in CES.....	16,600	1,424	15,176	172	1,956	7,160	4,822	1,066
Vacant in CES.....	1,529	828	701	-	23	549	129	-
Occupied in CES.....	15,071	596	14,475	172	1,933	6,611	4,693	1,066
Number of bedrooms not reported.....	279	55	224	22	131	71	-	-
Number of bedrooms reported.....	14,792	541	14,251	150	1,802	6,540	4,693	1,066
No bedroom.....	255	16	239	90	124	25	-	-
One bedroom.....	2,125	109	2,016	60	1,388	413	155	-
Two bedrooms.....	6,835	324	6,511	-	290	5,754	418	49
Three bedrooms.....	4,719	81	4,638	-	-	348	4,095	195
Four or more bedrooms.....	858	11	847	-	-	-	25	822
WEST								
Total units.....	9,432	850	8,582	704	2,232	2,699	2,425	522
Occupancy not reported in CES.....	283	77	206	67	-	115	14	10
Occupancy reported in CES.....	9,149	773	8,376	637	2,232	2,584	2,411	512
Vacant in CES.....	713	367	346	146	121	79	-	-
Occupied in CES.....	8,436	406	8,030	491	2,111	2,505	2,411	512
Number of bedrooms not reported.....	-	-	-	-	-	-	-	-
Number of bedrooms reported.....	8,436	406	8,030	491	2,111	2,505	2,411	512
No bedroom.....	338	57	281	233	48	-	-	-
One bedroom.....	2,021	119	1,902	258	1,517	64	63	-
Two bedrooms.....	2,994	114	2,880	-	389	2,057	286	148
Three bedrooms.....	2,493	114	2,379	-	157	358	1,847	17
Four or more bedrooms.....	590	2	588	-	-	26	215	247

Note: The number of imputations for inconsistencies and not reported categories are not available for this table.

Accuracy of Data on Housing Characteristics

Table 9B.—NUMBER OF BEDROOMS FOR ALL OWNER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

GES classification	Housing units correctly included in census, by census classification								
	Total	Vacant in census	Renter occupied in census	Reported in census as owner occupied					
				Total	No bedroom	One bedroom	Two bedrooms	Three bedrooms	Four or more bedrooms
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Total units.....	57,752	4,919	20,097	32,736	149	1,932	11,859	14,385	4,411
Occupancy or tenure not reported in GES.....	2,304	385	877	1,042	-	154	549	157	182
Occupancy and tenure reported in GES.....	55,448	4,534	19,220	31,694	149	1,778	11,310	14,228	4,229
Vacant in GES.....	4,478	2,821	1,258	399	-	70	186	143	-
Occupied in GES.....	50,970	1,713	17,962	31,295	149	1,708	11,124	14,085	4,229
Renter occupied in GES.....	19,274	1,073	16,949	1,252	-	24	705	402	121
Owner occupied in GES.....	31,696	640	1,013	30,043	149	1,684	10,419	13,683	4,108
Number of bedrooms not reported.....	-	-	-	-	-	-	-	-	-
Number of bedrooms reported.....	31,696	640	1,013	30,043	149	1,684	10,419	13,683	4,108
No bedroom.....	246	-	68	178	140	38	-	-	-
One bedroom.....	1,888	90	176	1,622	9	1,009	361	200	43
Two bedrooms.....	11,677	225	402	11,050	-	428	9,049	1,291	282
Three bedrooms.....	13,472	276	240	12,956	-	209	1,009	11,109	629
Four or more bedrooms.....	4,413	49	127	4,237	-	-	-	1,083	3,154

Note: The number of imputations for inconsistencies and not reported categories are not available for this table.

Table 9C.—NUMBER OF BEDROOMS FOR ALL RENTER-OCCUPIED HOUSING UNITS

[Thousands of units. Estimates for the United States of differences in reporting from the 1960 Content Evaluation Study for Housing Characteristics]

