

**New York
Metropolitan
Transportation
Council**

The Metropolitan Planning Organization

Demographic and Socioeconomic Forecasting

*Technical Memorandum
Task 1.2.1
Population Model*

*Submitted by:
Urbanomics
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NEW YORK METROPOLITAN TRANSPORTATION COUNCIL

DEMOGRAPHIC AND SOCIOECONOMIC
FORECASTING

TECHNICAL MEMORANDUM No. 1.2.1
POPULATION MODEL

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Population Model

1.1 INTRODUCTION

Background

This memorandum describes the Population Model developed as Task 1.2.1 of the Demographic and Socioeconomic Forecasting project. Work described here represents a recalibration and extension of work performed for Task 8.2 of the Transportation Models and Data Initiative (TMDI) project. The latter is a major program undertaken by the New York Metropolitan Transportation Council (NYMTC) to forecast the transportation needs of the New York Metropolitan Region¹ through the year 2020. The Population Model described here is used to forecast population trends, to the subregional level. Forecasts are made on a five-year interval basis for the period from 2000 to 2025.

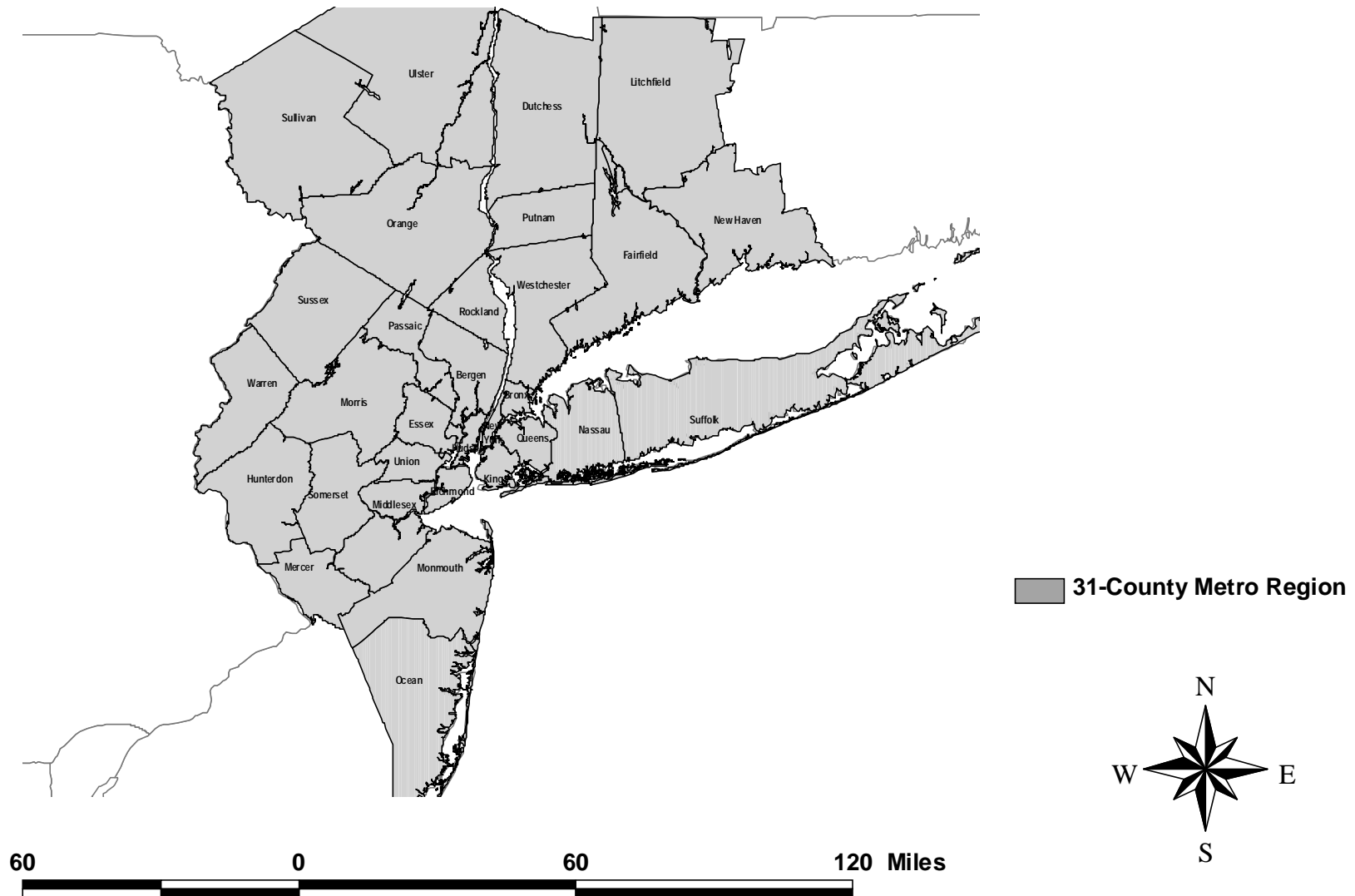
Population forecasts are necessary for transportation modeling because the size and distribution of the population directly affect those of the labor force, which in turn control journey-to-work trip patterns. Journey-to-work trips account for a large proportion of all travel within the region, especially peak hour commuting trips, which place the greatest demand on transportation infrastructure. In addition, the Population Model constrains the Household Formation and Housing Stock Preference Model (see Technical Memorandum 1.2.4).

