STATUS OF RESEARCH ON METHODS OF ESTIMATING STATE AND LOCAL POPULATION*

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This paper is a progress report on selected phases of the present status of research on methods of estimating State and local population, especially the work being done at the Census Bureau. This paper does not propose any new methods of estimation or present the results of any major new series of tests of methods of estimating population. At this date, it is possible to make only very preliminary comparisons on the basis of the 1960 population. Some such preliminary comparisons are described in this paper.

State Estimates

During the last decade the Census Bureau conducted systematic tests of selected methods of estimating State population using the 1950 Census counts and estimates for 1943 based on registrations for war ration books as standards of comparison. 1/ The methods tested included two mathematical methods, the Census Bureau's component Methods I and II, the vital rates method, and two variations of the composite method. (A brief outline of several methods is given below.) Component Method II gave consistently superior results in these tests, although its leads over the vital rates method, the composite methods, and averages of Method II and vital rates and of Method II and Method I were small. As you may recall, Method II calls for estimating net migration for States from the net migration of school-age children, which is, in turn, developed from data on school enrollment. In the composite methods the estimate of total population is obtained by combining estimates by age computed by using different indicators, such as school enrollment, births, and deaths.

A comparison of the preliminary census counts for States and provisional postcensal estimates for 1959 projected to April 1, 1960 provides a rough basis for measuring the adequacy of the present method of estimating State population used by the Census Bureau. Inasmuch as component Method II was used without modification for nearly all States (43), the comparison also serves as a rough basis of evaluating Method II for States. The average percent error over all States (including District of Columbia) was 2.8 percent. The estimates for only three States (Alaska, Hawaii, and West Virginia) and the District of Columbia were in error by more than 5 percent. (If the States for which the estimates were not based on Method II are omitted, the error drops to 2.2 percent.) The average error for Method II alone computed for the 48 States and the District of Columbia is 2.6 percent. These figures imply a substantial improvement over the experience of 1950, when the Census Bureau's Method II test estimates for States differed from the final census counts by an average of 3.5 percent. 2/

A program of systematic evaluation of various estimating procedures for States against the 1960 Census is planned by the Census Bureau in 1961 and 1962. The present plans call for testing the following methods and appropriate combinations of them: component Method II, vital rates method, Bogue-Duncan variation of the composite method, component Method I, the Census Bureau variation of the composite method, and the age-or grade-progression method, insofar as possible. For the most part, the previous tests provided specific guidance as to the methods which should be covered in the forthcoming tests.

For the purpose of these tests, the Bogue-Duncan variation of the composite method as originally described by the authors has been simplified by limiting the detail to only five age groups by color (except the school-age group). The Census Bureau variation of the composite method modifies the procedures and indicators used for the various age groups so as to take account of the fact that in the previous test for States, Method II showed a much smaller error for ages 18-44 than the fertility ratio procedure. In these tests Method II showed approximately the same average error as the death rate procedure at ages 45-64 and a substantially greater error at ages 65 and over. 3/ Hence, in the variation proposed for testing, Method II-type computations are to be employed at the three age groups under 45 and the death rate procedure for the two age groups over 45.

County and City Estimates

Recent changes have altered strikingly the situation and prospects with respect to the

*/ The writer wishes to acknowledge the technical assistance of Donald S. Akers, of the Bureau of the Census.

1/ J. S. Siegel, Henry S. Shryock, Jr., and Benjamin Greenberg, "Accuracy of Postcensal Estimates of Population for States and Cities, "American Sociological Review, Vol. 19, No. 4, August 1954, pp. 440-446; Henry S. Shryock, Jr., J. S. Siegel, and Benjamin Greenberg, "Current Research on Population Estimates for States and Local Areas," unpublished paper read at the 1957 Annual Meeting of the Population Association of America, Philadelphia, May 4, 1957.

2/ Siegel, Shryock, and Greenberg, "Accuracy of Postcensal Estimates of Population for States and Cities," op.cit.

3/ Shryock, Siegel, and Greenberg, "Current Research on Population Estimates for States and Local Areas," op.cit.

