Population Estimates Pulled from US Government Census Data Public Data

This report provides US national population estimates for doing analysis and generating graphics, and provides the steps on how these estimates were compiled. This compilation proved necessary as the author could not find a single, definitive source of publication worthy population estimates for an extended period of years.

Fair Use

Note that the author is not a professional statistician, and is not responsible for any derivative use of this information. Per standard practices with open source software, feel free to share and improve upon this document, but please list all contributors including the original contributor David M. Golden.

Data Source

The definitive data source for USA national and state population counts is the US Government site Census Bureau Data (https://data.census.gov/).

Population estimates are updated annually (see <u>National Population Totals: 2010-2019</u> (census.gov)

For the modern period the national population estimates are taken from the census bureau data delivered in "Table" format. The advantages of the Table format over the Datasets:

- Table files are already in Excel format (Datasets are in CSV)
- Column labeling is more descriptive than the case for Datasets (excel allows for multirow labels)
- Datasets have additional columns that while valuable for a population specialist may cause confusion for a typical analytics task

The USA Statistical Abstract is referenced for the Early American period, and is useful up to 1960.

Note: The population estimates provided here agree closely with those found (as of 2024-06-20) at https://www.multpl.com/united-states-population/table/by-year. There is a very minor difference, with multip.com being a fraction of a percent lower, which suggests that multipl.com is reporting April census data rather than census bureau July population estimates.

Ready-to-use Population Estimates

The table below is the most complete data set available based on combining individual census bureau "Tables". For years covered by US Statistical Abstract, the data was cross-referenced and matches.

The report sections in subsequent sections of this report detail where the individual Table data is sourced.

1960 through 2023 Population Estimates

Year	Population Estimate
1960	180,671,158
1961	183,691,481
1962	186,537,737
1963	189,241,798
1964	191,888,791
1965	194,302,963
1966	196,560,338
1967	198,712,056
1968	200,706,052
1969	202,676,946
1970	205,052,174
1971	207,660,677
1972	209,896,021
1973	211,908,788
1974	213,853,928
1975	215,973,199
1976	218,035,164
1977	220,239,425
1978	222,584,545
1979	225,055,487
1980	227,224,681
1981	229,465,714
1982	231,664,458
1983	233,791,994
1984	235,824,902
1985	237,923,795
1986	240,132,887
1987	242,288,918
1988	244,498,982

1989	246,819,230
1990	249,464,396
1991	252,153,092
1992	255,029,699
1993	257,782,608
1994	260,327,021
1995	262,803,276
1996	265,228,572
1997	267,783,607
1998	270,248,003
1999	272,690,813
2000	282,171,957
2001	285,081,556
2002	287,803,914
2003	290,326,418
2004	293,045,739
2005	295,753,151
2006	298,593,212
2007	301,579,895
2008	304,374,846
2009	307,006,550
2010	309,327,143
2011	311,583,481
2012	313,877,662
2013	316,059,947
2014	318,386,329
2015	320,738,994
2016	323,071,755
2017	325,122,128
2018	326,838,199
2019	328,329,953
2020	331,526,933
2021	332,048,977
2022	333,271,411
2023	334,914,895

Early American Period (and recent decades) Estimates

		Per square mile of land
Year	Resident Population	area
1790	3,929,214	4.5
1800	5,308,483	6.1
1810	7,239,881	4.3
1820	9,638,453	5.5
1830	12,866,020	7.4
1840	17,069,453	9.8
1850	23,191,876	7.9
1860	31,443,321	10.6
1870	39,818,449	11.2
1880	50,189,209	14.2
1890	62,979,766	17.8
1900	76,212,168	21.5
1910	92,228,496	26
1920	106,021,537	29.9
1930	123,202,624	34.7
1940	132,164,569	37.2
1950	151,325,798	42.6
1960	179,323,175	50.6
1970	203,302,031	57.5
1980	226,542,199	64
1990	248,718,302	70.3
2000	281,424,603	79.6
2010	308,745,538	87.4

The source and an explanation for this data is provided in the section below "Statistical Abstract of the United States (1790-2010)".