GES classification	Housing units correctly included in census, by census classification								
	Total	Vacant in census	Owner occupied in census	Reported in census as renter occupied					
				Total	No bedroom	One bedroom	Two bedrooms	Three bedrooms	Four or more bedrooms
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Total units.....	57,752	4,919	32,736	20,097	1,701	5,741	8,928	2,689	1,038
Occupancy or tenure not reported in GES.....	2,304	385	1,042	877	-	158	556	163	-
Occupancy and tenure reported in GES.....	55,448	4,534	31,694	19,220	1,701	5,583	8,372	2,526	1,038
Vacant in GES.....	4,478	2,821	399	1,258	156	164	691	49	198
Occupied in GES.....	50,970	1,713	31,295	17,962	1,545	5,419	7,681	2,477	840
Owner occupied in GES.....	31,696	640	30,043	1,013	303	375	34	301	-
Renter occupied in GES.....	19,274	1,073	1,252	16,949	1,242	5,044	7,647	2,176	840
Number of bedrooms not reported.....	-	-	-	-	-	-	-	-	-
Number of bedrooms reported.....	19,274	1,073	1,252	16,949	1,242	5,044	7,647	2,176	840
No bedroom.....	1,386	166	26	1,194	894	272	28	-	-
One bedroom.....	6,225	376	98	5,751	348	4,564	661	178	-
Two bedrooms.....	8,691	405	683	7,603	-	208	6,797	265	333
Three bedrooms.....	2,276	123	317	1,836	-	-	137	1,542	157
Four or more bedrooms.....	696	3	128	565	-	-	24	191	350

Note: The number of imputations for inconsistencies and not reported categories are not available for this table.

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Table 10.—1960 CES INDEXES OF RESPONSE VARIANCE AND BIAS, FOR THE UNITED STATES

(Indexes are in percent)