The Population Model is based on the cohort-survival technique, a standard population forecasting methodology. In this method, the population is broken into separate age/sex-specific cohorts. A separate projection is made for every cohort for each time interval, based on the cohort's population at the beginning of the interval, its forecasted survival rate during the interval, and any net in- or out-migration over the interval. Population growth due to births for each interval is calculated based on forecasted age-specific fertility rates for the female population. The cohort-survival method provides a fairly reliable measure of population change due to natural increase (i.e., births and deaths) and estimates the effects of net-migration. The Population Model accounts for the net-migration component as a function of historical rates and the future demand of employment for labor force. The model's structure is discussed in detail in Section 1.3, below.

The Population Model generates population forecasts by sex and five-year age cohort through 84 years-of-age, as well as for persons 85 years-of-age and over. A separate model was run for each subregion; within each subregional model, submodels generate

¹ The New York Metro Region includes the following counties, by subregion: New York City subregion: Bronx, Kings, New York, Queens, Richmond Counties; Long Island subregion: Nassau & Suffolk Counties; Mid-Hudson subregion: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester Counties; New Jersey subregion: Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, Warren Counties; Connecticut subregion: Fairfield, Litchfield, New Haven Counties.

Map 1. Thirty-One County New York Metropolitan Region



separate outputs for each racial/ethnic group (non-Hispanic White, non-Hispanic Black, non-Hispanic Asian/Other, and Hispanic).² Each model includes an historical section, covering the years 1970 through 1999, and a forecast section, covering the years 2000 through 2025. All outputs are generated on a five-year interval basis. A separate forecasting routine disaggregates the subregional population forecasts to the county level.³

The Population Model uses US Census Bureau historical population figures as a basis for all projections. Forecasted survival and fertility rates were developed in consultation with Census Bureau demographers and are based on national-level Census Bureau forecasts adjusted for subregional differences. The forecasts of births and deaths are controlled by an adjustment factor that reflects the difference between actual historical births and deaths, on a racial/ethnic-specific basis, from state Department of Health (DOH) sources, and predicted births and deaths based on population and fertility figures from the Census Bureau historical series. Net migration forecasts are based on historical levels and forecasted natural increase in, and are constrained by the results of the employment and labor force forecasts, as described in Technical Memorandum 1.2.3. All model inputs are discussed in detail in Section 1.2, below.

The Population Model is delivered to NYMTC in Microsoft Excel 97 workbooks that combine the Population and Labor Force Models, due to the numerous points of interaction between the two. These spreadsheet models will be utilized by NYMTC in periodic monitoring and reforecasting of population trends.

Changes from NYMTC TMDI Task 8.2 Population Model

The methodology used for the current task is basically the same as was used for TMDI Task 8.2. However, some modifications have been made. First, the model's Excel workbook has been streamlined to facilitate the updating of model inputs. Inputs have been broken into separate worksheets for ease of entry and validation. The Population and Labor Force Models, which formerly shared a single worksheet for each subregion and racial/ethnic group, also have been given separate worksheets. As before, model outputs are summarized on independent worksheets.