Note that this data lacks the same statistical rigor, and is somewhat different in statistical definition, from that of the modern period, as provided in section above "1960 through 2023 Population Estimates". However given the inherent inaccuracies in any metrics for the Early American period, these population estimates are reasonable.

Explanation for How to Obtain Population Estimate Data

This section enables an independent researcher to easily revisit the same data sources, to provide a high-level comfort in re-use of the population estimates provided in this report.

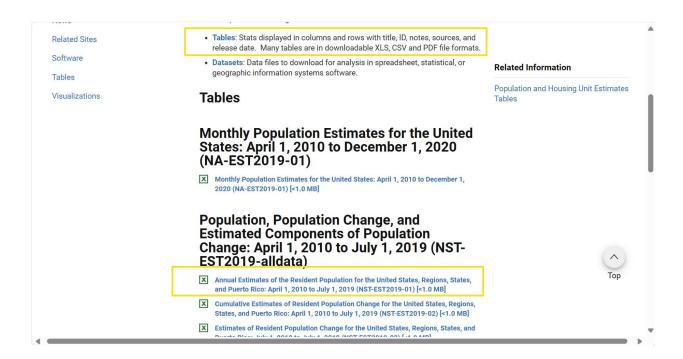
Use of Census Bureau Table Data

Modern population estimates are taken from census bureau data delivered in downloadable Table format. The advantages of the Table format over the Datasets:

- Table files are already in Excel format (Datasets are in CSV)
- Column labeling is more descriptive than the case for Datasets (excel allows for multirow labels)
- Datasets have additional columns that while valuable for a population specialist may cause confusion for a typical analytics task

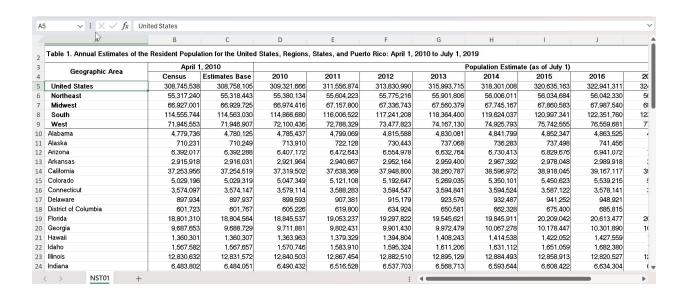
This screenshot shows a selected table, and two paths for navigating to it:

https://www.census.gov/data/tables/time-series/demo/popest/2010s-national-total.html#par_textimage.jpg



https://www2.census.gov/programs-surveys/popest/tables/2010-2019/state/totals/nst-est2019-01.xlsx

Here is an extract:



Transposing the United States row provides:

2010	309,321,666
2011	311,556,874
2012	313,830,990
2013	315,993,715
2014	318,301,008
2015	320,635,163
2016	322,941,311
2017	324,985,539
2018	326,687,501
2019	328,239,523

Note:

- Between the decennial census, the census bureau prepares annual estimates
- The annual estimates are pegged for 01-July, hence there is an 01-July estimate for the decennial year that should be used in analytics rather than the exact decennial count. See the 10 columns under "Population Estimate (as of July 1)
- For purposes of our work, we will use only the United States total
- Puerto Rico is found in its own line; it is excluded from the US total
- Release Date: December 2019 for this data
- For population estimates methodology statements, see http://www.census.gov/programs-surveys/popest/technical-documentation/methodology.html
- Documentation not found but it is my understanding that the **Resident Population** reported in recent decade tables does not include overseas Americans. The resident population is defined as those living within the 50 states and the District of Columbia. Hence Armed forces and their dependents living overseas are excluded, and presumably as well business

personnel and retirees living overseas. Per https://www2.census.gov/programs-surveys/popest/tables/1900-1980/national/totals/popclockest.txt:

