Population Estimates and Projections

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1977 Population Estimates for Counties, Incorporated Places, and Minor Civil Divisions in Rhode Island

This report is one of a series containing current estimates of the total July 1, 1977, population for all general purpose governmental units in each State. The preparation of current population estimates below the county level was prompted by the State and Local Fiscal Assistance Act of 1972. The estimates shown here also reflect changes made during the review of the figures with local officials. The figures are used by a wide variety of Federal, State, and local governmental agencies for program planning and administrative purposes. Estimates of per capita income for 1976 were not prepared, but figures for 1977 will appear later in this report series accompanying the 1978 population estimates.

Areas included in this series of reports are all counties (or county equivalents such as census divisions in Alaska, parishes in Louisiana, and independent cities in Maryland, Missouri, Nevada, and Virginia) and incorporated places in the State, plus active minor civil divisions (MCD's), commonly towns in New England, New York, and Wisconsin, or townships in other parts of the United States.[1] These State reports appear in **Current Population Reports,** Series P-25, in alphabetical sequence as report number 814 (Alabama) through number 863 (Wyoming). A list indicating the report number for each State is appended.

The detailed table for each State shows July 1, 1977, estimates of the population of each area, together with April 1, 1970, census population and numerical and percentage change between 1970 and 1977. The 1970 figures reflect annexations since 1970 up to December 31, 1977, and include corrections to the 1970 census counts.

The estimates are presented in the table in county order, with all incorporated places in the county listed in alphabetical order, followed by any functioning minor civil divisions also listed in alphabetical order. Minor civil divisions are always identified in the listing by the term "township," "town," or other MCD category. When incorporated places fall in more than one county, each county piece is marked "part," and totals for these places are presented at the end of the table.

[1] In certain midwestern States (Illinois, Kansas, Minnesota, Missouri, Nebraska, and the Dakotas), some counties have active minor civil divisions while others do not.

METHODOLOGY

To estimate the population of each subcounty area, a component procedure (the Administrative Records method) was used, with each of the components of population change (births, deaths, net migration, and special populations) estimated separately. The estimates were derived in four stages, moving from 1970 as a base year to develop estimates for 1973, and, in turn, moving from 1973 as the base year to derive estimates for 1975, from 1975 as the base year for 1976, and from 1976 as the base year for 1977.

Migration. Individual Federal income tax returns were used to measure migration by matching individual returns for successive periods. The places of residence on tax returns filed in the base year and in the estimate year were noted for matched returns to determine inmigrants, outmigrants, and nonmigrants for each area. A net migration rate was derived, based on the difference between the inmigration and outmigration of taxpayers and dependents, and was applied to a base population to yield an estimate of net migration for all persons in the area.

Natural change. Reported resident birth and death statistics were used, wherever available, to estimate natural change. These data were collected from State health departments and supplemented, where necessary, by data prepared and published by the U.S. Department of Health, Education, and Welfare, National Center for Health Statistics. For subcounty areas where reported birth and death statistics were not available from either source, estimates were developed by applying fertility and mortality rates. These estimates were

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subsequently controlled to agree with birth and death statistics for larger areas where reported data were available.

Adjustment for special populations. In addition to the above components of population change, estimates of special populations were also taken into account. Special populations include immigrants from abroad, members of the Armed Forces living in barracks, residents of institutions (prisons and long-term health care facilities), and college students enrolled in full-time programs. These populations were treated separately because changes in these types of population groups are not reflected in the components of population change developed by standard measures, and the information is generally available for use as an independent series.

Annexations and new incorporations. The 1970 census counts shown in this report reflect all population corrections made to the figures after the initial tabulations. In addition, adjustments for annexations are reflected in the estimates. For new incorporations occurring after 1970, the 1970 population within the boundaries of the new areas is shown in the detailed table.

Other adjustments. For areas where special censuses were conducted at dates that approximate the estimate date, the census results were taken into account in developing the estimates.[2] In several States, the subcounty estimates developed by the Administrative Records method were averaged with estimates for corresponding geographic areas which were prepared by State agencies participating in the Federal-State Cooperative Program for Local Population Estimates (FSCP). These States include California, Florida, New Jersey, Oregon, Vermont, Washington, and Wisconsin.

Counties. In generating estimates for counties by this procedure, the method was modified slightly to make the county estimates specific to the resident population under 65 years of age. The resident population 65 years old and over in counties was estimated separately by adding the change in Medicare enrollees between April 1, 1970, and July 1 of the estimate year to the April 1, 1970, population 65 years old and over in the county as enumerated in the 1970 census. These estimates of the population 65 years old and over were then added to estimates of the population under 65 years old to yield estimates of the total resident population in each county.