BRIEF OUTLINE OF METHODS BEING TESTED FOR STATES OR COUNTIES IN 1960

Method	Estimating procedure	Basic indicator
1. Census Bureau Method II	Component method: For migration, school-cohort procedure comparing expected population, based on previous census plus births, with actual population.	For migration: school data
2. Census Bureau Method I	Component method: For migration, change in local school-age population compared with change in national school-age population.	For migration: school data
3. Vital rates method	Censal ratio (birth rate and death rate)	Births and deaths
4. Composite method: Bogue-Duncan variation	Censal ratio by age	--
Age group		
0-4	Ratio of children under 5 to women 18-44	Births
5-17	School enrollment ratio	School data
18-44	Fertility ratio (births to women) and sex ratio)	Births
45-64	Death rate	Deaths
65 and over	Death rate	Deaths
5. Composite method: Census Bureau variation		
Age group		
0-4	Component Method II	School data
5-17	Component Method II	School data
18-44	Component Method II	School data
45-64	Censal ratio (death rate)	Deaths
65 and over	Censal ratio (death rate)	Deaths
6. Age or grade progression method a/	Component method: one-year school-age or grade "survival" rate for migration	For migration: school data
7. Censal ratio method using school data b/	Censal ratio	School data

a/ States only.

b/ Counties only.

availability of adequate current estimates of county population. Surveys conducted by the Census Bureau in 1955, 1957-58, and 1960 provided information on whether any State agencies prepared and published sets of estimates for the counties in their States, how frequently, and by what method. 4/ (These surveys also covered estimates of city population made by State agencies and city agencies in cities of 250,000 and over.) Over this period, there has been a substantial increase in the number of States for which county estimates are prepared, and a notable shift from the use of the less adequate methods to the more adequate ones. Now nearly all States prepare some type of county estimates (47), most of them by a component or censal ratio method. 5/

One factor in this shift is the larger role of the Census Bureau, including the publication of a report giving detailed instructions on the application of component Method II, increasing direct assistance to the States in their estimate work, the conduct of tests of the accuracy of various methods, and the conduct and publication of periodic inventories of the estimates work of State and city agencies. Other Federal agencies, in particular the National Office of Vital Statistics and the Bureau of Employment Security, have played a complementary role. These agencies have republished descriptions of recommended methods of making local population estimates;6/ and the National Office of Vital Statistics has regularly sponsored a working or study group on population estimates in its Conferences on Records and Statistics.

Another factor is the increasing recognition on the part of State governments of the need for adequate current estimates of county population and their organizing to fill this need. State population estimates committees have been organized in a number of States, among them Florida, Oklahoma, New Hampshire, and Utah. These bring together representatives of the State agencies which produce the basic data and those which are the principal consumers of estimates, as well as research technicians in the State universities, in order to exchange information, agree on the scope of the estimates program and the methodology to be used, and assign responsibility for preparing the estimates. Population studies have been given an official status in the State government in California, Oregon, Washington, and also the District of Columbia. In most of the remaining States, State Departments of Health or University Bureaus of Business Research have assumed the responsibility for preparing the county estimates. Recent legislative changes in California have given a considerable impetus to the research on, and preparation of, estimates for cities using the dwelling unit method since estimates of this kind are now acceptable in lieu of special censuses in establishing population size for the allocation of State tax funds.

No extensive test of methods of estimating county and city populations has been carried out, but several limited tests have been conducted, mostly on the basis of the 1950 Census. Among these mention can be made of the National Office of Vital Statistics' test of Method II for West Virginia counties, Schmitt's test of short-cut methods of estimating county population in Washington State, the Pennsylvania Bureau of Statistics' test of short-cut methods for Pennsylvania counties, the University of Chicago's test of the composite method in 15 urban places in Illinois, Frisén's test of the dwelling unit method in 51 California cities, and the Census Bureau's tests of several methods of estimating the population of cities of 100,000 and over and of metropolitan counties and standard metropolitan statistical areas with central cities of 250,000 or more. 7/ It was on the basis of the latter tests that the Census Bureau has been

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4/ U.S. Bureau of the Census, Current Population Reports, Series P-25, No. 178, "Local Population Estimates Prepared by State and City Agencies: 1957-58", June 27, 1958; Current Population Reports, Series P-25, No. 116, "Current Status of Population Estimates Prepared by State Agencies," June 6, 1955; and unpublished records of U. S. Bureau of the Census.