The base year for the forecasts has been extended from 1990 to 2000. Population controls for the year 2000 have been estimated outside the cohort model framework based on the latest (1998) Census Bureau estimates, as discussed below. Estimates of births and deaths for the 1990s have been collected, as available, from both the US Census Bureau and State Departments of Health.

² See Technical Memorandum 1.1.1 for a further discussion of racial/ethnic groupings used for this study.

³ Extensive use was not made of county-level input data, other than to control for estimated births and deaths at the subregional level by aggregated county vital statistics, because county level survival and fertility rates exist only for selected historical years and have not been forecasted, as have national rates of survival and fertility.

Vital rate inputs (age-specific fertility and survival rates) have been adopted from the latest Census Bureau projection series, issued earlier this year. Various inputs are cited and discussed separately, below.

Whereas TMDI Task 8.2 included alternative low, high and zero-net migration forecast series in addition to the baseline series, the current Task includes a baseline series only. Model enhancements under the forthcoming Task 2.2 will examine the effect of running a population model separately for each county, rather than relying on a subregional model disaggregated to the county level.

In TMDI Task 8.2, net migration estimates for New York City were adjusted according to New York City Department of City Planning projections for the period 1990 to 2000. In the current model, the latter have been superseded by the 2000 population controls developed based on Census Bureau estimates for 1998. Therefore, net migration figures for 1990 to 2000 for New York City now reflect the residual of population change and natural increase, as in the other subregions.

For the sake of consistency, tables in the current memorandum have been restricted to model inputs, such as survival rates, fertility rates, and historical population estimates. TMDI Technical Memorandum 8.2 included some tables (such as forecasted rates of net migration) which are properly considered as model outputs. Comparable tables will appear in Technical Memorandum 1.3.1, which presents results of the Population Model.

Overview

Section 1.2, below, describes all model inputs. Section 1.3 offers a detailed discussion of the model's structure and outputs. Section 1.4 describes Task 1.2.1 work products. Population modeling forecasts and analysis are presented in a separate technical memorandum under Task 1.3.1.

1.2 DATA INPUTS

The Population Model incorporates a number of inputs at each five-year interval:

- Historical population figures by racial/ethnic group, sex and five-year age cohort.
- Estimated year 2000 population figures by racial/ethnic group, sex and five-year age cohort.
- Historical and forecasted survival rates by racial/ethnic group, sex and five-year age cohort.
- Historical and forecasted fertility rates by racial/ethnic group and five-year age cohort of women in reproductive ages.

- Historical births and deaths, by racial/ethnic group where available.
- Labor force net migration, by racial/ethnic group, sex and age.

This section discusses the various inputs to each subregional model, gives their sources, and where relevant discusses any adjustments to source data.

As discussed above, each subregional model incorporates submodels for each racial/ethnic group. Where necessary, source data were disaggregated by racial/ethnic group within the model for incorporation into each racial/ethnic submodel. For the sake of convenience, this disaggregation process is described together with the discussion of each input, below.

Historical Population Data

The Population Model uses 1990 Census data as a base for all forecasts. In addition, Census population data for 1970 and 1980 are incorporated as inputs in the historical section where they are used in the calculation of control factors used in births and deaths forecasting. Data for 1980 and 1990 come from the Census's Modified Age/Race/Sex (MARS) data set; data for 1970 come from the STF data set. All Census data are aggregated by sex and five-year age cohort through age 84 with an additional cohort including persons 85 years of age and older. MARS data for 1980 and 1990 are reported by the racial/ethnic groupings used in this study; data for 1970 were adjusted to fit these groupings. All figures are aggregated at the subregional level. A further discussion of historical population figures is included in TMDI Technical Memorandum 7.3.

For the intercensal years 1975 and 1985 the Census Bureau did not release age-, sex- and race-specific figures. Therefore, for these years figures were interpolated from the preceding and following decennial Census years.