- o National population data for the years 1900 to 1949 exclude the population residing in Alaska and Hawaii. National population data for the years 1940 to 1979 cover the resident population plus Armed Forces overseas.
- o National population data for all other years cover only the resident population.
- Documentation not found but presumably the census figures include both legal residents and illegal aliens. The census bureau provided documentation on methodology does not address this, nor whether any form of imputation is done to account for the likely lower census response rate by illegal aliens. Without knowing these specifics, it should be assumed that in recent years the census estimates may be as much as 3-4% below the actual population due to the illegal component being underreported (illegal aliens are assumed to be 3-4% of USA population as of 2024).
- Presumably both Alaska and Hawaii populations added to the USA Resident population counts only after they changed in status from Territory to State.

Population Estimates for 2020 through 2023

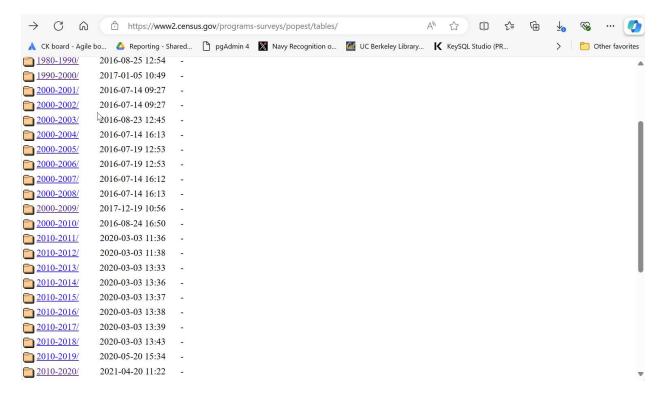
https://www2.census.gov/programs-surveys/popest/tables/2020-2023/national/totals/NA-EST2023-POP.xlsx

Taking the July 1 estimates:

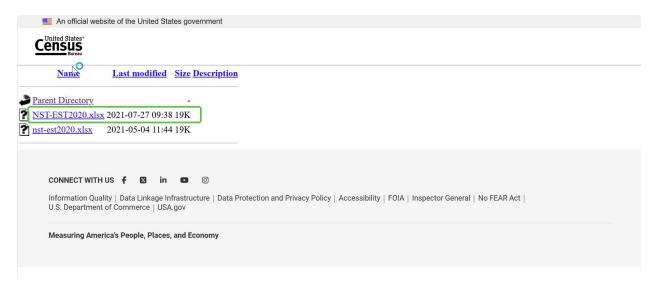
Year	Resident Population			
2020	331,526,933			
2021	332,048,977			
2022	333,271,411			
2023	334,914,895			

Population Estimates for 2010 through 2019

We descend through the 2010-2020 folder:



Within the folder are two files. Download the all cap 2021-07-27 file. It's a revision to the original all lower case file which can be ignored.



The screen shot below shows an extract of NST-EST2020.xlsx

The United States row provides the national resident population we desire:



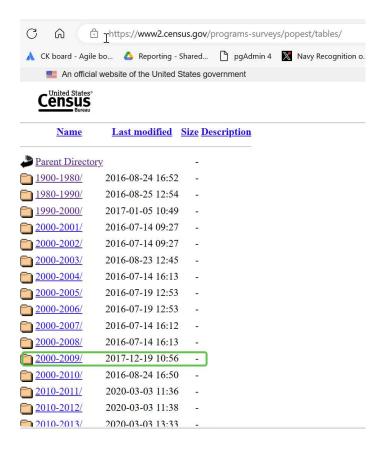
Year	Population Estimate				
2010	309,327,143				
2011	311,583,481				
2012	313,877,662				
2013	316,059,947				
2014	318,386,329				
2015	320,738,994				
2016	323,071,755				
2017	325,122,128				
2018	326,838,199				
2019	328,329,953				