The estimates for the subareas in each county were adjusted to independently derived county estimates. Since all of the data necessary to develop final estimates under the FSCP program are not available at the time subcounty estimates are prepared, only two of the methods relied upon in the standard FSCP program of estimates for counties (i.e., Component Method II and the Administrative Records method) were utilized. The 1977 estimates result from adding the average 1976-77 population change indicated by the two methods to the 1976 county population figures contained in **Current Population Reports**, Series P-25 and P-26.[3]

The county estimates, in turn, were adjusted to be consistent with independent State estimates published by the Bureau of the Census in **Current Population Reports**, Series P-25, No. 790, in which the Administrative Records based estimates were averaged with the estimates prepared using Component Method II and the Regression method.[4]

LIMITATIONS OF THE ESTIMATES

Tests of the accuracy of the methods used to develop State and county population estimates appearing in **Current Population Reports**, Series P-25 and P-26 are reported in Series P-25, No. 520 for States and in Series P-26, No. 21 for counties. In summary, the State estimates averaging Component Method II and the Regression method yielded average differences of approximately 1.9 percent when compared to the 1970 census. Subsequent modifications of the two procedures that have been incorporated in preparing estimates for the 1970's would have reduced the average difference in 1970 to 1.2 percent. For counties, the 1970 evaluations indicated an average difference of approximately 4.5 percent for the combination of procedures used. It should be noted that all of the evaluations against the results of the 1970 census concern estimates extending over the entire 10-year period of 1960 to 1970.

Since 1970, however, the Administrative Records method has been introduced with partial weight in the estimates for States and counties, and except for the few States in which local estimates are utilized, carries the full weight for estimates below the county level. The data series upon which the estimates procedure is based has been available as a comprehensive series for the entire United States only since 1967. Nonetheless, several studies have been undertaken evaluating the Administrative Records estimates from the State to the local level. At the Statewide level, little direct testing can be performed due to the lack of special censuses covering entire States. Some sense of the general reasonableness of the Administrative Records estimates may be obtained, however, by reviewing the degree of correspondence between the results of the method against those of the "standard" methods tested in 1970 and already in use to produce State estimates during the 1970's. It must be recognized that the differences between the two sets of estimates may not be interpreted as errors in either set of figures, but may only be used as a partial guide indicating the degree of consistency between the newer Administrative Records system and the established methods.

[2] Only special censuses conducted by the Bureau of the Census or by the California, Florida, Michigan, Oregon, or Washington State agencies participating in the Federal-State Cooperative Program for Local Population Estimates were used for this purpose. In addition, in a relatively small number of cases where special censuses were conducted by localities, where the procedures and definitions were essentially the same as those used by the Bureau of the Census, the results of these special censuses were also taken into account in preparing the estimates.

[3] Descriptions of the methodologies are given for each State in the individual Series P-26 or P-25 report for the State.

[4] For further discussion of the methodologies used in preparing State estimates, see **Current Population Reports**, P-25, No. 640.

Table A presents such a comparison for State estimates referring to July 1, 1977. A rather close agreement may be observed in the estimates for all States at only a 1.1 percent difference. The variation of the Administrative Records method from the average of the other methods does increase for smaller States in a regular pattern, but still reaches an average of only 1.3 percent for the smallest size category. The only consistent variations suggesting a potential for directional bias are indicated in the tendency for larger States to be estimated higher by the Administrative Records procedure than by the other techniques.

A similar comparison may be made at the county level (table B). Although the differences between the FSCP estimates and the Administrative Records results are larger at the county level than for States, the variations are well within the range that would be expected for areas of this population size, and the county pattern matches closely the findings for States. The overall difference for all counties is 2.6 percent, and ranges from 1.5 percent for the larger counties to 8.4 percent for the 26 small counties under 1,000 population. The comparisons indicate virtually no change from similar comparisons for the 1976 estimates. Only the average difference for counties with less than 1,000 population experienced any significant change from the 1976 levels in improving from 10.1 to 8.4 average percent differences.

Three tests of the Administrative Records population estimates against census counts also have been undertaken. First, a limited evaluation involving 24 large areas (16 counties and 8 cities) was conducted on estimates for the 1968-70 period.[5] Although the test shows the estimates to be quite accurate (1.8 percent difference), the areas may not be assumed to be representative of the 39,000 units of government covered by the Administrative Records estimating system, and the time segment evaluated refers only to a 2-year period.