Estimated 1995 and 2000 Population

Technical Memorandum 1.1.1 provides age/sex/racial-ethnic population estimates by subregion for 1998, in comparison with decennial Census enumerations of the population in 1970, 1980 and 1990 (Table 13). Comparable age/sex/racial-ethnic population estimates for 1995 were inputted to the Population Model on a subregional basis, while the 1998 data were used with year 2000 estimates of total population by subregion (Table 5 of TM 1.1.1) to generate age/sex/racial-ethnic estimates of subregional population in 2000. Two specific series of the Population Estimates Program of the Census Bureau were utilized to produce 1995 and 2000 population by age/sex/race-ethnicity and subregion. Each series is released annually on the Bureau's website by county: Estimates of the Population of Counties by Race and Hispanic Origin: 1990-1998; and Estimates of the Population of Counties by Age, Sex, and Race/Hispanic Origin: 1990-1998.

For 1998, and all prior years since April 1, 1990, the first series provides aggregate county level population by four race categories (White, Black, American Indian and Alaska Native, Asian and Pacific Islander) cross-tabulated by two ethnicity categories (Hispanic, non-Hispanic), yielding eight racial-ethnic population estimates by county. Under the second series, the Bureau provides race and Hispanic origin data by age and sex on an annual basis for counties since April 1, 1990. However, these detailed estimates are available only for both genders of White non-Hispanic, White Hispanic, all Black, all American Indian and Alaska Native, all Asian and Pacific Islander, and all Hispanics. Utilizing the second series at a detailed age/sex-cohort level, it was necessary to disaggregate the Black and Asian/Other (Pacific Islander, American Indian and Alaska Native) population into its component Hispanic and non-Hispanic groups by subregion, so as to recombine each subregion's population into four mutually exclusive racial/ethnic groups. This was performed by segregating the non-White Hispanic population from the all Hispanics and extracting them from the all Black and all Asian/Other population on an age/sex basis proportional to the all-age controls provided by the first population series and the separate sex controls provided by the second series. These procedures were followed for each subregion in 1995, 1996 and 1998.

Year 2000 population estimates were prepared on a mutually exclusive age/sex/racial-ethnic basis by applying the rate of population change between 1996 and 1998 on a cohort-specific basis to estimate the net gain or loss in each cohort between 1998 and 2000 on a subregional basis. The net change in population levels by age/sex/race-ethnicity was then controlled to the aggregate population change, based upon the year 2000 estimate of total population by subregion (Table 5 of TM 1.1.1). The adjusted two-year cohort changes were summed with the 1998 population levels to create year 2000 estimates by subregion.

Survival Rates

Table 1 shows historical and forecasted survival rates used as inputs to the population model. For each five-year age group the model requires inputs of race/sex-specific rates. For any given population group, the survival rate is defined as the percentage of persons alive at the beginning of a time interval who survive to the end of that interval. Survival rates are typically presented in life tables, which show the attrition of a hypothetical population cohort (usually of 100,000 persons) on an annual basis given the age-specific survival rates for a given year. While complete life tables show survival rates by single year-of-age, abridged life tables present comparable figures for five-year age groups. Life tables also show other derived mortality related statistics, of which the most commonly used is remaining life expectancy for each year of age.

Data Sources

Deaths records are maintained by state and local governments, and assembled for the nation as a whole by the National Center for Health Statistics (NCHS) under the Vital Statistics Cooperative Program (VSCP). The NCHS also regularly publishes life tables for the United States as a whole by racial group (White, Black, and Other).

The US Census Bureau prepares life tables for the United States as a whole by more detailed racial/ethnic categories as part of its population projection program. In constructing these tables, they rely on NCHS deaths data, with supplementary data sources used to disaggregate deaths by detailed racial/ethnic group. Using these sources, and census population estimates, a base year table is made which shows actual estimated survival rates for the latest year for which data are available. Forecasted life tables are then constructed based on the base year table and expected patterns of change in mortality. Typically, forecasted life tables are produced for either one or two future years. If survival rates are desired for the intervening years, they can be interpolated from the preceding and following tables. In addition to a baseline forecast, a low and high forecast are produced for each racial/ethnic group.

Census Bureau survival rates have been used as inputs to the population model for both the historical and forecast periods because, unlike the NCHS tables, they include the required level of racial/ethnic group detail. It should be noted that all figures represent characteristics of the nation as a whole, since sub-national level survival rate data are not published by the required level of age/sex/race detail for the majority of the Region.