Population Estimates for 2000 through 2009

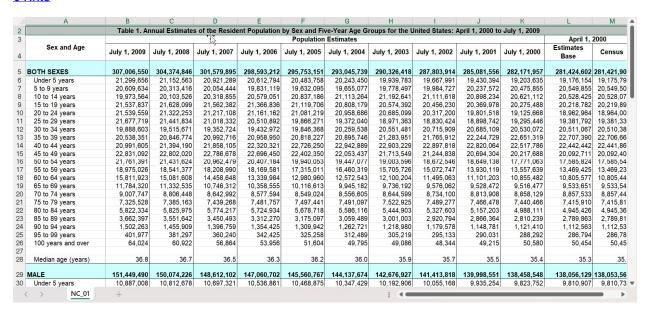
Index of /programs-surveys/popest/tables/2000-2009/national/asrh (census.gov)

Which is:

https://www2.census.gov/programs-surveys/popest/tables/2000-2009/national/asrh/



https://www2.census.gov/programs-surveys/popest/tables/2000-2009/national/asrh/nc-est2009-01.xls



Population Estimate
282,171,957
285,081,556
287,803,914
290,326,418
293,045,739
295,753,151
298,593,212
301,579,895
304,374,846
307,006,550

Population Estimates for 1900 through 2000

These are July 1 estimates for each year. Data last revised June 28, 2000

https://www2.census.gov/programs-surveys/popest/tables/1900-1980/national/totals/popclockest.txt

Since 1960 shown here:

1960	180,671,158
1961	183,691,481
1962	186,537,737
1963	189,241,798
1964	191,888,791
1965	194,302,963
1966	196,560,338
1967	198,712,056
1968	200,706,052
1969	202,676,946
1970	205,052,174
1971	207,660,677
1972	209,896,021
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1974	213,853,928
1975	215,973,199
1976	218,035,164
1977	220,239,425
1978	222,584,545
1979	225,055,487
1980	227,224,681

1981	229,465,714
1982	231,664,458
1983	233,791,994
1984	235,824,902
1985	237,923,795
1986	240,132,887
1987	242,288,918
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1993	257,782,608
1994	260,327,021
1995	262,803,276
1996	265,228,572
1997	267,783,607
1998	270,248,003
1999	272,690,813

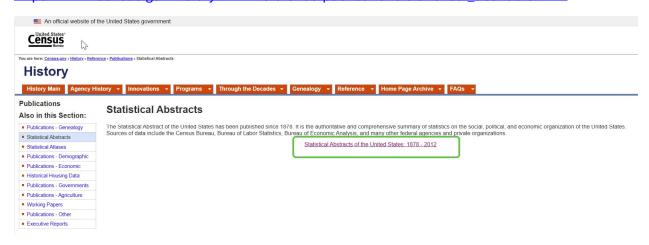
The data here exactly matches the data provided in the Statistical Abstract of the United States (see section below) but is more comprehensive than the Statistical Abstract.

Statistical Abstract of the United States (1790-2010)

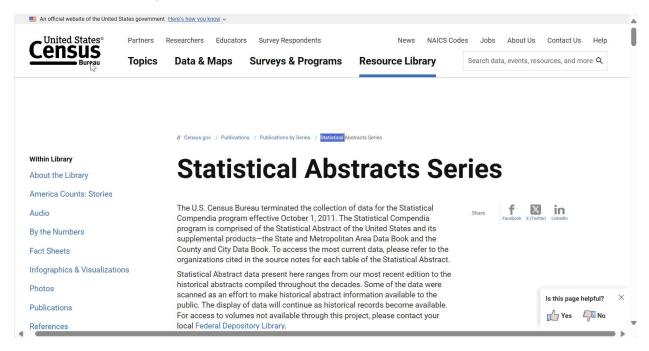
Data cut-off was late 2021. Provides nice summary of prior year population, and a reference point for comparison against data pulled from the Tables (or Datasets) directly from the census bureau.

