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LOCAL POPULATION ESTIMATES PREPARED BY STATE AND CITY AGENCIES: 1957-58*

(See Current Population Reports, Series P-25, No. 116, for the results of the previous survey, taken in 1955)

INTRODUCTION

This report presents the results of a survey of the sources and types of current population estimates prepared by agencies in State governments during 1957 and 1958. It also summarizes the work on population estimates of official agencies in the largest cities.

Although the Bureau of the Census carries on a program of current population estimates, it does not now have the resources to include in this program regular estimates for counties and cities. The principal areas for which estimates are actually made are the United States as a whole, the States, and the outlying areas of the United States.¹ In lieu of the actual preparation of estimates for counties and cities, the Bureau is attempting to act as clearinghouse in exchanging information on sources and methods of small area estimates prepared by State and city agencies. This summary report is the second in a series designed to provide periodic inventories of such activities.

The first survey was conducted at the suggestion of the Public Health Conference on Records and Statistics, which, at its meeting in Washington, D. C., in March 1954, adopted a motion recommending

¹ U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 81, "Coordination of Population Estimates Used by Federal, State, and Local Agencies," by Henry S. Shryock, Jr., October 12, 1953.

that the Bureau of the Census publish a summary of methods used by various State vital statistics offices in making local population estimates. Accordingly, the Bureau mailed a standard questionnaire to a number of different agencies in each State in the spring of 1955, to secure information on the agencies preparing official estimates, the types of estimates prepared, and the methods used. A summary of the results was published in Current Population Reports, Series P-25, No. 116. Because of the widespread interest in this report and the recommendation of the Public Health Conference on Records and Statistics that we repeat the inventory annually or biennially, it was decided to conduct a similar survey and publish a similar report periodically.

In the second survey, begun in the spring of 1957, questionnaires were sent to State health departments, State universities, State planning or development commissions, and State employment security offices. Such agencies were also asked to name any other agencies in the State government which they knew were preparing estimates. The Governors' offices were also addressed as an additional means of securing a more complete coverage; they were asked to pass on copies of the questionnaire to any State agencies, other than those listed above, that might be engaged in making population estimates. Questionnaires were also sent to appropriate governmental agencies in Alaska, Hawaii, Puerto Rico, and the Virgin Islands. Finally, questionnaires were sent to the health departments, planning commissions, census tract "key" men, and the mayors of the

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41 cities with a 1950 population of 250,000 or more, to secure information on estimates of the population of cities being made by municipal agencies. This entire survey covers only the work of official agencies; hence, estimates made by private organizations, such as local chambers of commerce, are not included.

Because of the delay in the completion of the report on the 1957 survey, it was decided to conduct a small-scale survey in the early part of 1958 in order to bring the information reported last spring up to date. Questionnaires were sent to the State agencies which, in the 1957 survey, had reported that their latest estimates were for an earlier year than 1957. The data presented in this report, therefore, were secured partly in 1957 and partly in 1958.

The questionnaire asked for a report on the areas (e.g., State, counties, cities of 10,000 or more) and the population characteristics (e.g., age, sex, race) for which estimates are prepared and for a description of the methods used by the agency to prepare these estimates. Other questions concerned the date of the latest set of estimates, the frequency with which estimates were prepared and published, and the availability of copies of the estimates. Finally, the agencies were asked whether they had conducted any tests of the accuracy of their estimates, or the validity of their estimating procedures, against the 1950 Census or other censuses.

WORK OF STATE AGENCIES

The questionnaire was sent to approximately 200 State agencies (not counting the Governors' offices), of which 62 indicated that they were engaged in making population estimates for counties at the present time. The types of agencies included in this group are shown in table A. All but 3 States (North Dakota, Rhode Island, and Vermont) have at least one agency which prepares estimates for counties within the State. (In the 1955 survey 8 States did not have an agency making county estimates.) In 15 States, two or more agencies make population estimates for counties. Two States take a State census; they are included in the counts above. Kansas takes a census annually as of March 1, and Massachusetts takes one in years ending in 5. Departments of health stand out as the principal type of agency making population estimates for counties, accounting for about half of the agencies reporting such work. Among the reasons for the leading position of the departments of health are the following: (1) They have ready access to many of the basic data required; (2) they are important users of population estimates; and (3) they often have personnel technically equipped to make the estimates.

A special factor affecting the distribution of estimates work by type of agency is the developing practice in the States of assigning the responsibility for the work on estimates to a single State

agency. State population committees have been set up in a number of States, and they have sought to coordinate the work of estimates in the State governments, to eliminate conflicting estimates, and to establish a single set of official figures. (Oklahoma and Pennsylvania are two examples of such States.) In a few States, the planning or development commission has provided the leadership in the work of such interagency committees (e.g., in Florida and New Hampshire). In at least three States (California, Washington, and Oregon), a specific office for population studies has been set up in one of the government departments or as a separate agency.

Table A.--STATE AGENCIES MAKING POPULATION ESTIMATES FOR COUNTIES: 1957-58 AND 1955

Agency	Survey of 1957-58	Survey of 1955
Total.....	62	46
Department of health.....	30	31
State university.....	19	9
Bureau of business research.....	15	7
Other division.....	4	2
Employment security office.....	4	2
State planning or development commission.....	3	1
Other.....	6	3

A larger number of agencies reported making county population estimates in the 1957-58 survey than in the 1955 survey. Eighteen of the 62 State agencies which reported making county population estimates in the 1957-58 survey were reporting such work to the Census Bureau for the first time; they were not included in the summary reported in *Current Population Reports*, Series P-25, No. 116. One factor in the increase in the reported number of agencies making county estimates is the more systematic coverage in 1957-58 of State universities, State employment security offices, and State planning commissions. Still, some real increase probably occurred. The actual tabulations show that most of the apparent increase in the number of agencies reporting the preparation of local estimates occurred in the group, State universities, especially university bureaus of business research.

Annual estimates of total State population are, of course, available from the Census Bureau. Most State agencies, however, prepare their own State totals, either deriving them directly or by summing their county estimates. In 5 States, estimates of State population by age, sex, and color, in combination, are prepared; for 13 States estimates are made by age and for 7 States estimates are made by color, with or without other characteristics. As found in the earlier survey, in nearly every State where population estimates are made, figures are available on an annual basis for all the counties in the State. In a few States, estimates are prepared for counties by color. In about half of the States reporting estimates, estimates are made for some or all of the cities and towns in the State.

The methods used by State agencies to make population estimates for counties are summarized in table B. Brief explanations of these methods are given below.

Table B.--DETAILED LIST OF METHODS USED BY STATE AGENCIES TO MAKE POPULATION ESTIMATES FOR COUNTIES: 1957-58

(See text for explanation of methods)

Method	Number of agencies
Agencies reporting, total.....	62
State census.....	2
Migration and natural increase.....	23
Bureau of the Census: Method I.....	3
Method II.....	15
Age or grade progression.....	3
Migration estimate based on previous decade.....	2
Composite method.....	5
Natural increase alone.....	5
Adjusted to State estimate.....	5
Unadjusted.....	7
Censal ratio.....	5
Simple form.....	5
Adjusted to State estimate.....	5
Unadjusted.....	2
Complex form.....	6
Proration.....	4
Current symptomatic series.....	4
Bureau of the Census State estimate.....	4
Other State estimate.....	2
1950 population distribution.....	1
Bureau of the Census State estimate.....	1
Other State estimate.....	4
Arithmetic extrapolation.....	9
Combination of methods.....	5
Including a migration-and-natural-increase method.....	4
Other.....	1
Other.....	1

Migration-and-natural-increase methods are those in which the components of population change (i.e., natural increase and net migration) are estimated separately. In Method I of the Bureau of the Census, the net migration rate for a given area is estimated, on the basis of school enrollment or school census data, as the difference between the percentage change in the population of school age for the area and the corresponding change for the United States.² In Method II of the Bureau of the Census, net migration is estimated, using school enrollment or school census data, from the difference between the actual population of elementary school age and the population expected on the basis of the 1950 Census and births, and from current data on the variation of migration rates by age.³ In the other migration-and-natural-increase methods, net migration is estimated in various other ways, e.g., by the use of data on school enrollment for successive school years and grades (grade-progression method), by the use of estimates of net migration for previous periods, etc.

² For a more detailed explanation and illustrative example, see U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 20, May 6, 1949.

³ For a more detailed explanation and illustrative example, see U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 133, March 16, 1956. Series P-25, No. 165, November 4, 1957, describes a recent amendment in one of the steps of the method.