As part of its ongoing program of population projections, the Bureau regularly prepares updated base-year and forecasted life tables. However, life tables are not prepared for all years. As noted above, for any given forecast cycle, the Bureau prepares a base-year table and one or more forecast year tables; tables for intermediate years must be interpolated. Furthermore, not all vital rates used by the Bureau are published, nor does the Bureau publish compilations of their vital rates estimates for past years. Survival rates used as inputs to the population model are thus subject to the availability of published and unpublished figures.

Census Bureau projections have traditionally been published in the P-25 series of reports. Recently, figures have also been released on the Bureau's web site (www.census.gov), where Adobe PDF (portable document format) versions of latest P-25 reports are also available as free downloads. At the time of this writing, latest projections (released this year) have only been released in web format.

For the model's historical section, Census survival rate estimates for the 1986 to 1991 period were adopted for all years and were obtained from report P-25, No. 1018, *Projections of the Population of the United States by Age, Sex, and Race: 1988 to 2080*.⁴ Rates for the Hispanic population were obtained from report P-25, No. 995, *Projections of the Hispanic Population: 1983 to 2080*.⁵

For the period 1992 through 2000, survival rates are carried over from TMDI task 8.2. These are based on the complete life tables included in the Census Bureau's data file, "Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1993 to 2050 -- Middle Series Vital Rate Inputs." This file was released on floppy diskette and contains vital rate inputs used in preparation of the publication *Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1993 to 2050* (Current Population Reports series P25-1104, November 1993).

⁴ US Government Printing Office, Washington, D.C., 1989, Appendix B.

⁵ US Government Printing Office, Washington, D.C., 1986, Appendix B.

For the period 2000 through 2025, rates are based on the complete life tables released on the web earlier this year as part of the Bureau's latest projection series for the period 1999 through 2100. These figures were obtained from the Census Bureau web site (www.census.gov/population/www/projections/popproj.html).

In both 1993 and 2000, the Census Bureau released only complete life tables (i.e. by single-year-of-age) for each racial/ethnic group. In 1993, tables were prepared for the years 1992, 2000 and 2050; in 2000, tables were prepared for the years 1999 and 2100.

It was therefore necessary for Urbanomics to convert the complete tables to abridged tables (i.e., by five-year age group) as required by the Population Model. The methodology for calculation of five-year rates was supplied by Gregory Spencer of the Census Bureau's Population Division, and was verified against historical five-year survival rates data. As noted above, in addition to survival rates the life table shows a number of derived mortality-related statistics for each age group; among these is the number of person-years lived during the interval, a weighted measure reflecting the cohort's attrition over the course of a given year. Five-year survival rates were derived from these figures, as the ratio of number of person-years-lived for a five-year period (i.e., the sum of annual person-years-lived figures for the five years) to the number for the previous five-year period. For ages 5 through 9, for example, this can be expressed in the equation:

$$S_{5-9} = \frac{\sum_{i=10}^{14} L_i}{\sum_{i=5}^9 L_i}$$

where S represents the five-year survival rate, L represents annual person-years lived, and i represents a given year.

Survival rates were produced corresponding to each of the Census Bureau's complete tables and rates for intermediate years were then interpolated.

Trends in Survival Rates

Following a period of rapid decline early in the century, and another period of relative stability between the mid 1950s and late 1960s, mortality patterns in the United States in recent years have been characterized by gradual decline. While the earlier period of rapid declines was dependent on dramatic progress in the combating of infectious diseases, the recent pattern is due to more modest gains in the fight against two of the current major causes of death, cardiovascular diseases and cancer. Since the 1980s, the spread of AIDS has been a complicating factor in terms of patterns of mortality.⁶

⁶ Daugherty, Helen Ginn & Kenneth C. W. Kemmeyer, *An Introduction to Population*, New York: Guilford Press. 1995.

Survival rates have historically varied, and continue to vary, based upon factors such as sex and racial/ethnic group. The difference in life expectancy between the sexes widened during the period 1900 to 1979, narrowed between 1979 and 1986, and then began a period of fluctuation at about 7 years. The difference between the White and Black population narrowed from 7.6 years in 1970 to 5.7 years in 1982, but increased again to 7.1 years in 1989, before resuming a pattern of decline.⁷ During the 1990s, "the differentials between males and females, and between Blacks and Whites, have tended to narrow. By 1997, life expectancies for males and females had reached 73.6 and 79.4 respectively."⁸