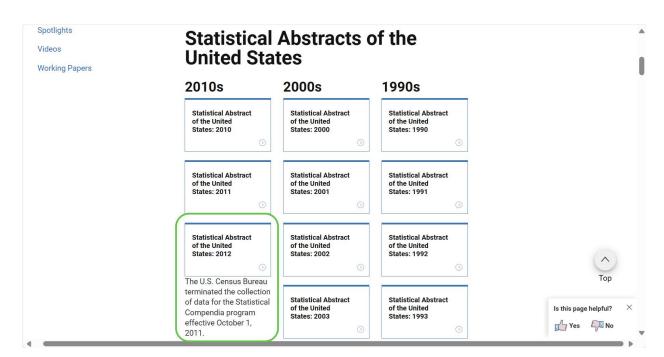
Statistical Abstracts - History - U.S. Census Bureau which is

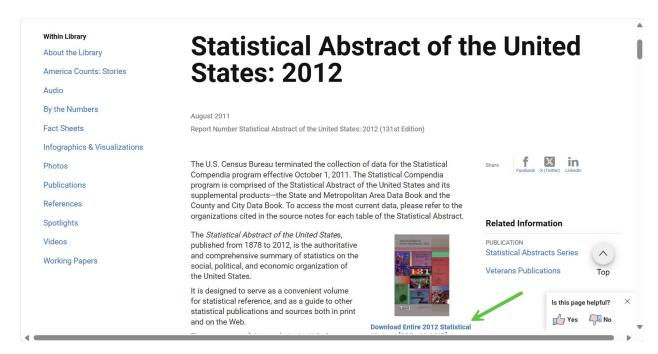
https://www.census.gov/history/www/reference/publications/statistical_abstracts.html



Which leads to this page. Scroll down to see the available abstracts.







Click the Download link:

https://www2.census.gov/library/publications/2011/compendia/statab/131ed/tables/pop.pdf

The two directly relevant tables are shown below.

Table 1. Population and Area: 1790 to 2010

[Area figures represent area on indicated date including in some cases considerable areas not then organized or settled, and not covered by the census. Area data include Alaska beginning in 1870 and Hawaii beginning in 1900. Total area figures for 1790 to 1970 have been recalculated on the basis of the remeasurement of states and counties for the 1980 census, but not on the basis of subsequent censuses. The land and water area figures for past censuses have not been adjusted and are not strictly comparable with the total area data for comparable dates because the land areas were derived from different base data, and these values are known to have changed with the construction of reservoirs, draining of lakes, etc. Density figures are based on land area measurements as reported in earlier censuses]