The composite method makes use of several series of "indicator" data--births, deaths, school enrollment, etc.--to estimate the size of the various age segments of the population to which these basic indicators are most applicable. Summing the estimates for separate age groups yields an estimate of the total population.⁴ In one form of the composite method--the age-specific death rate method--deaths from all causes or from selected causes are used as an indicator series for all or most age groups.⁵

The natural increase method involves merely adding postcensal natural increase (births minus deaths) to the census figure. It assumes, therefore, that postcensal net migration equals zero.

The simple form of the censal ratio method involves (1) computation of ratios of population to a single symptomatic element (school enrollment, births, deaths, etc.) at the last census date for each county, and (2) application of these ratios to the corresponding postcensal symptomatic element to obtain postcensal estimates of county population. Sometimes, these county estimates are adjusted to make them add to an independent estimate for the State as a whole. In the complex form of the censal ratio method, specific allowance may be made for the postcensal change in the ratio of population to symptomatic data or two or more simple ratio estimates may be averaged. The vital rates method, for example, averages two estimates based respectively on birth and death statistics, and allows for the postcensal change in the birth and death rates.⁶ In the dwelling unit methods, data on building permits issued or data on electric, gas, or water meter connections are used to measure postcensal changes in the number of dwelling units, and assumptions are made regarding postcensal changes in the number of persons per occupied dwelling unit and vacancy rates.⁷

The proration method involves commonly the distribution of the postcensal State total on the basis of current "symptomatic" data such as school data, births, and deaths. This procedure implicitly assumes that the ratio of population to the symptomatic item is the same for all areas in the State. The State estimate may also be prorated on the basis of local populations at the last census.

⁴ A detailed discussion of a specific form of the composite method is given in: Donald J. Bogue and Beverly Duncan, "A Composite Method for Estimating Postcensal Population of Small Areas, by Age, Sex, and Color," unpublished paper read at the Third Annual Conference on Business Research, Chicago, Ill., April 13-14, 1956.

⁵ Carl M. Frisen, "A Technique for Estimating Population from Mortality Data," unpublished doctoral dissertation, Stanford University, Palo Alto, California, 1951.

⁶ For a more detailed explanation of this method, see Donald J. Bogue, "A Technique for Making Extensive Population Estimates," Journal of the American Statistical Association, Vol. 45, No. 250, June 1950, pp. 149-163.

⁷ For additional explanation, see Current Population Reports, Series P-25, No. 156, April 30, 1957, p. 2.

In arithmetic extrapolation, it is assumed that the yearly amount of population change in an area in the postcensal period equals the average yearly amount of change in the area in a recent past period, usually the most recent intercensal period. In geometric extrapolation, the average yearly rate of change is assumed to remain the same as in the past period.

Essentially the same classification of methods was made in connection with the present survey as in connection with the 1955 survey. Hence, it is possible to compare the types of methods reported in the two surveys. Table C gives an abbreviated list of the methods used by State agencies in 1955 and 1957-58, separate counts being shown for the agencies which reported making county estimates both in 1955 and 1957-58.

Table C.--SUMMARY OF METHODS USED BY STATE AGENCIES TO MAKE POPULATION ESTIMATES FOR COUNTIES: 1957-58 AND 1955

(See the text of Current Population Reports, Series P-25, No. 116, for a description of the 1955 survey and the text of this report for an explanation of the estimating methods listed)

Method	Survey of 1957-58			Survey of 1955 ¹
	Total agencies reporting	Agencies reporting in 1955	Agencies reporting for the first time	
Agencies reporting, total.	62	44	18	44
State census.....	2	2	...	2
Migration and natural increase ²	28	21	7	17
Composite method ²	5	3	2	...
Censal ratio.....	7	3	4	3
Natural increase alone.....	5	3	2	7
Proration.....	6	5	1	5
Arithmetic extrapolation....	4	4	...	8
Other.....	5	3	2	2

¹ Two State agencies which did not report the preparation of county estimates in the 1957-58 survey are excluded. The censal ratio method and arithmetic extrapolation were used by these agencies.

² Includes methods which involve a combination of a migration-and-natural-increase method and some other method or methods of estimating total population.

³ Includes methods which involve a migration-and-natural-increase procedure for estimating one or more age groups.

Even if we consider only the latter agencies, there appears to be a general tendency away from the use of the less reliable methods and toward the more reliable ones. The table shows, for example, an increase in the extent to which migration-and-natural-increase methods were used and a decrease in the extent to which arithmetic extrapolation or a simple natural increase method was used. Well above half of the agencies reporting in the 1957-58 survey used a migration-and-natural-increase method or a composite method (or took a census), whereas in the 1955 survey well below half of the agencies used such methods. The much wider use of Method II indicated by table C may be explained partly by the fact that, although the method is relatively complicated and time-consuming, the Bureau published in 1956 a simplified version of the illustrative example of the method previously published in 1949. Several short-

cuts were introduced in the revised version of the method which reduce considerably the work of applying it and remove some of the more complicated procedures, without appreciably affecting the accuracy of the method.

Another view of the improvement in the quality of local estimates is afforded by the data in table D. Here, the method judged by the Bureau of the Census to be more accurate, where two or more agencies in a State have prepared sets of estimates, is assigned to the State. Census counts, migration-and-natural-increase estimates, or composite estimates are available for 27 States according to the 1957-58 survey, but for only 18 States according to the 1955 survey.

Table D.--DISTRIBUTION OF STATES BY PREFERRED METHOD USED TO MAKE POPULATION ESTIMATES FOR COUNTIES: 1957-58 AND 1955

(For the 15 States in 1957-58 and the 6 States in 1955 for which more than one State agency reported making county estimates, the method judged by the Bureau of the Census to be the more accurate was selected)

Method	Survey of 1957-58	Survey of 1955
States reporting, total.....	45	40
State census.....	2	2
Migration and natural increase ¹	22	16
Composite method ²	3	...
Censal ratio.....	5	3
Natural increase alone.....	3	7
Proration.....	3	5
Arithmetic extrapolation.....	2	5
Other.....	5	2

¹ Includes methods which involve a combination of a migration-and-natural-increase method and some other method or methods of estimating total population.

² Includes methods which involve a migration-and-natural-increase procedure for estimating one or more age groups.

In the 1957-58 survey, the State agencies were also asked whether they had tested the accuracy of the method or methods that they used in preparing their population estimates. Very few reported that they had made such tests, and these few for the most part gave only fragmentary information on the design and results of the test.

WORK OF CITY AGENCIES

The questionnaire was sent to 82 city agencies (health departments and planning commissions) in each of the 41 cities with a 1950 population of 250,000 or more (including Washington, D. C.). In addition, some of these agencies, as well as the census tract key persons and the offices of the mayors, directed our attention to certain other local agencies which were making estimates. A few metropolitan and regional planning commissions are included. Thirty-three "city" agencies reported making estimates of the total population of the city or its parts. They were distributed by type as follows:

Total.....	33
Planning commission.....	20
Department of health.....	11
Other.....	2

In 27 out of the 41 cities surveyed, at least one city agency was preparing estimates of the population of the city; for 6 cities, two city agencies reported that they were making population estimates. For 11 cities, estimates are available by census tracts; and for 2, estimates are available by other geographic subdivisions of the city, such as health districts.

The following methods were used by the city agencies in making estimates of the total population of the city:

Total.....	132
Migration and natural increase ²	7
Composite method.....	2
Natural increase only.....	2
Censal ratio.....	317
Proration.....	2
Arithmetic extrapolation.....	2
Other.....	2

¹ One city agency did not prepare an independent estimate of total population.
² Includes any combination of methods involving a migration-and-natural-increase method.
³ Principally the dwelling unit method.

The censal ratio method, principally the variation employing dwelling unit data, is by far the most frequent method reported.

This survey was confined to official agencies. Work of local chambers of commerce and other local private organizations was excluded, although such organizations frequently make population estimates for cities.

PROBLEMS IN THE USE OF LOCAL ESTIMATES

In attempting to make use of the various county and city estimates prepared by State and city agencies which are cited here, a number of problems arise which the user of these estimates should bear in mind. These problems relate principally to the comparability of the estimates and to their accuracy. They are much less serious in connection with intercounty comparisons within a single State than they are in connection with intercounty comparisons between States.

The population may be defined differently from one set of estimates to another. Most of the estimates relate to the total population resident in the area, corresponding to the 1950 Census counts. Some refer, however, to the civilian population only; others exclude members of the Armed Forces stationed in the area but include those whose preservice residence was in the area. Both the Kansas State census and the Massachusetts State census included persons absent in the Armed Forces; and, hence, when comparisons are made with Census Bureau figures or with figures for other States, the figures must be adjusted to allow for the difference in coverage.