CES classification	All occupied housing units					Owner-occupied housing units					Renter-occupied housing units				
	Gross difference rate (1)	Index of inconsistency (2)	Net difference rate ¹ (3)	Index of net shift relative to CES (4)	Percent in CES class identically reported (5)	Gross difference rate (6)	Index of inconsistency (7)	Net difference rate ¹ (8)	Index of net shift relative to CES (9)	Percent in CES class identically reported (10)	Gross difference rate (11)	Index of inconsistency (12)	Net difference rate ¹ (13)	Index of net shift relative to CES (14)	Percent in CES class identically reported (15)
Number of rooms:															
1 room.....	1.08	33.98	-0.14	-8.02	63.90	0.38	60.93	-0.04	-11.96	36.92	2.20	28.82	-0.14	-3.50	71.05
2 rooms.....	2.42	32.55	-0.32	-7.86	66.00	1.00	42.62	-0.09	-7.54	55.70	4.44	29.89	-0.82	-9.67	69.02
3 rooms.....	5.26	25.06	-0.48	-3.96	76.39	2.56	39.44	-0.34	-9.55	58.93	9.06	23.04	-0.71	-2.62	82.06
4 rooms.....	10.38	30.60	-1.72	-7.66	73.12	8.04	28.18	-2.35	-12.77	71.80	12.74	31.71	-0.73	-2.59	76.12
5 rooms.....	14.40	36.44	-1.01	-3.66	72.10	15.90	36.31	-1.74	-5.23	73.49	10.70	35.50	0.26	1.43	71.57
6 rooms.....	13.28	42.90	0.04	0.19	65.39	16.94	45.01	-0.46	-1.81	65.71	6.22	35.63	0.68	7.28	70.30
7 rooms.....	6.76	43.89	1.47	19.19	65.57	9.48	46.54	2.29	22.06	65.38	2.20	35.36	0.31	9.98	69.06
8 or more rooms.....	4.10	34.89	2.15	41.56	81.27	5.46	33.92	2.73	36.42	81.75	1.64	44.49	1.16	89.26	81.61
Condition of unit:															
Sound.....	15.66	51.17	3.55	4.47	92.37	11.78	52.51	1.35	1.56	93.97	21.26	52.79	7.37	10.84	89.80
Deteriorating.....	17.44	75.28	-1.16	-8.28	33.37	12.80	71.26	-0.07	-0.65	35.74	24.44	80.70	-3.03	-15.04	31.85
Dilapidated.....	5.96	57.31	-2.39	-35.61	37.81	3.56	63.56	-1.28	-36.39	31.38	10.02	57.92	-7.34	-36.84	39.11
Condition of unit and plumbing facilities:															
Sound, with all facilities.....	13.12	35.55	3.11	4.21	93.23	10.00	34.53	1.24	1.52	94.64	17.06	37.96	6.19	9.91	91.31
Sound, lacking hot water only.....	0.84	76.65	0.07	13.81	25.42	0.86	82.62	0.03	-4.64	17.40	0.66	88.26	0.18	62.15	15.85
Sound, lacking other facilities.....	5.12	53.57	0.39	8.10	51.11	4.24	52.17	0.14	3.47	50.91	6.50	57.29	1.11	20.21	50.86
Deteriorating, with all facilities.....	12.00	75.67	-1.91	-19.81	27.92	8.98	73.35	-0.85	-12.24	28.56	16.32	77.55	-3.85	-27.66	27.57
Deteriorating, lacking hot water only..	0.74	87.03	0.22	70.73	18.09	0.44	76.45	0.10	41.79	28.74	1.16	93.40	0.69	248.31	16.49
Deteriorating, lacking other facilities	5.58	68.53	0.50	12.40	36.52	3.88	64.55	0.64	23.00	41.78	8.22	75.19	0.04	-0.70	29.07
Bathing facilities:²															
Bathtub or shower, exclusive use.....	2.48	11.55	-0.03	-0.03	98.57	-	-	-	-	-	-	-	-	-	-
Bathtub or shower, shared use.....	1.00	25.23	-0.29	-13.25	70.29	-	-	-	-	-	-	-	-	-	-
No bathtub or shower.....	1.73	9.43	0.31	3.12	92.96	-	-	-	-	-	-	-	-	-	-
Toilet facilities:²															
Flush toilet, exclusive use.....	2.80	14.63	0.77	0.86	98.86	-	-	-	-	-	-	-	-	-	-
Flush toilet, shared use.....	0.74	39.62	-0.10	-10.03	57.71	-	-	-	-	-	-	-	-	-	-
No flush toilet.....	2.14	12.13	-0.67	-6.61	86.12	-	-	-	-	-	-	-	-	-	-
Water supply:															
Hot and cold piped water.....	3.88	32.81	-3.31	-3.47	96.23	3.34	34.30	-2.63	-2.73	96.90	4.10	30.97	-3.83	-4.05	95.81
Cold water only.....	3.40	89.35	3.34	1,116.52	89.98	2.74	84.42	2.72	861.31	95.13	4.22	94.62	4.10	1,470.49	77.66
No piped water.....	1.28	15.21	-0.02	-0.57	85.21	1.24	18.58	-0.09	-2.54	81.02	0.96	10.45	-0.27	-5.39	87.63
Access and cooking equipment:²															
Direct access and exclusive cooking equipment.....	3.03	52.66	0.90	0.93	98.90	-	-	-	-	-	-	-	-	-	-
Direct access only.....	2.24	44.66	-0.77	-25.90	49.18	-	-	-	-	-	-	-	-	-	-
Exclusive.....	0.80	*100.51	-0.14	-29.17	00.00	-	-	-	-	-	-	-	-	-	-
Number of bathrooms:															
No bathroom or partial only.....	3.94	16.17	-0.14	-0.97	85.70	3.18	17.60	0.29	2.89	85.39	4.96	15.60	-0.96	-4.73	85.43
One bathroom.....	9.14	21.95	-0.06	-0.09	93.46	10.40	23.53	0.45	0.67	92.54	6.74	18.98	-0.01	-0.02	95.61
One bathroom and partial.....	5.00	36.22	-0.09	-1.26	66.07	7.14	36.00	-0.40	-3.49	66.83	1.30	45.51	0.19	14.14	59.05
Two or more bathrooms.....	3.30	22.58	0.30	3.79	80.72	4.36	20.95	-0.34	-2.82	80.37	3.07	37.83	1.81	53.94	81.07
Number of bedrooms:															
No bedroom.....	1.34	25.66	0.12	4.43	76.69	0.16	15.22	-0.10	-17.33	77.51	3.64	27.69	0.33	4.77	76.04
One bedroom.....	6.00	23.47	-1.19	-7.60	77.02	4.34	41.74	0.15	2.68	61.37	9.34	21.64	-3.91	-11.66	80.26
Two bedrooms.....	11.26	23.60	-1.26	-3.14	84.35	11.26	24.57	-2.13	-5.80	81.76	9.52	19.22	0.03	0.06	89.47
Three bedrooms.....	12.04	27.57	2.25	7.24	84.26	15.02	30.43	2.78	6.47	85.77	5.36	25.60	1.93	17.68	84.31
Four bedrooms or more.....	6.52	34.10	-0.08	0.72	69.80	6.94	28.99	-0.69	-4.86	73.22	4.12	49.85	1.63	46.15	64.48

*This value of the index of inconsistency of over 100% occurs when the assumptions underlying the estimator are not met.

¹A negative net difference rate means there were fewer units included in the census than in the CES in a given category; a positive net difference rate means there were more units in the census than in the CES in a given category.²These data were not tabulated separately by tenure.