		Resident po	pulation	Area (square miles)			
Census date	Per square mile of		Increase of preceding ce				
	Number	land area	Number	Percent	Total	Land	Water 1
1790 (Aug. 2)	3,929,214	4.5	(X)	(X)	891,364	864,746	24,065
1800 (Aug. 4)	5,308,483	6.1	1,379,269	35.1	891,364	864,746	24,065
1810 (Aug. 6)	7,239,881	4.3	1,931,398	36.4	1,722,685	1,681,828	34,175
1820 (Aug. 7)	9,638,453	5.5	2,398,572	33.1	1,792,552	1,749,462	38,544
1830 (June 1)	12,866,020	7.4	3,227,567	33.5	1,792,552	1,749,462	38,544
1840 (June 1)	17,069,453	9.8	4,203,433	32.7	1,792,552	1,749,462	38,544
1850 (June 1)	23,191,876	7.9	6,122,423	35.9	2,991,655	2,940,042	52,705
1860 (June 1)	31,443,321	10.6	8,251,445	35.6	3,021,295	2,969,640	52,747
1870 (June 1)	2 39,818,449	2 11.2	8,375,128	26.6	3,612,299	3,540,705	68,082
1880 (June 1)	50,189,209	14.2	10,370,760	26.0	3,612,299	3,540,705	68,082
1890 (June 1)	62,979,766	17.8	12,790,557	25.5	3,612,299	3,540,705	68,082
1900 (June 1)	76,212,168	21.5	13,232,402	21.0	3,618,770	3.547,314	67,901
1910 (Apr. 15)	92,228,496	26.0	16,016,328	21.0	3,618,770	3.547,045	68,170
1920 (Jan. 1)	106,021,537	29.9	13,793,041	15.0	3,618,770	3,546,931	68,284
1930 (Apr. 1)	123,202,624	34.7	17,181,087	16.2	3,618,770	3,554,608	60,607
1940 (Apr. 1)	132,164,569	37.2	8.961,945	7.3	3,618,770	3,554,608	60,607
1950 (Apr. 1)	151,325,798	42.6	19.161.229	14.5	3.618.770	3,552,206	63,005
1960 (Apr. 1)	179,323,175	50.6	27,997,377	18.5	3,618,770	3,540,911	74,212
1970 (Apr. 1)	203,302,031	57.5	23,978,856	13.4	3,618,770	3,536,855	78,444
1980 (Apr. 1)	3 226,542,199	64.0	23,240,168	11.4	3,618,770	3,539,289	79,481
1990 (Apr. 1)	4 248,718,302	70.3	22,176,103	9.8	5 3,717,796	3,536,278	5 181,518
2000 (Apr. 1)	6 281,424,603	79.6	32,706,301	13.1	3,794,083	3,537,438	256,645
2010 (Apr. 1)	308,745,538	87.4	27,320,935	9.7	3,796,742	3,531,905	264,837

X Not applicable. ¹ Data for 1790 to 1980 cover inland water only. Data for 1990 comprise Great Lakes, inland, and coastal water. Data for 2000 and 2010 comprise Great Lakes, inland, territorial, and coastal water. ² Revised to include adjustments for underenumeration in southern states; unrevised number is 38,558,371 (10.9 per square mile). ³ Total population count has been revised since the 1980 census publications. Numbers by age, race, Hispanic origin, and sex have not been corrected. ⁴ The April 1, 1990, census count includes count question resolution corrections processed through December 1997, and does not include adjustments for census coverage errors. ⁵ Data reflect corrections made after publication of the results. ⁶ Reflects modifications to the Census 2000 population as documented in the Count Question Resolution program.

Source: U.S. Census Bureau, 2010 Census, National Summary File of Redistricting Data; 2000 Census of Population and Housing, Population and Housing, Population and Housing, Population and Housing Counts, Series PHC-3-1, United States Summary; Notes and Errata, 2000 SF/01-ER, http://www.census.gov/prod/cen2000/notes/errata.pdf; Areas of the United States: 1940, Area data for 1990: unpublished data from TIGER 8; and Davis, Warren, personal correspondence, U.S. Census Bureau, June 23, 2006.

Notes on Abstract Table 1: If you compare Table 1 vs Table 2 for the same year, you will see that the Table 2 number (consider year 2000) is slightly higher. The reason is that Table 1 has census date (Apr 1) versus Table 2 has estimated data for Jul 1. Accordingly the annual counts here will be slightly less than census bureau data, which has been re-jiggered to be estimates for July 1. For years prior to 1960, the recommendation is to use the population count as given here for the sake of simplicity. The population growth through these decades is significant, and it would be nice to make the adjustment from the census date (usually April 1st) to the modern standard estimation date of July 1st, but this task is best left to the census bureau.