Most of the estimates reported in the survey are for rather current dates. Nevertheless, their dates of reference vary over several years. The latest available estimates from about one-half of the State agencies reporting county estimates relate

to 1957; the rest relate to 1956 or 1955. Estimates for 1957 were available for about two-thirds of the States at the time of the survey.

The usefulness of the estimates as well as their comparability are affected by the adequacy of the methods employed. Certain very general comments can be offered on the basis of a priori considerations. Estimating procedures which do not make use of data reflecting actual changes over the estimating period are likely to be of low accuracy. Accordingly, procedures such as arithmetic and geometric extrapolation, both of which estimate postcensal change simply on the basis of change in a previous period, are of little value. Certain other procedures employ too limited data from the postcensal period to assure accurate results. For example, the proration methods employ merely a current total for the State, possibly in conjunction with the current distribution by counties of some element like births, deaths, or voter registration, to determine the population of counties at the current date. The natural increase method, which uses data on natural increase alone for the whole postcensal period, fails to allow for the postcensal net migration to or from the area. Estimates of this sort adjusted to a State total are often likely to be more accurate on the average than the corresponding unadjusted estimates, but this procedure implies a uniform percentage allowance for net migration in each area--and this assumption is rarely likely to agree with actual experience. The censal ratio method in its simple form employs only a little information relating to the current period but makes somewhat more effective use of this information than the proration method. Specifically, in addition to using data on births, deaths, employment, etc., for a current year for the local area, it makes a specific assumption regarding the change in the birth rate, death rate, employment rate, etc., of the area between the census year and the estimate year. Finally, the migration-and-natural-increase method in its various forms and the composite method are likely to make fullest use of current data reflecting actual change and hence may be expected to be of superior accuracy.

Tests of the accuracy of various methods of making State and local population estimates tend to be consistent with, even if they do not prove, these a priori generalizations. The Bureau of the Census, other organizations, and individual researchers have conducted tests of the accuracy of some of the methods mentioned above as well as of other methods. A summary of some results of the tests conducted at the Bureau of the Census is given in table E.⁸ These

⁸ Jacob S. Siegel, Henry S. Shryock, Jr., and Benjamin Greenberg, "Accuracy of Postcensal Estimates for States and Cities," *American Sociological Review*, Vol. 19, No. 4, August 1954, pp. 440-446; Henry S. Shryock, Jr., "Development of Postcensal Population Estimates for Local Areas," *Regional Income*, pp. 377-391, Vol. 21, *Studies in Income and Wealth*, National Bureau of Economic Research, Princeton University Press, Princeton, New Jersey, 1957.

tests evaluate two mathematical methods, migration-and-natural-increase methods I and II; the vital rates method, the natural increase method, and certain combinations of these, for States, metropolitan counties, and large cities. The Census Bureau has also conducted a test of one form of the composite

method, using States as units. The Bureau has not conducted any systematic tests of accuracy of population estimates for nonmetropolitan counties. In all cases, estimates were made for 1950 starting with the 1940 Census counts, and the 1950 Census counts were used as the basis of measuring errors.

Table E.--SUMMARY OF PERCENTAGE DEVIATIONS FROM 1950 CENSUS COUNTS OF POPULATION ESTIMATES FOR 1950 DERIVED BY VARIOUS METHODS FROM THE 1940 CENSUS COUNTS, FOR STATES, METROPOLITAN COUNTIES, AND LARGE CITIES
(One hundred and two counties in standard metropolitan areas with a central city of 250,000 inhabitants or more in 1940 and 92 cities of 100,000 inhabitants or more in 1940 are included in the county and city groups)

Area and measure	Migration and natural increase		Vital rates	Natural increase	Arithmetic projection	Geometric projection	Average of Method II and vital rates	Average of Methods I and II
	Method I	Method II						
STATES¹								
Average deviation.....	5.84	23.47	4.38	8.60	6.39	6.35	3.57	3.75
Deviations of 10 percent or more.....	10	22	4	18	11	11	...	3
Deviations of 5 percent or more.....	22	21	19	31	24	23	15	9
METROPOLITAN COUNTIES								
Average deviation.....	9.21	6.57	6.29	15.66	18.25	16.42	4.77	6.86
Deviations of 10 percent or more.....	41	21	19	56	73	70	9	20
Deviations of 5 percent or more.....	69	52	52	74	95	92	37	51
Positive deviations.....	48	49	69	12	2	4	68	43
CITIES								
Average deviation.....	8.34	6.53	9.33	7.73	9.60	9.33	4.93	5.96
Deviations of 10 percent or more.....	29	18	31	26	33	31	7	15
Deviations of 5 percent or more.....	65	50	59	56	65	64	34	45
Positive deviations.....	30	22	79	56	11	13	63	27

¹ These estimates were adjusted to the national total. The number of positive deviations has not been used as a measure of error in these adjusted estimates, since such an adjustment would be expected to eradicate the evidence of any consistent upward or downward bias in a method.

² A later test of Method II for States, incorporating certain improvements, gave an average deviation of 3.16 percent, 1 deviation of 10 percent or more, and 8 deviations of 5 percent or more. The comparable test of the composite method for States gave an average deviation of 4.08 percent, no deviations of 10 percent or more, and 13 deviations of 5 percent or more.

The Bureau's Method II makes a favorable showing when the results of these tests are compared. With one exception, it gives a smaller average error than any of the other five basic methods (i.e., methods not involving combinations). The vital rates method does as well as Method II for metropolitan counties. It does not do nearly so well for cities. The generally less satisfactory results of the mathematical methods and the natural increase method are also indicated by table E. On the other hand, the average of Method II and the vital rates method gives nearly as good results as Method II alone for States and notably better results for metropolitan counties and cities. The Census Bureau's test of the composite method for States gave results which are only slightly less favorable than the corresponding results for Method II.⁹

The National Office of Vital Statistics has tested the accuracy of two variations of Method II,

⁹ Henry S. Shryock, Jr., Jacob S. Siegel, and Benjamin Greenberg, "Current Research on Population Estimates for States and Local Areas," unpublished paper read at the annual meeting of the Population Association of America, at Philadelphia, on May 4, 1957.

using the 55 counties of West Virginia as test areas.¹⁰ The average deviation of the estimates from the census counts was about 5 percent for both variations of the method.

Schmitt has tested the accuracy of the proration method and various forms of the censal ratio method, using the counties of the State of Washington as units and tying in his figures with State estimates for 1950 developed by the Bureau of the Census.¹¹ The results from the censal ratio method were not consistently superior to those from proration, but the two lowest average errors were obtained by the censal ratio method using school enrollment and registered voters (7.0 percent in each case). A still lower error (4.8 percent) was obtained by averaging

¹⁰ National Office of Vital Statistics, "Study of Population Estimates Made for Each County in West Virginia, as of April 1, 1950," unpublished paper presented by Robert D. Grove at the third annual meeting of the Public Health Conference on Records and Statistics, Washington, D. C., April 23, 1951.

¹¹ Robert C. Schmitt, "Short-cut Methods of Estimating County Population," *Journal of the American Statistical Association*, Vol. 47, No. 252, June 1952, pp. 232-238.

the estimates based on voter registration, auto registration, and school enrollment, with the individual estimates being "weighted" by the reciprocal of the coefficient of variation of each series.

Frisén has reported a test of the dwelling unit method for cities, using some of the special census figures for California cities.^{1,2} The average error varied from 4 to 8 percent for a 5- to 6-year estimating period, depending on the quality of the basic data on dwelling units.

The various tests that have been conducted indicate that there are notable differences in the accuracy of various methods. At the same time, it is evident that some methods used by State and city agencies have not been adequately tested, e.g., the grade-progression method and the composite method. Combinations of the better methods, in particular, deserve more testing. As we have seen, in some cases where combinations of the better methods were tested, the results were more favorable than by the use of the individual methods. Since no one method seems to be highly accurate for either cities or counties and since the averaging process may eliminate some extreme errors as well as reduce average errors, there is much to recommend estimates arrived at by computing two or more estimates by independent and fairly reliable methods and averaging the results.

OTHER SOURCES OF LOCAL POPULATION FIGURES

In addition to the local population estimates prepared and compiled by State and city agencies described above, local population figures are available from several other sources. These include special census counts made by the Bureau of the Census and occasional estimates prepared by the Bureau of the Census and various private groups, including chambers of commerce, welfare agencies, and marketing research organizations.