5/ An important use made of these estimates in the late fifties was their adoption by the Federal Bureau of Investigation in computing crime rates for Uniform Crime Reports-1958 in place of 1950 Census figures. Another was their use by the Census Bureau in preparing the population estimates required for planning the field organization of the 1960 Census. For this purpose it was deemed desirable to replace the available estimates for several States, from State agencies, by other estimates. Accordingly, rough estimates prepared in the Census Bureau by the vital rates method were substituted in these cases.

6/ National Office of Vital Statistics, "A Composite Method for Estimating Postcensal Population of Small Areas by Age, Sex, and Color, Vital Statistics-Special Reports, Vol. 47, No. 6, August 24, 1959; Bureau of Employment Security, Handbook of Estimating Population of Labor Market Areas, November 1959.

7/ National Office of Vital Statistics, "Study of Population Estimates Made for Each County in West Virginia, as of April 1, 1950," processed, 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. Robert C. Schmitt, "Short Cut Methods of Estimating County Population", Journal of the American Statistical Association, June 1952, Vol. 47, pp.232-238. Pennsylvania Bureau of Statistics, Population Statistics,

recommending the use of an average of Method II and the vital rates method for estimating city and county populations.

It is already possible to make a rough evaluation of the accuracy of the estimates for counties prepared by State agencies in recent years. Comparisons were carried out between preliminary census counts for counties and extrapolations to 1960 of the latest available estimates by State agencies, mostly for 1958 and 1959. More appropriate comparisons can be made next year or the following year when postcensal estimates for 1960 can be prepared. Although different methods are used for different areas and the present estimates are subject to substantial modification, the results are suggestive. They suggest that relatively smaller errors tend to occur with the composite and component methods than with the censal ratio methods, including the vital rates method. For New Hampshire, where school census data are combined with data from head tax counts, the average error for counties was only 4 percent. Composite estimates in Maryland and Wisconsin also had average errors of 4 percent. Average errors ranged from 4 to 8 percent for Indiana, Ohio, Oklahoma, and Florida, where an average of Method II and the vital rates method was employed. When the vital rates method was the sole basis of estimation, as in Louisiana, Mississippi, and Montana, the average errors extended from 7 percent to over 15 percent. Often the average error for a State is markedly increased because a few small counties have extremely large percentage errors. Hence, the average error weighted in relation to the population of the counties is usually smaller; and it may be considerably smaller. For example, on this basis, the error for California counties drops from 9 percent to 5 percent.

A program of evaluating methods of estimating county population has been undertaken by the Study Group on Postcensal Population Estimates, one of several working groups sponsored by the Public Health Conference on Records and Statistics, of the National Office of Vital Statistics. The work of the members of this group and of several other technicians from State agencies cooperating in this program is being coordinated by the Population Estimates and Projections Branch of the Bureau of the Census. The Study Group includes representatives of four States--Pennsylvania, Montana, Ohio, and Oregon. In addition, technicians in several other States--Oklahoma, Florida, West Virginia, and Tennessee--are carrying out all or part of the test program of the Study Group. In its several meetings over the last two years, the Study Group has developed plans with respect to the methods to be tested, the specific procedures for applying the methods, the measures of evaluation to be used, and the various factors to be taken into account in analyzing the results. The cooperating technicians receive copies of documents prepared for the Study Group and receive information and counsel from the Census Bureau by letter or personal conferences.

With certain exceptions, the methods to be tested are essentially the same as those for which the Census Bureau plans to conduct tests for States: Component Method II, the vital rates method, Bogue-Duncan composite method, Census Bureau composite method, component Method I, and the censal ratio method using school enrollment. Combinations of selected methods will be determined and carried out after the results for the separate methods have been obtained. In general, it seemed desirable to include in the test the methods which appeared most promising in previous tests for States (component Method II, Bogue-Duncan composite method, Census Bureau composite method). At the same time it seemed desirable to include certain relatively simple methods proposed in the literature which might yield satisfactory results for little investment of resources (vital rates method, component Method I, censal ratio method employing school enrollment or school census data). It may be recalled that, of the various censal ratio procedures other than the vital rates method, that employing school data has shown the most promising results. 8/ The Study Group also plans to carry out a limited test of procedures of estimating the population of cities, but these plans are rather indefinite at this time.