In estimating future year survival rates, the Census Bureau periodically revises its assumptions and methodologies. In 1993, the Bureau applied historical rates of change, based on adjusted level death rates for 1970, 1980, and 1990, to a 1992 base year table. These rates carry forward the slow improvement in life expectancy observed in recent years. Sex and race differentials were not assumed to converge, but were rather determined by the rates of change applied to each group individually. Variations between the Bureau's middle series projections and the alternative (high and low) series were based on differences in the expected effect of AIDS on mortality in coming years. For the middle series, the 1980 to 1990 trend of mortality improvement is replicated, with some additional impact of AIDS included. The incidence of AIDS is projected to increase until 2000 and then slowly decrease to 1990 levels by 2050. For the low life expectancy series, the incidence of AIDS is projected to increase through 2005, and survival rates for that year are held constant for all future years (reflecting no improvements in mortality after 2005). For the high life expectancy series, the 1970 to 1980 pattern of life expectancy change is replicated in the future, in effect ignoring the effect of AIDS.⁹

In contrast to 1993, the Census Bureau's 2000 series does assume a convergence of mortality trends among the various racial/ethnic groups and, to a lesser extent, between the sexes as well. Target life tables incorporating this convergence were prepared for a far-future year (2150), and base-year life tables were then forced to converge to the target tables over time. The choice of a target year beyond the projection's year 2100 time horizon allowed for a plausible rate of mortality decline for each population group. The target table was developed incorporating recent research on anticipated life expectancy and expert opinion regarding rates of mortality decline by age. Life expectancies from the Census Bureau middle series for each racial/ethnic group are presented below.

⁷ National Center for Health Statistics. *Vital Statistics of the United States, 1992*, vol II, sec 6 life tables. Washington: Public Health Service. 1996.

⁸ Hollman, Frederick W., Tammany J. Mulder & Jeffrey E. Kallan, Population Projections Branch, Population Division, US Census Bureau. "Methodology and Assumptions for the Population Projections of the United States: 1999 to 2100," Population Division Working Paper No. 38. 2000. According to this paper, data is insufficient to identify trends over time for other racial/ethnic groups.

⁹ The preceding discussion is based on documentation contained on the above-referenced floppy diskette file.

Projected Life Expectancy at Birth by Race and Hispanic Origin, 1999 to 2100 (Middle Series)

Race & Hispanic Origin	1999	2025	2050	2100
Total Population (Male)	74.1	77.6	81.2	88.0
Total Population (Female)	79.8	83.6	86.7	92.3
White, Non-Hispanic (Male)	74.7	77.8	81.1	87.6
White, Non-Hispanic (Female)	80.1	83.6	86.4	91.8
Black, Non-Hispanic (Male)	68.4	73.6	78.5	86.9
Black, Non-Hispanic (Female)	75.1	80.5	84.6	91.5
Asian, Non-Hispanic (Male)	80.9	82.4	84.8	89.4
Asian, Non-Hispanic (Female)	86.5	87.7	89.7	93.4
Hispanic (Male)	77.2	80.0	83.0	88.6
Hispanic (Female)	83.7	86.1	88.4	92.9

Source: See footnote 8.

The Census Bureau adjusted figures for years through 2020 to maintain consistency between the long-term forecast series and mortality estimates for the 1990s. Variations between the middle, low and high series figures involved lowering or raising the anticipated life expectancy of each population group.

Deficiencies in this methodology noted by the Census Bureau include data limitations in the construction of base-year life tables, primarily discrepancies between the sources for deaths data (the National Center for Health Statistics) and and population data (Decennial Census and Census Estimates). It should also be noted that New York and Connecticut were among five states excluded from the calculation of Hispanic rates because of problems with deaths data.¹⁰

Fertility Rates

Table 3 presents the fertility rates used as inputs to both the historical and forecast sections of the Population Model. The table shows both age-specific and total fertility.¹¹ The model uses age-specific fertility rates, together with population figures for women of childbearing age, in the forecasting of births by racial/ethnic group. The age-specific fertility rate is the fertility rate for a specified age group, expressed in terms of live births per thousand women in the group. The Population Model uses fertility rate inputs specific to the racial/ethnic groups used in this study, by five-year age cohort for ages 10 through 49. Because of the lack of a source for subregional age-specific fertility

¹⁰ For a detailed discussion of the Census Bureau methodology, see the accompanying Working Paper, cited in footnote 8, above).