Since 1950, the Bureau of the Census has taken over a thousand special censuses at the request and expense of local governments. The places in which censuses have been taken vary in size from small villages to very large cities and counties. Inasmuch as a community's decision to take a special census is usually based on the existence of State legislation calling for allotments of State funds to areas on the basis of official population counts, the places which took censuses show considerable geographic concentration. Many censuses have been taken in the States of California, Florida, Indiana, Illinois, and New York.

To date, 19 whole counties and 19 cities of 100,000 inhabitants or more have been covered by

^{1,2} California Department of Finance, Report to the League of California Cities on a Test of Population Estimating Techniques Applied to Selected California Cities, by Carl M. Frisén, Sacramento, March 1957.

special censuses (taken at various dates between 1953 and 1958). They are listed in tables F and G. The Bureau has issued quarterly and annual summaries of the results of the special censuses in Current Population Reports, Series P-28.

Table F.--COUNTIES FOR WHICH SPECIAL CENSUSES HAVE BEEN TAKEN BY THE BUREAU OF THE CENSUS SINCE 1950

County	Date of census	Population
Florida:		
Bay.....	Jan. 11, 1957	58,322
Broward.....	April 7, 1955	159,052
Dade.....	Oct. 27, 1955	703,777
Leon.....	Jan. 27, 1955	59,179
Okaloosa.....	Sept. 21, 1956	53,014
Palm Beach.....	April 1, 1955	137,086
Indiana:		
Allen.....	Nov. 9, 1956	216,955
New York:		
Nassau.....	April 1, 1957	1,179,091
New York City ²	April 1, 1957	7,795,471
Bronx (Bronx Borough).....	.....	1,424,367
Kings (Brooklyn Borough).....	.....	2,602,433
New York (Manhattan Borough).....	.....	1,794,069
Queens (Queens Borough).....	.....	1,762,582
Richmond (Richmond Borough).....	.....	212,020
Niagara.....	April 1, 1957	319,819
Onondaga.....	April 1, 1957	395,279
Rockland.....	April 1, 1957	113,783
St. Lawrence.....	April 1, 1957	114,176
Suffolk.....	April 1, 1957	528,736
Westchester.....	April 1, 1957	752,406

¹ Includes an estimate for Long Beach city, covered by a special census taken in October 1956.
² Consists of 5 counties.
³ Excludes Lockport city, which had a population of 25,133 on April 1, 1950.

Table G.--CITIES OF 100,000 OR MORE FOR WHICH SPECIAL CENSUSES HAVE BEEN TAKEN BY THE BUREAU OF THE CENSUS SINCE 1950

City	Date of census	Population
Fort Wayne, Ind.....	Nov. 9, 1956	144,879
Fresno, Calif.....	Sept. 23, 1957	122,944
Gary, Ind.....	Aug. 18, 1956	168,884
Glendale, Calif.....	Oct. 22, 1957	114,460
Hemmond, Ind.....	July 10, 1957	108,305
Indianapolis, Ind.....	Oct. 10, 1957	461,654
Los Angeles, Calif. ¹	Feb. 25, 1956	2,243,901
Memphis, Tenn.....	Jan. 31, 1958	488,550
Miami, Fla.....	Oct. 27, 1955	259,035
Mobile, Ala.....	July 18, 1956	173,849
New York, N. Y.....	April 1, 1957	7,795,471
Niagara Falls, N. Y.....	April 1, 1957	101,022
Phoenix, Ariz.....	March 11, 1953	128,841
Sacramento, Calif.....	Aug. 19, 1955	157,182
San Diego, Calif.....	March 30, 1957	494,201
San Jose, Calif.....	Oct. 4, 1956	127,564
South Bend, Ind.....	Sept. 20, 1957	131,770
Syracuse, N. Y.....	April 1, 1957	214,252
Yonkers, N. Y.....	April 1, 1957	178,145

¹ A census was also taken as of September 26, 1953, the count being 2,104,663.

Occasionally, the Bureau of the Census prepares and publishes estimates for selected cities, counties, and standard metropolitan areas. For the most part, the estimates prepared so far have been developed by the Bureau of the Census at the request and expense of other Federal agencies. The Federal Civil Defense Administration sponsored the preparation

of estimates for 1956 for six standard metropolitan areas and their constituent parts, including the Providence, New Orleans, Washington, St. Louis, Milwaukee, and Houston Standard Metropolitan Areas. The figures are shown in Current Population Reports, Series P-25, Nos. 137, 155, and 156. An estimate of the population of the New York-Northeastern New Jersey Standard Metropolitan Area for April 1, 1957, was published in Series P-25, No. 161. The Department of Defense¹³ has sponsored the preparation of current estimates for the metropolitan areas within the Delaware River Service Area and their constituent

¹³ Corps of Engineers (Philadelphia District), Department of the Army.

counties for 1956. The Bureau plans to publish the estimates for these areas (New York-Northeastern New Jersey, Allentown-Bethlehem-Easton, Reading, Trenton, Philadelphia, Atlantic City, and Wilmington) shortly in Current Population Reports, Series P-25.

Information about any programs of population estimates that have been omitted here or a report of any errors in the material in tables 1, 2, and 3 would be welcomed by the Bureau of the Census. Letters should be addressed to Howard G. Brunsman, Chief, Population Division, U. S. Bureau of the Census, Washington 25, D. C.

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Table 1.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY STATE AGENCIES: SURVEY OF 1957-58
(See text for explanation of methods)

State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Alabama.....	Bureau of Business Research University of Alabama University, Alabama (Mr. Henry B. Moore)	Migration and natural increase, Method II.	Counties.....	July 1, 1956	Estimates to be published in <u>Alabama Business</u> .
Arizona.....	Arizona State Employment Service 1720 West Madison Phoenix, Arizona (Mr. James A. Rork)	Migration and natural increase, Method II.	Counties.....	April 1, 1956	Estimates published annually in <u>Basic Economic Data</u> .
	Bureau of Business Services Arizona State College Tempe, Arizona (Mr. Arthur W. Gutenberg)	Censal ratio method using (1) births, (2) deaths, (3) passenger automobile registration, (4) school data, (5) utility data, and (6) voter registration.	Counties.....	Jan. 1, 1957	Estimates published annually in <u>Arizona Business Bulletin</u> .
Arkansas.....	Bureau of Business and Economic Research University of Arkansas Fayetteville, Arkansas (Mr. Merwyn G. Bridenstine)	Censal ratio method using school enrollment data.	Counties.....	July 1, 1957	Estimates published annually in the February issue of <u>Arkansas Business Bulletin</u> .
California.....	Budget Division State Department of Finance Sacramento 14, California (Dr. Carl M. Frisén)	State.--Combination of migration-and-natural-increase methods (Method I, Method II, grade progression) and age-specific death rates method. Counties.--Migration and natural increase, Methods I and II.	State by age..... Counties	July 1, 1957	Estimates published in annual reports of the Department of Finance.
Colorado.....	Records and Statistics Section State Department of Public Health State Office Building Denver 2, Colorado (Dr. Fred W. Beesley)	Counties.--Proration of the Bureau of the Census State estimate by various current series.	State by age..... Counties.....	July 1, 1956 July 1, 1957	Unpublished estimates available upon request.
	Bureau of Business Research University of Colorado Boulder, Colorado (Mr. Paul W. DeGood, Jr.)	Migration and natural increase, Method II.	Counties.....	July 1, 1957	County estimates published in <u>Colorado Basic Data Report</u> , No. 4, Population.
Connecticut.....	Bureau of Vital Statistics State Department of Health State Office Building Hartford 15, Connecticut (Mr. Robert J. Keelm)	Counties and towns.--Migration-and-natural-increase method (age progression), using school census data.	State by age and sex..... Counties and towns.....	July 1, 1955 July 1, 1957	State by age and sex published in <u>State of Connecticut 108th Registration Report, 1955</u> . County and town estimates published annually in <u>Weekly Health Bulletin</u> (latest March 25, 1957).
Delaware.....	Bureau of Vital Statistics State Board of Health Dover, Delaware (Mr. Cecil A. Marshall)	State.--Migration-and-natural-increase method using information on telephone installations. Counties and Wilmington city by race.--Proration of State total estimate by 1950 Census distribution	Counties by race..... Wilmington city by race	July 1, 1957	Unpublished estimates available upon request.
District of Col..	Biostatistics and Health Education Division Department of Public Health Washington 1, D. C. (Mr. Howard West)	Composite method.....	District of Columbia.....	July 1, 1957	
Florida.....	Bureau of Economic and Business Research College of Business Administration University of Florida Gainesville, Florida (Mr. John N. Webb)	Migration and natural increase, Method II.	Counties.....	July 1, 1957	Unpublished estimates available upon request.
Georgia.....	Statistics State Department of Health Atlanta, Georgia (Mr. J. C. Terrell)	State.--Combination involving-- a. Censal ratio using school data, b. Arithmetic projection, c. Natural increase. Counties and cities.--Arithmetic projection	State by age, sex, and race, and urban and rural by race. Counties by race Cities of 2,500 or more by race	July 1, 1957	Estimates published in annual reports of the Department of Health.