The members of the Study Group have been developing postcensal estimates by some of these methods for July 1, 1958 and 1959, partly to prepare for the computation of the estimates

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(7/ continued)
Release No. P-1, "County and City Population Estimates for Pennsylvania", May 1959. University of Chicago, Population Research and Training Center, "Estimates of Population for State Economic Areas, Counties, and Cities in Illinois: 1955 to 1957," a report to the Department of Public Health, State of Illinois, dittoed, ca. 1958. Carl Frisen, Report to the League of California Cities on a Test of Population Estimating Techniques Applied to Selected California Cities, processed, California Department of Finance, March 1957. J. S. Siegel, Henry S. Shryock, Jr., and Benjamin Greenberg, "Accuracy of Postcensal Estimates of Population for States and Cities," op.cit. Henry S. Shryock, Jr., "Development of Postcensal Population Estimates for Local Areas," in National Bureau of Economic Research, Studies in Income and Wealth, Vol. 21, Regional Income, pp. 377-391, 1957.

8/ Robert C. Schmitt, op.cit; Pennsylvania Bureau of Statistics, op. cit.

for April 1, 1960, but also to observe the range of variation between methods in a particular year and the consistency of estimates by the same method from one year to another. The estimates for 1960 and the comparisons with the census figures should be completed by mid-1961. The Study Group plans to issue a report on its findings in late 1961 or early in 1962. The report would present data for each State participating in the program and for the participating States taken together. The analysis would include comparative results for the several methods and would consider the effect on estimating error of such factors as size of county, rate of growth between 1950-60, and metropolitan status (that is, whether a nonmetropolitan county, central metropolitan county, or outlying metropolitan county). On this basis, the report would make specific recommendations regarding methods to be used for estimating county population. It is quite possible, of course, that the recommended method would differ from one type of county to another. To supplement this set of tests for the counties in selected States, the Census Bureau plans to carry out a set of tests of methods of estimating the population of SMSA's, and their component counties and central cities.

In any review of the status of local estimates, it seems pertinent to mention the work of the various commercial organizations which regularly publish current sets of estimates for counties and cities. Sales Management, Inc., publishes population estimates for counties and principal cities for the previous January 1 annually in Sales Management. Standard Rate and Data Service publishes population estimates semi-annually (as of January 1 and July 1) for counties and principal cities in its radio, newspaper, and television publications. Editor and Publisher Company, Inc., annually publishes estimates as of January 1 in its Market Guide.

According to the text, the estimates in Sales Management are based on three elements: (1) "individual growth trends as established over the past decade", (2) "population growth adjusted by current sales data" (for 600 areas), and (3) "Chamber of Commerce reports". "Every chamber of commerce in the nation was solicited by mail, telegrams, and follow-up inquiries to report, for the city and county involved, changes in population since 1950, changes in the number of public utility connections since 1950, plus any unusual economic developments which might affect population growth". Standard Rate and Data Service states that it makes use of all special census counts and estimates prepared by the Census Bureau as well as estimates made by various State and local organizations, if, after analysis of the estimates, the procedures used were found acceptable. In addition, information was sought to locate geographically any unusual business activity which might cause population shifts. Editor and Publisher bases its estimates on mathematical correlation between state and county figures.

To my knowledge none of these organizations has conducted any tests of the accuracy of its estimating methods. The descriptions of the methods given in the publications do not permit independent application or testing of the methods, except possibly in the case of the estimates of Editor and Publisher Company. In order to test empirically the accuracy of some of the estimates just described, those for counties and standard metropolitan statistical areas and their central cities, given in one of the commercial compilations, were compared with the preliminary census results. It is planned to extend the test to include the other sets of commercial estimates, as resources and time permit. The most striking fact revealed by this evaluation is the considerable upward bias and the much larger error of the estimates for central cities, as compared with the estimates for SMSA's. Eighty percent of the city estimates were greater than the city counts, as compared with 48 percent for the SMSA's; the average error for the central cities was 9.3 percent, as compared with 3.4 percent for SMSA's; and 39 percent of the estimates for cities differed from the counts by 10 percent or more, as compared with 6 percent for SMSA's. The errors of the estimates for individual central cities were almost invariably far greater than the estimates for the corresponding SMSA's as a whole. In 11 cases, the city estimates and the city counts differed by more than 20 percent and in 7 of these cases, the SMSA was estimated correctly within 5 percent. This and other evidence indicates that it is possible to develop much more reliable estimates for metropolitan areas than for large cities and the considerable confidence in the available estimates for larger cities during the fifties was hardly justified.