A more representative group of special censuses in 86 areas selected particularly for evaluation purposes was conducted in 1973. The areas were randomly chosen nationwide to be typical of areas with populations below 20,000 persons. Table C summarizes the average percent difference between the estimates from the Administrative Records method and counts from the 86 special censuses. Overall, the estimates differed from the special census counts by 5.9 percent, with the largest differences occurring in the smallest areas. Areas of between 1,000 and 20,000 population differed by 4.6 percent, while the average difference for the 27 areas below 1,000 population was 8.6 percent. There was a slight positive directional bias, with about 60 percent of the estimates exceeding the census counts. Again, the impact of population size on the expected level of accuracy may be noted. Even though all of the areas in this study are relatively small—less than 20,000 population—the larger ones demonstrate much lower variation from census figures than the smaller ones.

The third evaluation involving census comparisons is currently underway, and is based upon the approximately 2,000 special censuses that have been conducted since 1970 at the request of localities throughout the United States. Such areas constitute a fairly stringent test for any method in that they are generally very small areas, often are experiencing rapid population growth, and frequently are found to have had a vigorous program of annexation since the last census. This evaluation study has not been completed for use here, but will be included in detail as a part of the comprehensive methodology description in **Current Population Reports**, Series P-25, No. 699 (in preparation).

[5] Meyer Zitter and David L. Word, U.S. Bureau of the Census, "Use of Administrative Records for Small Area Population Estimates," unpublished paper prepared for presentation at the annual meeting of the Population Association of America, New Orleans, Louisiana, April 27, 1973.

Table A. Percent Difference Between Administrative Records Estimates and the Average of Component Method II and Regression Estimates for States: 1977

(Base is the average of Method II and Regression estimates)

Item	All States	Population size in 1970: 4 million and over	1.5 to 4 million	Less than 1.5 million
Average percent difference (disregarding sign)	1.1	0.8	1.2	1.3
Number of States	51	16	18	17
With differences of:				
Less than 1 percent	21	9	7	5
1 to 2 percent	19	6	6	7
2 percent and over	11	1	5	5
Where Administrative Records was:				
Higher	29	10	9	10
Lower	22	6	9	7

Table B. Percent Difference Between Administrative Records Estimates and the Provisional FSCP Estimates for Counties: 1977

(Base is the provisional FSCP estimates for counties)

Item	All counties	Counties with 1,000 or more 1970 population					Counties with less than 1,000 1970 population
		Total	50,000 or more	25,000 to 49,999	10,000 to 24,999	1,000 to 9,999	
Average percent difference (disregarding sign).....	2.6	2.6	1.5	2.1	2.5	3.6	8.4
Number of counties or equivalents.....	3,143	3,117	679	567	1,017	854	26
With differences of:							
Less than 1 percent.....	952	951	329	191	266	165	1
1 to 3 percent.....	1,265	1,259	274	246	436	303	6
3 to 5 percent.....	526	520	56	95	196	173	6
5 to 10 percent.....	327	320	18	30	101	171	7
10 percent and over.....	73	67	2	5	18	42	6

Table C. Percent Difference Between Administrative Records Estimates (Unrevised) and 86 Special Censuses: 1973

(Base is special census)

Area	Average percent difference[1]	Number of areas with differences of:			
		Under 3 percent	3 to 5 percent	5 to 10 percent	10 percent and over
All areas (86)[2].....	5.9	32	18	20	16
1,000 to 20,000 (59).....	4.6	26	13	14	6
Under 1,000 population (27).....	8.6	6	5	6	10

[1]Disregarding sign.
[2]All areas have population under 20,000 persons.

As a final caution, it must be noted that for convenience in presentation, the estimates contained in table 1 are shown in unrounded form. It is not intended, however, that the figures be considered accurate to the last digit. The nature of estimates prompts the rounding of figures in related Bureau reports and must be kept in mind during the application of the estimates contained here.

RELATED REPORTS

The population estimates shown in this series of reports update those found in **Current Population Reports**, Series P-25, Nos. 740 through 789 for 1976. The population estimates contained here for States are consistent with Series P-25, No. 790. The county estimates for 1977 are superior to the provisional 1977 figures published earlier in Series P-25 and P-26 due to the addition of a second method, but will not be reported elsewhere in **Current Population Reports**. The county population estimates are being replaced by subsequent final 1977 figures developed through the Federal-State Cooperative Program for Local Population Estimates.

DETAILED TABLE SYMBOLS

In the detailed table entries, a dash "—" represents zero, and the symbol "Z" indicates that the figure is less than 0.05 percent. The symbol "B" means that the base for the derived figure is less than 75,000. Three dots ". . ." mean not applicable and "NA" means not available.