Table 1.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY STATE AGENCIES: SURVEY OF 1957-58--Con.
(See text for explanation of methods)

State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Idaho.....	Division of Vital Statistics State Board of Public Health P.O. Box 640 Boise, Idaho (Mr. W. W. Benson)	Natural increase method (unadjusted).	Counties.....	Jan. 1, 1957	Estimates published in <u>Vital Statistics Annual Report.</u>
Illinois.....	Bureau of Statistics State Department of Public Health Springfield, Illinois (Mr. Clyde A. Bridger)	All areas.--Composite method..	State by age and race..... Chicago by age and race Selected counties by race Counties Cities of 10,000 or more	July 1, 1956	Estimates published annually in <u>Health Statistics Bulletin.</u>
Indiana.....	Statistical Research State Board of Health 1330 West Michigan Street Indianapolis, Indiana (Mr. Robert A. Calhoun)	State.--Migration and natural increase, Method II. Counties and cities.--Average of Method II and vital rates method	State by age, sex, and race. Counties Cities of 10,000 or more	July 1, 1956	Estimates published in annual reports of the State Board of Health.
Iowa.....	Division of Vital Statistics State Department of Health Des Moines 19, Iowa (Mr. Clifford L. Pauley)	Migration and natural increase.--Migration estimate based on previous decade, using ratio of total change to natural increase.	Counties..... Cities of 10,000 or more	July 1, 1956	Estimates published in annual reports of the Division of Vital Statistics.
Kansas.....	State Board of Agriculture State House Topeka, Kansas (Mr. Paul James)	Census enumeration by county assessors.	Counties..... Cities	March 1, 1957	Census counts published annually in <u>Report of the Kansas State Board of Agriculture.</u>
Kentucky.....	Division of Statistical Services State Department of Health 620 South Third Street Louisville 2, Kentucky (Mrs. Kathern M. Clay)	Estimates of total population.--Combination involving-- a. Migration and natural increase, Method II, b. Vital rates method. Estimates by race.--Proration of total estimates by 1950 Census data	Counties by race..... Cities of 10,000 or more by race	July 1, 1956	Estimates published annually in <u>Kentucky Vital Statistics Report.</u>
	Department of Rural Sociology University of Kentucky Lexington 29, Kentucky (Mr. Thomas R. Ford)	Migration and natural increase, Method II.	Counties.....	July 1, 1957	Estimates published annually in <u>Population Estimates for Kentucky Counties and Economic Areas.</u>
Louisiana.....	Fabulation and Analysis Section State Department of Health New Orleans 7, Louisiana (Mr. John S. Lemasson)	Natural increase method (unadjusted).	Parishes and cities of 10,000 or more by age, sex, race, and urban-rural areas	July 1, 1957	Estimates published annually in <u>First Quarter Statistical Bulletin.</u>
Maine.....	Division of Vital Statistics State Department of Health and Welfare Augusta, Maine (Mr. Edson K. Labrack)	State.--Migration-and-natural-increase method using school data. Counties.--Combination involving-- a. Vital rates method, b. Arithmetic projection	Counties.....	July 1, 1956	Estimates published annually in reports of State Department of Health and Welfare.
Maryland.....	Division of Vital Records and Statistics State Department of Health 2411 N. Charles Street Baltimore 18, Maryland (Dr. A. W. Hedrich)	Composite method.....	Counties.....	July 1, 1957	Estimates published annually in reports of State Department of Health.
	Bureau of Business and Economic Research University of Maryland College Park, Maryland (Mr. John H. Cover)	Migration and natural increase, Method I.	Counties..... Baltimore city	July 1, 1955	Estimates published in <u>Studies in Business and Economics.</u>
Massachusetts....	Division of Vital Statistics Secretary of the Commonwealth State House Boston, Massachusetts (Mr. Arthur J. Hassett)	Arithmetic projection.....	State by age and sex..... Counties Cities Towns	July 1, 1955	Estimates published in annual vital statistics report.
	Division of the Census Secretary of the Commonwealth State House Boston, Massachusetts (Mr. Edward J. Cronin)	State census enumeration.....	Counties..... Cities Towns Wards Precincts	Jan. 1, 1955	State census taken decennially in years ending in "5." State census counts for 1955 published in <u>The Decennial Census, 1955.</u>

Table 1.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY STATE AGENCIES: SURVEY OF 1957-58--Con.

(See text for explanation of methods)

State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Michigan.....	Statistical Methods Section State Department of Health Lansing 4, Michigan (Miss Doris L. Duxbury)	Counties.--Migration and natural increase, Method II. Cities.--Natural increase method (adjusted to county total)	Counties..... Cities of 2,500 or more	July 1, 1956	Unpublished estimates available upon request.
Minnesota.....	Section of Vital Statistics State Department of Health St. Paul 1, Minnesota (Mr. R. N. Barr)	Migration-and-natural-increase method using school census data (age progression).	Counties.....	April 1, 1957	Estimates published in annual vital statistics report.
Mississippi.....	Division of Sociology and Rural Life Mississippi State College State College, Mississippi (Dr. Harold A. Pedersen)	Migration and natural increase, Method II.	Counties by race.....	July 1, 1956	Estimates published annually as supplement to statistical handbook.
	Bureau of Business Research School of Commerce & Business Administration University, Mississippi (Mr. Clive F. Dunham)	A selected average based on Method II, vital rates, and number of farms.	Counties.....	July 1, 1956	Estimate published annually in <u>Mississippi Business</u> .
Missouri.....	Bureau of Vital Statistics Division of Health of Missouri Jefferson City, Missouri	Combination involving-- a. Geometric projection, b. Natural increase method.	Counties.....	July 1, 1957	Unpublished estimates available upon request.
Montana.....	State Board of Health Helena, Montana (Mr. John C. Wilson)	Censal ratio method using school census data.	Counties.....	July 1, 1956	Unpublished estimates available upon request.
Nebraska.....	Department of Business Research University of Nebraska Lincoln, Nebraska (Mr. Edgar Z. Palmer)	Proration of the Bureau of the Census State estimate using (1) school census data, (2) drivers' licenses, (3) votes cast, (4) draft registration, and (5) vital statistics.	Counties..... Cities	July 1, 1956	Estimates published biennially in <u>Business in Nebraska</u> .
Nevada.....	Division of Vital Statistics State Department of Health Carson City, Nevada (Mr. John J. Sullivan)	Arithmetic projection and proration of the Bureau of the Census State estimate by various current series.	Counties.....	July 1, 1956	Unpublished estimates available upon request.
New Hampshire....	State Planning and Development Commission Concord, New Hampshire (Mr. Paul Hendrick)	Combination involving-- a. School census data, b. "Head tax" data, c. Bureau of the Census State estimate.	Counties..... Cities Towns	July 1, 1956	Published in <u>New Hampshire-Local Population Estimates: 1956</u> .
	Economic Analysis and Reporting Section State Department of Employment Security Concord, New Hampshire (Mr. William J. Roy)	Combination involving-- a. Natural increase, b. Elementary school data, c. "Head tax" data.	Counties..... Cities and towns of 2,500 or more	April 1, 1957	Published annually in newsletter, <u>Employment and Unemployment in New Hampshire</u> .
New Jersey.....	Division of Vital Statistics State Department of Health Trenton 7, New Jersey (Mrs. Marguerite F. Hall)	Total estimates by natural increase method. Age estimates by proration	State by age..... Counties Major cities	July 1, 1957	Unpublished data available upon request.
	Research and Statistics Section Department of Conservation and Economic Development Trenton 7, New Jersey (Mrs. Gladys W. Ellsworth)	Censal ratio method using natural increase and dwelling unit data.	Counties..... Minor civil divisions	July 1, 1956	Estimates published annually in <u>New Jersey Population Estimates</u> .
New Mexico.....	Division of Vital Statistics Department of Public Health Santa Fe, New Mexico (Mrs. Audrey Immel)	Natural increase method.....	State by age, sex, and race.	July 1, 1957	Published in <u>People in New Mexico</u> . Estimates for counties and cities in preparation.
	Bureau of Business Research University of New Mexico Albuquerque, New Mexico (Mr. Ralph L. Edgel)	Combination involving-- a. Censal ratio method using school data, births, and deaths, b. Natural increase method.	Counties.....	April 1, 1956	Estimates published annually in <u>Business Information Series</u> .
New York.....	Office of Vital Statistics Department of Health Albany 8, New York (Dr. Joseph V. DePorte)	Upstate counties.--Migration-and-natural-increase method using 1940-1950 migration trends. Counties in New York metropolitan area.--Largely dwelling unit method	State by age and sex..... New York City by age and sex Counties Cities of 10,000 or more Villages of 10,000 or more	July 1, 1957	Estimates published annually in <u>Monthly Vital Statistics Review</u> .