The evaluation of the county estimates in the same commercial compilation indicated an average error of 8 percent, or nearly the same as the error for central cities. This was about the level of error in the county estimates hastily compiled from various sources by the Bureau of the Census, mentioned above, for its planning of the field organization for the 1960 Census.

Improvements in Methodology

In addition to the need for evaluating present methods and estimates, it seems desirable to give continuing consideration to their technical improvement and to the possible advantages of new types of data and methods. Although the Census Bureau developed component Method II as a demographically direct and systematic procedure for estimating the population of States and has generally adopted this method for this purpose, it has never viewed the

method as having attained an ultimate form but rather as subject to continuing reexamination and modification. Several improvements were incorporated in the method in the last decade. The most important of these was the introduction of the use of migration factors, representing the ratio of the migration rate of the total population to the migration rate of the school-age population for a given period, which factors varied with the length of the period of estimation. Derived from national sample data on gross interstate migration by broad age groups for 1-year periods from the Current Population Survey, the factors were seen to change markedly with the length of the estimating period. Specifically, they declined gradually from 1.27 for 1950-51 to 0.85 for 1950-59. This decline is due to the fact that the longer the period, the greater the exposure of younger children in the school-age cohort to migration, combined with the fact that migration rates are higher at the younger ages. 9/ Although empirical proof of the efficacy of this change, apart from theoretical considerations, is not available, the considerable reduction in the discrepancy between the national immigration figure and the sum of the computed figures on net interstate migration suggests strongly that the change constituted a considerable improvement.

A second important change in Method II has been the introduction of the use of enrollment in grades 2 to 8 and of the age range 7½ years to exact age 15½ years to match this grade range, in connection with the estimation of the population of school age. Census Bureau experimentation with various combinations of grades and ages in making estimates for States indicated substantial improvement with this combination over the combination of grades 1 to 8 with ages 6 to 13 previously used. 10/ A third change, supported by test results, is the use of adjustments to national control figures at several stages in the computation of the estimates of net civilian migration, as compared with making a single final adjustment. 10/

It seems appropriate to mention here, among the "improvements" in Method II, the preparation of a computer program for Method II for use on the IBM 650 computer by Professor James W. Tarver of Oklahoma State University. Professor Tarver has also prepared a program for the vital rates method for use on the same computer. These programs are to be published shortly.

In its future experimentation on Method II, the Census Bureau will give further consideration to the form and adjustment of the net migration rate. The rate now used represents essentially the ratio between net migration in a period and the census population plus one-half births minus net loss to Armed Forces. This definition of the migration rate is believed to be subject to criticism on at least two grounds: The selection of the categories used in the base and the use of only a portion of the births. The writer believes that the more appropriate base is the census population plus all births. However, according to a limited test, relating to several States for the period 1950-57, the effect of using all births in deriving the migration rate, and hence the amount of net migration, was small.

The possibility of using a migration factor varying from State to State on the basis of previously observed age differences in net migration rates needs to be reexamined when the 1960 Census age data on interstate migration come to hand in late 1961. At present a single factor is used by the Census Bureau for all States for a given estimating period, derived as noted earlier. Some State variation in the age pattern of net migration may be introduced by employing "color-weighted" migration ratios for each State, computed on the basis of national migration data by color to become available for 1958-59 from the Current Population Survey and for 1955-60 from the 1960 Census. This possibility also applies to county estimates. The computation of separate ratios for intrastate migrants in the preparation of county estimates, to replace or modify the ratios for interstate migrants now used, is also possible on the basis of data from the Current Population Survey. A further variation could be introduced for metropolitan counties, nonmetropolitan counties, and central cities; the basic data will become available for 1958-59 from the Current Population Survey and for 1955-60 from the 1960 Census.

In Method II more attention needs to be given to the handling of special groups which may constitute a sizeable segment of the population of certain counties. Method II already calls for the separate handling of members of the Armed Forces, but it would also be desirable to handle separately such other groups as institutional population, college students, and migratory laborers, for selected areas. Perhaps more attention needs to be given also to the inclusion of all types of schools in compiling enrollment figures, e.g., parochial schools, Federally supported schools on military bases,

9/ U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 165, "Estimates of the Population of States: July 1, 1950 to 1956", November 4, 1957.