Table 1. July 1, 1977 Population Estimates for the State, Counties, and Subcounty Areas

AREA	JULY 1, 1977	APRIL 1, 1970 CENSUS	CHANGE, 1970 TO 1977 NUMBER	CHANGE, 1970 TO 1977 PERCENT
STATE OF RHODE ISLAND.	937 416	949 723	-12 307	-1.3
BRISTOL COUNTY.....	46 103	45 937	166	0.4
BARRINGTON TOWN.....	17 303	17 554	-251	-1.4
BRISTOL TOWN.....	18 674	17 860	814	4.6
WARREN TOWN.....	10 126	10 523	-397	-3.8
KENT COUNTY.....	152 183	142 382	9 801	6.9
WARWICK.....	87 450	83 694	3 756	4.5
COVENTRY TOWN.....	26 108	22 947	3 161	13.8
EAST GREENWICH TOWN.....	10 710	9 577	1 133	11.8
WEST GREENWICH TOWN.....	2 288	1 841	447	24.3
WEST WARWICK TOWN.....	25 627	24 323	1 304	5.4
NEWPORT COUNTY.....	82 623	94 228	-11 605	-12.3
NEWPORT.....	31 912	34 562	-2 650	-7.7
JAMESTOWN TOWN.....	3 737	2 911	826	28.4
LITTLE COMPTON TOWN.....	2 928	2 385	543	22.8
MIDDLETOWN TOWN.....	15 851	29 290	-13 439	-45.9
PORTSMOUTH TOWN.....	14 602	12 521	2 081	16.6
TIVERTON TOWN.....	13 593	12 559	1 034	8.2
PROVIDENCE COUNTY.....	568 352	581 470	-13 118	-2.3
CENTRAL FALLS.....	15 333	18 716	-3 383	-18.1
CRANSTON.....	73 523	74 287	-764	-1.0
EAST PROVIDENCE.....	48 917	48 207	710	1.5
PAWTUCKET.....	69 911	76 984	-7 073	-9.2
PROVIDENCE.....	160 982	179 116	-18 134	-10.1
WOONSOCKET.....	46 464	46 820	-356	-0.8
BURRILLVILLE TOWN.....	11 826	10 087	1 739	17.2
CUMBERLAND TOWN.....	27 702	26 605	1 097	4.1
FOSTER TOWN.....	3 474	2 626	848	32.3
GLOCESTER TOWN.....	6 989	5 160	1 829	35.4
JOHNSTON TOWN.....	24 210	22 037	2 173	9.9
LINCOLN TOWN.....	17 521	16 182	1 339	8.3
NORTH PROVIDENCE TOWN.....	26 904	24 337	2 567	10.5
NORTH SMITHFIELD TOWN.....	10 211	9 349	862	9.2
SCITUATE TOWN.....	8 731	7 489	1 242	16.6
SMITHFIELD TOWN.....	15 655	13 468	2 187	16.2
WASHINGTON COUNTY.....	88 155	85 706	2 449	2.9
CHARLESTOWN TOWN.....	3 892	2 863	1 029	35.9
EXETER TOWN.....	4 313	3 245	1 068	32.9
HOPKINTON TOWN.....	6 363	5 392	971	18.0
NARRAGANSETT TOWN.....	10 008	7 138	2 870	40.2
NEW SHOREHAM TOWN.....	708	489	219	44.8
NORTH KINGSTOWN TOWN.....	20 570	29 793	-9 223	-31.0
RICHMOND TOWN.....	3 444	2 625	819	31.2
SOUTH KINGSTOWN TOWN.....	20 848	16 913	3 935	23.3
WESTERLY TOWN.....	18 008	17 248	760	4.4

1977 Population Estimates for Counties, Incorporated Places, and Selected Minor Civil Divisions

(Reports may not be published in numerical order)

No. 814 Alabama
No. 815 Alaska
No. 816 Arizona
No. 817 Arkansas
No. 818 California
No. 819 Colorado
No. 820 Connecticut
No. 821 Delaware
No. 822 Florida
No. 823 Georgia
No. 824 Hawaii
No. 825 Idaho
No. 826 Illinois
No. 827 Indiana
No. 828 Iowa
No. 829 Kansas
No. 830 Kentucky
No. 831 Louisiana
No. 832 Maine
No. 833 Maryland
No. 834 Massachusetts
No. 835 Michigan
No. 836 Minnesota
No. 837 Mississippi
No. 838 Missouri
No. 839 Montana
No. 840 Nebraska
No. 841 Nevada
No. 842 New Hampshire
No. 843 New Jersey
No. 844 New Mexico
No. 845 New York
No. 846 North Carolina
No. 847 North Dakota
No. 848 Ohio
No. 849 Oklahoma
No. 850 Oregon
No. 851 Pennsylvania
No. 852 Rhode Island
No. 853 South Carolina
No. 854 South Dakota
No. 855 Tennessee
No. 856 Texas
No. 857 Utah
No. 858 Vermont
No. 859 Virginia
No. 860 Washington
No. 861 West Virginia
No. 862 Wisconsin
No. 863 Wyoming

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