Table 1.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY STATE AGENCIES: SURVEY OF 1957-58--Con.

(See text for explanation of methods)

State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
North Carolina...	Public Health Statistics Section State Board of Health Raleigh, North Carolina (Mr. Charles R. Council)	Arithmetic projection.....	Counties by race..... Cities of 10,000 by race	July 1, 1957	Estimates published in annual vital statistics report.
North Dakota.....	.....	.....	.....	.....	No estimates reported.
Ohio.....	Division of Vital Statistics Department of Health 306 Ohio Departments Building Columbus 15, Ohio (Mr. W. H. Veigel)	Migration-and-natural-increase method using migration estimates from Ohio Estimate Project (see below).	State by age, sex, and race. Counties Cities of 5,000 or more	Jan. 1, 1957	Estimates prepared as of January 1 and July 1 of each year and published in annual statistical report.
	Ohio Estimate Project State Department of Liquor Control Columbus 15, Ohio (Mr. William C. Bryant)	Migration and natural increase, Method II.	Counties..... Municipal corporations	April 1, 1956	Estimates prepared in 1956 only and published in <u>Population Changes in Ohio Counties and Municipal Corporations, 1950-1956.</u>
Oklahoma.....	Division of Statistics State Department of Health Oklahoma City 5, Oklahoma (Mrs. Margaret F. Shackelford)	State, counties, Oklahoma City, and Tulsa.--Combination involving-- a. Migration and natural increase, Method II (modified), b. Vital rates method. Cities.--Arithmetic projection	Counties by race..... Oklahoma City by race Tulsa by race Cities of 2,500 or more, by race	July 1, 1956	Published annually in <u>Public Health Statistics for Oklahoma, Part II.</u>
	Oklahoma Public Welfare Commission Department of Public Welfare Capitol Office Building Oklahoma City, Oklahoma (Mr. L. E. Rader)	Migration-and-natural-increase method using school census data and old age assistance and insurance data.	Counties by age.....	April 1, 1955	Estimates prepared for 1955 only. Unpublished figures available upon request.
	Bureau of Business Research University of Oklahoma Norman, Oklahoma (Mr. Niel J. Dikeman, Jr.)	State and counties.--Migration and natural increase, Method II (modified). Cities.--Censal ratio method using gas meter data	Counties..... Cities	April 1, 1957	Estimates published annually in special reports of the Bureau of Business Research.
Oregon.....	State Board of Health State Office Building 1400 S. W. 5th Avenue Portland 1, Oregon (Mr. Deane L. Huxtable, State Registrar)	Migration and natural increase, Method I.	Counties..... Cities	July 1, 1957	Estimates published annually in the <u>Oregon Health Bulletin.</u>
	State Board of Census State Office Building 1400 S. W. 5th Avenue Portland 1, Oregon (Mr. Deane L. Huxtable, Executive Secretary)	Census enumerations and estimates by censal ratio method using various current series.	Cities..... Towns	Apr. 15, 1957	Certified list of population enumerations and estimates published annually. The recently established State Board of Census will assume most demographic work in the future.
Pennsylvania.....	State Planning Board Governor's Office Harrisburg, Pennsylvania (Mr. Henry Van Loon)	Migration-and-natural-increase method using school census data.	Counties.....	Jan. 1, 1956	Unpublished estimates available upon request.
Rhode Island.....	.....	.....	.....	.....	No estimates reported.
South Carolina...	State Board of Health Columbia 1, South Carolina (Mr. Thomas P. Lesesne)	Natural increase method.....	State by age and race..... Counties by age and race Cities of 10,000 or more by age and race	Jan. 1, 1957	Published annually in the statistical supplement to the <u>Annual Report of the State Board of Health.</u>
South Dakota.....	Division of Public Health Statistics State Department of Health Pierre, South Dakota (Mr. R. R. Tuffs)	Migration and natural increase, Method II.	Counties.....	July 1, 1956	Estimates prepared annually and available upon request.
Tennessee.....	Statistical Service State Department of Public Health Nashville 3, Tennessee (Miss Anne Dillon)	Arithmetic projection.....	Counties by race..... Cities of 10,000 or more by race	July 1, 1957	Estimates published annually in <u>Vital Statistics Bulletin.</u>
	Bureau of Business and Economic Research University of Tennessee Knoxville, Tennessee (Mr. Ormond C. Corry)	Migration and natural increase, Method II.	Counties..... Cities	July 1, 1956	Estimates published in reports of the Bureau of Business Research.

Table 1.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY STATE AGENCIES: SURVEY OF 1957-58--Con.

(See text for explanation of methods)

State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Texas.....	Bureau of Vital Statistics State Department of Health Austin 1, Texas (Mr. W. D. Carroll)	Proration of the Bureau of the Census State estimate by 1950 distribution.	State by age, sex, and race.	July 1, 1956	Estimates available upon request.
	Texas Employment Commission Austin, Texas (Mr. Robert C. Barleson)	Censal ratio method using school census data.	Counties.....	Sept. 1, 1956	Estimates prepared annually and available upon request.
Utah.....	Bureau of Records and Statistics State Department of Health Salt Lake City, Utah (Mr. John W. Wright)	Natural increase method (unadjusted).	Counties..... Salt Lake City	July 1, 1956	Unpublished estimates available upon request.
	The Industrial Commission of Utah Department of Employment Security Salt Lake City 10, Utah (Mr. Fred F. Dremann)	Censal ratio method using labor force data.	Counties.....	July 1, 1955	Estimates are prepared annually and published in reports of the Department of Employment Security.
	Bureau of Economic and Business Research College of Business University of Utah Salt Lake City, Utah	Combination of methods including a complete enumeration of the population of some areas taken as part of the school census.	Counties.....	Jan. 1, 1957	Published in <u>Utah Economic and Business Review</u> , May 1957.
Vermont.....	.....	.....	.....	.....	No estimates reported.
Virginia.....	Bureau of Population and Economic Research University of Virginia Charlottesville, Virginia (Dr. Lorin A. Thompson)	Migration and natural increase, Method II.	Counties by race..... Cities by race	July 1, 1957	Estimates prepared annually and available upon request.
Washington.....	State Department of Health 214 General Administration Building Olympia, Washington (Mr. George H. Orarod)	State.--Migration-and-natural-increase method. Counties.--Censal ratio method using city and town estimates prepared by the Washington State Census Board	Counties..... Cities of 2,500 or more	July 1, 1957	Estimates prepared annually and available upon request.
	Washington State Census Board Seattle, Washington (Dr. Calvin F. Schmid)	Most cities and towns under 1,000.--Actual enumeration. Other cities and towns.--Dwelling unit method	Cities..... Towns	April 1, 1957	Estimates published in special reports of the State Census Board.
West Virginia....	Division of Vital Statistics State Department of Health Charleston 5, West Virginia (Mr. Harry M. Huff)	Proration of the Bureau of the Census State estimate by 1950 distribution.	Counties.....	July 1, 1956	Unpublished estimates available upon request.
	Department of Agricultural Economics and Rural Sociology West Virginia University Morgantown, West Virginia (Mr. Leonard M. Sizer)	Migration and natural increase, Method II.	Counties.....	July 1, 1955	Estimates published in <u>Population Change in West Virginia, 1900-1955</u> , Bulletin 401.
Wisconsin.....	Statistical Services Division State Board of Health Madison 2, Wisconsin (Mr. Edwin A. Bathke)	Proration of the Bureau of the Census State estimate by a current series.	Counties by urban and rural and for population 65 years old and over. Large cities	July 1, 1956	Estimates published annually in <u>Public Health Statistics</u> .
	Department of Rural Sociology University of Wisconsin Madison, Wisconsin (Dr. Douglas G. Marshall)	Migration and natural increase, Method II.	Counties.....	Jan. 1, 1957	Published in <u>Population Estimates for Wisconsin Counties, 1957</u> .
Wyoming.....	Division of Business and Economic Research College of Commerce and Industry University of Wyoming Laramie, Wyoming (Mr. Floyd K. Harmston)	Some areas based on a sample survey, others based on employment and vital statistics data.	Selected counties and cities by age, sex, and race.	July 1, 1956	Estimates made at different times for different areas. Figures available upon request.