10/ Shryock, Siegel, and Greenberg, "Current Research on Population Estimates for States and Local Areas," op. cit.

Indian Bureau schools, etc., and to the definition and geographic reference of enrollment used in each State.

One type of data frequently suggested as worthy of exploration for making population estimates is income tax data. On the basis of preliminary discussions between staff members of the Census Bureau and the Internal Revenue Service, it appears that the only IRS records useful for making estimates of county population are the IBM cards located in the District Offices, used for checking the accuracy of the computations on the tax forms. The use of these data for this purpose would be quite expensive and would entail numerous estimating problems. The Bureau of the Census plans to explore this possibility further, however.

Although they are widely applied for city estimates, the various dwelling unit methods remain subject to serious hazards. In spite of the increasing availability and improvement of data on new construction, their usefulness is limited by the frequent lack of data on the other components of change in the housing inventory and, more seriously, by the problem of estimating changes in the vacancy rate and in the number of persons per occupied unit. Short of a large sample survey, there is no way to establish these changes very closely. Use of the 1950 ratios and mere mathematical extrapolation proved inadequate for the fifties. Nor have national changes, in general, been a satisfactory guide to local changes, which vary considerably in place and time. Locally sponsored estimates by the dwelling unit method for recent dates for several cities were wide of the mark, e.g., Philadelphia, New York, and District of Columbia. Characteristically, they have had an upward bias.

The only careful test of this method to date was conducted by Carl Frisén employing estimates for these cities based on building permits and the results of various special censuses of cities in California as standards. 11/ His comparisons for 32 cities outside Los Angeles County in 1955 and 1956 showed an average percent error of 7.7 percent; for 19 cities in Los Angeles County the average error was 4.0 percent. Frisén's conclusion was that if satisfactory records of change in the number of dwelling units can be maintained, as in Los Angeles County, the dwelling unit procedure can give reliable estimates. This test experience is quite limited and needs to be extended. On the whole, there seems less risk of error in the use of one of the censal ratio procedures for which there is a more satisfactory system of collection of basic data locally and for which national changes provide a more definite guide to local changes. This would seem to be true of the vital rates method or the censal ratio method based on school enrollment or the school census. The dwelling unit method calls for such broad assumptions that, like the vital rates method, it would seem to serve most effectively when used in combination with other reliable means of preparing population estimates.

The Census Bureau has explored the possibility of using special tabulations from the records of the Bureau of Old-Age and Survivors Insurance in the development of composite estimates for States. Two types of data are involved: a 1-percent sample tabulation of covered workers by State of employment and a tabulation of the interstate migration of aged beneficiaries. The latter data are now employed by the Bureau in the preparation of the annual estimates of the population 65 and over for States. They were tabulated annually from 1955 to 1958, and will be tabulated biennially henceforth. It is planned to compare the estimates of net interstate migration of aged persons for 1955-60 from this source with the corresponding census data on migration, and also the estimates of aged persons with the census counts, when the appropriate data become available. An important problem in using these data arises from differences in coverage by social insurance and from the need to make allowances for the population not covered. The covered worker data involve several additional problems. One is that they relate to place of work rather than place of residence; this could seriously affect the figures for a number of States. Another is the large sampling errors of the 1-percent sample. Furthermore, the covered worker tabulations were found to be rather expensive. Because these data have serious limitations and were costly to secure, experimentation with them has been discontinued.

Another possible source of data for making State population estimates is automobile registration. The American Association of Motor Vehicle Administrators has been encouraging in its view that the various State agencies concerned with registration could be induced to collect the data on interstate transfers, to be used in making population estimates by a component method. Plans for securing such data remain to be worked out.

In conclusion, I should like to note: (1) that substantial progress was made during the fifties in the improvement and extension of local estimates and in testing of methods, (2) that the errors of present methods of estimation are sufficiently great to warrant continuing

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11/ Carl Frisén, op.cit.

efforts to improve them and to extend testing programs, and (3) that the outlook for the availability of reliable estimates covering the larger counties and cities of the United States by the end of this decade is moderately good.

The prospects for improving the accuracy and detail of State and local population estimates would be substantially improved if present proposals for a quinquennial census were realized.