Table 2. Popula ion: 1960 to 2009

[In thousands, except as indicated (180,671 represents 180,671,000). Estimates as of July 1. Civilian population excludes Armed Forces. For basis of estimates, see text, this section]

Year	Resident population, plus Armed Forces overseas				Year	Resident population, including Armed Forces overseas			
	Population	Percent change 1	Resident	Civilian population		Population	Percent change 1	Resident population	Civilian population
1960	180,671	1.60	179,979	178,140	1989	247,342	0.95	246,819	245,131
1965	194,303	1.26	193,526	191,605	1990	250,132	1.13	249,623	247,983
1970	205,052	1.17	203,984	201,895	1991	253,493	1.34	252,981	251,370
1971	207,661	1.27	206,827	204,866	1992	256,894	1.34	256,514	254,929
1972	209,896	1.08	209,284	207,511	1993	260,255	1.31	259,919	258,446
1973	211,909	0.96	211,357	209,600	1994	263,436	1.22	263,126	261,714
1974	213,854	0.92	213,342	211,636	1995	266,557	1.18	266,278	264,927
1975	215,973	0.99	215,465	213,789	1996	269,667	1.17	269,394	268,108
1976	218,035	0.95	217,563	215,894	1997	272,912	1.20	272,647	271,394
1977	220,239	1.01	219,760	218,106	1998	276,115	1.17	275.854	274,633
1978	222,585	1.06	222,095	220,467	1999	279,295	1.15	279,040	277,841
1979	225,055	1.11	224,567	222,969	2000	282,385	1.11	282,172	280,927
1980	227,726	1.19	227,225	225,621	2001	285,309	1.04	285.082	283,845
1981	229,966	0.98	229,466	227,818	2002	288,105	0.98	287,804	286,537
1982	232,188	0.97	231,664	229,995	2003	290,820	0.94	290,326	289,107
1983	234,307	0.91	233,792	232,097	2004	293,463	0.91	293,046	291,785
1984	236,348	0.87	235,825	234,110	2005	296,186	0.93	295,753	294,562
1985	238,466	0.90	237,924	236,219	2006	298,996	0.95	298,593	297,413
1986	240,651	0.92	240,133	238,412		302,004	1.01	301,580	300,425
1987	242,804	0.89	242,289	240,550	2008	304,798	0.93	304,375	303,202
1988	245,021	0.91	244,499	242,817	2009	307,439	0.87	307,007	305,782

8 Population

U.S. Census Bureau, Statistical Abstract of the United States: 2012

Notes on Abstract Table 2:

- a) For direct comparison of Abstract Table 2 against "Resident Population" census data, the "Resident population" column is appropriate.
- b) Counts shown here match exactly (given rounding) to census data. See section "Population Estimates for 1900 through 2000".
- c) Note that years 1961,1962,1963,1964 and 1966, 1967, 1968, and 1969 are missing. The counts for these years can be found in section "Population Estimates for 1900 through 2000"

Report Preparation

2024-07-01 David M Golden Added fair use

2024-06-29 David M. Golden Initial draft (dgolden -at-gmail.com)

¹ Percent change from immediate preceding year. Source: U.S. Census Bureau, Population Division, 1960 to 1979: Current Population Reports P25-802 and P25-917; 1980 to 1989: "Monthly Estimates of the United States Population: April 1, 1980 to July 1, 1999, with Short-Term Projections to November 1, 2000," January 2001, http://www.census.gov/popest/archives/1990s/nat-total.txt; 1990 to 1999: "National Intercensal Estimates (1990–2000)," August 2004, http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets. http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets. http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets. http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets. http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets. http://www.census.gov/popest/archives/EST90INTERCENSAL/US-EST90INT-datasets. http://www.census.gov/popest/archives/EST90INT-datasets. http://www.census.gov/popest/archives/EST90INT-datasets/. http://www.census.gov/popest/archives/EST90INT-datasets/. http://www.census.gov/popest/archives/EST90INT-datasets/. http://www.census.gov/popest/archives/EST90INT-datasets/. http://www.census.gov/popest/archives/EST90INT-datasets/. <a href="http://www.cens December 2009, http://www.census.gov/popest/national/tables/NA-EST2009-01.xls