Table 2.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY GOVERNMENT AGENCIES IN OUTLYING AREAS: SURVEY OF 1957-58

(See text for explanation of methods)

Area	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Alaska.....	Bureau of Vital Statistics Alaska Department of Health Juneau, Alaska (Mr. Francis E. Kester)	Migration-and-natural-increase method using reported migration data.	Territory of Alaska.....	July 1, 1957	Estimates published annually in <u>Estimates of Alaska Population: July 1, , to June 30,</u>
Hawaii.....	Bureau of Health Statistics Hawaii Department of Health Honolulu, Hawaii (Mr. Charles G. Bennett)	Migration-and-natural-increase method using reported migration data.	Territory of Hawaii..... Counties Islands Cities of Honolulu and Hilo	Jan. 1, 1958	Estimates published semi-annually as of January 1 and July 1 of each year.
Puerto Rico.....	Population Estimates Section Bureau of Demographic Health and Statistics Department of Health San Juan, Puerto Rico (Mr. José L. Vázquez)	<u>Puerto Rico</u> --Migration-and-natural-increase method using reported migration data. <u>Municipalities</u> --Vital rates method	Puerto Rico by age and sex.. Municipalities.....	July 1, 1956 July 1, 1955	Estimates of total and civilian population of Puerto Rico prepared monthly. Estimates by age and sex for Puerto Rico prepared quarterly. Estimates for municipalities prepared annually as of July. All estimates available upon request.
Virgin Islands of the U. S.	Vital Statistics Division Department of Health Charlotte Amalie, St. Thomas Virgin Islands of the United States (Miss Bertha Boschulte)	Migration-and-natural-increase method using arbitrary allowances for migration.	Virgin Islands, urban and rural. Islands Cities of Charlotte Amalie, Christiansted, and Frederiksted	July 1, 1957	Estimates prepared annually and available upon request.
American Samoa...	Director of Local Government Government of American Samoa Pago Pago, American Samoa (Mr. John Cole Cool)	Census.....	American Samoa by age, sex, and race. Districts, counties, and villages	Sept. 25, 1956	Data published in <u>Census of American Samoa, September 25, 1956.</u>
Canal Zone.....	American Embassy, Panama	Census taken by the police....	Canal Zone by nationality and sex. Court districts by minor geographic divisions	November 1954	Civilian population only.
Guam.....	Office of the Chief Commissioner Government of Guam Agana, Guam (Mr. V. U. Zafra)	Population register.....	Guam by age and sex..... Districts	June 30, 1957	Figures exclude military personnel, their dependents, and other civilians residing in "military areas."

Table 3.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY MUNICIPAL AGENCIES IN CITIES OF 250,000 INHABITANTS OR MORE: SURVEY OF 1957-58

(The 41 cities having 250,000 inhabitants or more in 1950 are included. Estimates for some of these cities may also be obtained from State agencies listed in table 1. See text for explanation of methods)

City and State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Akron, Ohio.....	City Planning Commission 605 Municipal Building Akron, Ohio (Mr. Richard Massell)	Dwelling unit method.....	Akron city by census tracts. Summit County by municipalities	Nov. 1, 1956	Estimates prepared jointly with the Bureau of Research, Akron Chamber of Commerce. Figures available upon request.
Atlanta, Ga.....	Metropolitan Planning Commission 808 Glem Building Atlanta, Georgia (Mr. Robert C. Stuart)	Total area.--Migration and natural increase, Method II. Counties, municipalities, and census tracts.--Dwelling unit method.	Atlanta Standard Metropolitan Area by county and race. De Kalb and Fulton Counties by municipality.	April 1, 1955	Estimates published in Population-Housing, 1950-1955, De Kalb-Fulton Metropolitan Area.
Baltimore, Md....	Statistical Section City Health Department Baltimore, Maryland (Mr. Todd M. Frazier)	Migration and natural increase, Method II.	Baltimore city by age and race. Census tracts.....	July 1, 1957 July 1, 1956	Estimates prepared annually for the city, biennially for tracts. Published in Quarterly Statistical Report.
Birmingham, Ala..	.....	.....	.....	.....	No estimates reported.
Boston, Mass.....	.....	.....	.....	.....	No estimates reported.
Buffalo, N. Y....	.....	.....	.....	.....	No estimates reported.
Chicago, Ill.....	Chicago Plan Commission Room 1006, City Hall Chicago 2, Illinois	Composite method.....	Chicago city by age and race	July 1, 1956	Estimates published annually.
Cincinnati, Ohio.	.....	.....	.....	.....	Estimates for Cincinnati and surrounding area prepared by the Research Department, Community Health and Welfare Council, 312 West 9th Street, Cincinnati 2, Ohio.
Cleveland, Ohio..	.....	.....	.....	.....	Estimates for the incorporated areas of Cuyahoga County prepared by Real Property Inventory of Metropolitan Cleveland, 1001 Huron Road, Cleveland 15, Ohio.
Columbus, Ohio...	.....	.....	.....	.....	No estimate reported.
Dallas, Texas....	Department of City Planning City of Dallas Dallas, Texas (Mr. Marvin R. Springer)	Dwelling unit method..... Migration-and-natural-increase method using school census, and field surveys.	Dallas city and Dallas County. Dallas County by incorporated and unincorporated areas.	Jan. 1, 1958 July 1, 1955	These estimates prepared in cooperation with the Chamber of Commerce. Estimates published in Urbanization-Dallas Metropolitan Area.
Denver, Colo.....	Planning and Land Office City and County Building Denver 2, Colorado (Mr. George Nez)	Urban area.--Censal ratio method using employment data. Census tracts and other subdivisions.--Dwelling unit method.	Urban area by incorporated communities and by census tracts.	April 1, 1956	Unpublished estimates available upon request.
Detroit, Mich....	City Plan Commission 400 Woodward Avenue Detroit 26, Michigan (Mr. Charles A. Blessing)	Dwelling unit method.....	Detroit city by census tracts.	July 1, 1956	Unpublished estimates available upon request.
	Detroit Metropolitan Area Regional Planning Commission 1002 Cadillac Square Building Detroit 26, Michigan (Mr. Paul M. Reid)	Dwelling unit method.....	Detroit Standard Metropolitan Area by communities.	July 1, 1954	Estimates published annually in Population Estimates.
Fort Worth, Texas	Fort Worth Water Department Fort Worth, Texas (Mr. Uel Stephens)	Dwelling unit method using water meter data.	Area served by the Water Department, most of which is within corporate limits of Fort Worth.	Dec. 31, 1957	Estimates available upon request.
Houston, Texas...	Department of City Planning City of Houston Houston, Texas (Mr. Ralph S. Ellifrit)	Houston city and Harris County.--Arithmetic projection. Census tracts.--Combination involving arithmetic projection and censal ratio method using school census data.	Houston city and Harris County. Urban area of Harris County by tracts	Jan. 1, 1958	Estimates prepared in cooperation with Houston Chamber of Commerce, Commerce Building, Houston 1, Texas.

Table 3.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY MUNICIPAL AGENCIES IN CITIES OF 250,000 INHABITANTS OR MORE: SURVEY OF 1957-58--Con.

(The 41 cities having 250,000 inhabitants or more in 1950 are included. Estimates for some of these cities may also be obtained from State agencies listed in table 1. See text for explanation of methods.)

City and State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Indianapolis, Ind.	Metropolitan Planning Department Room 405, City Hall Indianapolis 4, Indiana (Mr. Michael F. Foster)	Census tracts and towns.-- Dwelling unit method.	Marion County by census tracts and towns.	July 1, 1955	Unpublished estimates available upon request.
		Townships.--Censal ratio method using school data.	Selected counties in Indianapolis area by township.	July 1, 1956	Also, special census available: See U. S. Bureau of the Census, <u>Current Population Reports</u> , Series P-28, No. 1170.
Jersey City, N. J.	.....	.....	.....	.....	No estimates reported.
Kansas City, Mo.	City Plan Commission City Hall Kansas City 6, Missouri (Miss Frances I. Gaw)	Dwelling unit method.....	Kansas Standard Metropolitan Area plus Platte County.	Jan. 1, 1958	Estimates available upon request.
		.....	Incorporated and unincorporated areas, townships, and communities.	Jan. 1, 1957	.....
Long Beach, Calif.	.....	.....	.....	.....	See entries for Los Angeles.
Los Angeles, Calif.	City Administrative Officer 120 City Hall Los Angeles 12, California (Mr. Samuel Leask, Jr.)	Combination involving-- a. Dwelling unit method using building permits and electric meter data, b. Censal ratio method using school data.	Los Angeles city by communities.	Jan. 1, 1958	Estimates prepared quarterly and published in <u>Population Estimates</u> . Estimates prepared by City Planning Department based on data furnished by following departments: Building and Safety, Public Works, Water and Power, Health, and Education. Also, special census available: See U. S. Bureau of the Census, <u>Current Population Reports</u> , Series P-28, Nos. 603 and 887.
		Dwelling unit method.....	Los Angeles County by incorporated and unincorporated areas; Los Angeles city. Los Angeles County--cities; unincorporated area by statistical areas and census tracts.	Oct. 1, 1957 Jan. 1, 1958	Estimates published in reports of the Regional Planning Commission.
Louisville, Ky...	Division of Vital Statistics Department of Public Health 249 East Madison Street Louisville 2, Kentucky (Mr. Irving H. Levy)	Migration-and-natural-increase method using school census data (age progression).	Louisville city and Jefferson County exclusive of Louisville, by race.	July 1, 1957	Prepared annually in cooperation with the Population Committee, Louisville Chamber of Commerce.
Memphis, Tenn....	Memphis and Shelby County Health Department 879 Madison Avenue Memphis 3, Tennessee (Mr. Marvin F. Carter)	Arithmetic projection.....	Memphis city by race and by census tracts. Shelby County by race	July 1, 1957	Estimates published annually in reports of the Health Department. Also, results of special census of January 31, 1958, to become available in: U. S. Bureau of the Census, <u>Current Population Reports</u> , Series P-28.
Milwaukee, Wis...	Health Department 200 East Wells Street Milwaukee 2, Wisconsin (Mr. E. R. Krumbiegel)	Migration-and-natural-increase method.	Milwaukee city by race.....	July 1, 1957	Estimates prepared annually and available upon request.
Minneapolis, Minn.	City Planning Commission 339 City Hall Minneapolis 15, Minnesota (Mr. Ralph O. Quiggle)	Dwelling unit method.....	Minneapolis city by census tracts.	Jan. 1, 1958	Estimates available upon request. Estimates for Minneapolis-St. Paul area for 1956 and for Hennepin County by minor divisions also available.
Newark, N. J.....	.....	.....	.....	.....	No estimates reported.
New Orleans, La..	.....	.....	.....	.....	No estimates reported.
New York, N. Y...	Statistical Division Department of Health City of New York 125 Worth Street New York 13, New York (Mr. Louis Weiner)	Boroughs.--Dwelling unit method.	New York City by boroughs and health center districts.	July 1, 1957	Estimates published annually in <u>Summary of Vital Statistics</u> . The borough estimates actually prepared by the Consolidated Edison Company of New York.
		Health center districts.--Proportion of "meter districts" by a current series	.....	.....	.....
	Department of City Planning City of New York Municipal Building New York, New York (Mr. John J. Bennett)	Combination involving-- a. Vital rates method, b. Dwelling unit method, c. Migration-and-natural-increase method.	New York City by age and race. Boroughs by race	July 1, 1957	Estimates published in the <u>Bulletin</u> . Also, special census available: See U. S. Bureau of the Census, <u>Current Population Reports</u> , Series P-28, Nos. 1055, 1073 Rev., and 1155-1159.
Oakland, Calif...	City Planning Commission City of Oakland Oakland, California (Mr. Corwin R. Moccine)	Migration-and-natural-increase method.	Oakland city by age and sex.	April 1, 1955	.....

Table 3.--DESCRIPTION OF POPULATION ESTIMATES PREPARED BY MUNICIPAL AGENCIES IN CITIES OF 250,000 INHABITANTS OR MORE: SURVEY OF 1957-58--Con.

(The 41 cities having 250,000 inhabitants or more in 1950 are included. Estimates for some of these cities may also be obtained from State agencies listed in table 1. See text for explanation of methods)

City and State	Name and address of agency making estimates	Method used	Areas and groups for which estimates were prepared	Date of latest estimates	Remarks
Omaha, Nebr.....	Division of Vital Statistics Omaha-Douglas County Health Department 1201 South 42nd Street Omaha, Nebraska (Miss Virginia Jackson)	Natural increase method.....	Omaha city and Douglas County exclusive of Omaha.	Feb. 1, 1957	Estimates published in annual reports of the Omaha-Douglas County Health Department.
	City Planner Office City Hall Omaha, Nebraska	Dwelling unit method.....	Omaha Standard Metropolitan Area.	Jan. 1, 1957	Estimates prepared annually.
Philadelphia, Pa.	Planning Analysis Section City Planning Commission Penn Square Building Philadelphia 7, Pennsylvania (Mr. Harlin G. Loomer)	Dwelling unit method.....	Philadelphia city by tracts and wards.	April 1, 1955	Estimates prepared annually and published in bulletins of the City Planning Commission.
	Office of Statistics and Research Department of Public Health City of Philadelphia City Hall Annex Philadelphia 7, Pennsylvania (Dr. F. Herbert Colwell)	Combination involving-- a. Composite method, b. Vital rates method, c. Dwelling unit method, d. Arithmetic projection.	Philadelphia city by age, sex, and race. Health districts by race	July 1, 1956	Estimates published annually in statistical report of the Health Department.
Pittsburgh, Pa...	.....	.....	.....	.....	No estimates reported.
Portland, Oreg...	Portland City Planning Commission 414 City Hall Portland 4, Oregon (Mr. Lloyd T. Keefe)	Censal ratio method.....	Portland city, urban area, and standard metropolitan area.	July 1, 1955	Estimates published in <u>Population Growth: A 1975 Population Forecast for the Portland Area based on Expected Growth in the Pacific Northwest.</u>
Rochester, N. Y. ....	.....	.....	.....	.....	No estimates reported.
St. Louis, Mo....	City Planning Commission of St. Louis Civil Courts Building St. Louis 1, Missouri (Mr. Charles W. Hanke)	Combination involving-- a. Migration and natural increase, Method II, b. Dwelling unit method, c. Vital rates method.	St. Louis city..... St. Louis Standard Metropolitan Area by county	Jan. 1, 1956	Estimates prepared biennially in cooperation with the Metropolitan Census Committee. Estimates available upon request.
	Bureau of Vital Statistics Division of Health Department of Public Welfare St. Louis 3, Missouri (Mr. Kurt Gorwitz)	Vital rates method.....	St. Louis city by age, sex, and race. Health districts by race	July 1, 1956	Estimates prepared annually and available upon request.
St. Paul, Minn....	.....	.....	.....	.....	No estimates reported.
San Antonio, Texas.	Office of the Director of Planning City of San Antonio San Antonio, Texas (Mr. M. Winston Martin)	Migration-and-natural-increase method.	San Antonio city.....	Jan. 1, 1957	Estimates available upon request. Estimates for 1955 also available from special study made in connection with San Antonio Metropolitan Area Traffic Survey.
San Diego, Calif. ....	.....	.....	.....	.....	No estimates reported.
San Francisco, Calif.	Bureau of Records and Statistics Department of Public Health 101 Grove Street San Francisco 2, California (Miss Mildred Holota)	Arithmetic projection.....	San Francisco city by age, sex, and color.	July 1, 1955	Estimates available upon request.
Seattle, Wash....	City of Seattle Planning Commission 503 County-City Building Seattle 4, Washington (Mr. John D. Spaeth)	Dwelling unit method.....	Seattle Standard Metropolitan Area by census tracts.	April 1, 1957	Estimates prepared annually and available upon request.
Toledo, Ohio.....	Bureau of Vital Statistics Board of Health 635 N. Erie Street Toledo, Ohio (Mr. Carl J. Heisser)	Natural increase (unadjusted) plus annexations.	Toledo city by race and by census tracts.	July 1, 1956	Estimates available upon request.
Washington, D. C.	Biostatistics and Health Education Division Department of Public Health Washington 1, D. C. (Mr. Howard West)	Composite method.....	Washington, D. C.....	July 1, 1957	