¹¹ The age-specific fertility rate is the fertility rate for a specified age group, expressed in terms of live births per thousand women in the group. The total fertility rate provides a summary of the age-specific rates, and is equal to the number of live births that 1,000 women would have during their lifetime if they conformed to the prevailing age-specific birth levels throughout their reproductive years. Total fertility rates are also sometimes expressed as average births per woman, which is equal to the previously described figure divided by 1,000.

rates for the required level of racial/ethnic detail, fertility rates have been adopted from national level Census Bureau forecasts. Within the Population Model, births are estimated for each five-year time period as a whole, using rates for the midpoint of that period (2003 for the interval 2000 to 2005, 2008 for the interval 2005 to 2010, etc.) (Births forecasting methodology is discussed in Section 1.3, below).

Data Sources

As mentioned above in the discussion of survival rates, Census Bureau projections have traditionally been published in the P-25 series of reports. Whereas survival rate inputs have only been released in electronic format, fertility rate forecasts have usually appeared in an appendix of the published reports. Recently, figures have also been released on the Bureau's web site (www.census.gov), where Adobe PDF (portable document format) versions of latest P-25 reports are also available as free downloads. At the time of this writing, latest projections (released this year) have only been released in web format. The Census Bureau periodically revises its fertility rate estimates as part of its ongoing population projections program. The Bureau does not publish compilations of past figures, so figures for past years are subject to availability at Census data centers and other sources.

Historical rates were obtained from the P-25 series, Nos. 917, 995, 1018, and 1092. Rates for 1978 were interpolated from the preceding and following periods. Separate rates for Asians were not available and were therefore adjusted from rates for Whites for all periods from 1970 through 1990.

For the period 1990 to 1994, fertility rates are carried over from TMDI Task 8.2, and are based on national-level figures published in the Census Bureau's report *Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1993 to 2050*.¹² For the period 1995 to 1999, figures were obtained from an updated version of this report, *Population Projections of the United States, by Age, Sex, Race, and Hispanic Origin: 1995 to 2050*.¹³ Both reports include high-, middle- and low-series fertility rates for the racial/ethnic and age groups used in this study; model inputs are based on middle-series figures.

For forecast periods from 2000 onward, fertility rates were derived from the latest population projections series released by the Census Bureau on their web site earlier this year. Rates for 2000 differ in format from previous releases. In previous years, rates were published in tables by mother's five-year age cohort for each forecast; model inputs were adopted from the middle year of each five-year forecast interval. In 2000, rates have so far been released in electronic format only by mother's single-year-of-age. Urbanomics has converted these figures to five-year figures using the single-year-of-age fertility rates in combination with comparable single-year-of-age projections of the female population released concurrently on the Bureau's web site. Births can be calculated as the product of female population and the fertility rate for each group. Five-

¹² US Bureau of the Census, Current Population Report, P25-1104, US Government Printing Office, Washington, DC, 1993, Appendix A.

¹³ US Bureau of the Census, Current Population Report, P25-1130, US Government Printing Office, Washington, DC, 1996, Appendix A.

year cohort fertility rates can then be calculated by dividing the total number of births for each cohort by the total number of women in the cohort. In addition, rather than using the mid-period rate as in previous years, using the 2000 data it has been possible to create weighted average rates for each five-year forecast interval. This is done by summing all births for the interval for each age-cohort, and dividing by the total number of at-risk women across the five-year forecast interval (i.e., the sum of number of women in the cohort in each year of the forecast interval).

Census Bureau methodologies for projecting fertility rates are subject to periodic review and revision. Changes relevant to model inputs are discussed in the following section on trends in fertility rates.

Trends in Fertility Rates

Beginning at about the year 1920, fertility rates in the United States started a historic pattern of decline. During the depression years of the 1930s, the general fertility rate¹⁴ remained stable at just under 80. In the immediate post-war years, the fertility rate soared, reaching a peak of over 120 in the late 1950s. This rise in fertility resulted in the well-known "baby boom" phenomenon, the unusually large population cohort born between the late 1940s and early 1960s. After the late 1950s, the fertility rate declined rapidly during the 1960s, and has entered a period of relative stability since the mid-1970s. In spite of the historically low fertility levels of recent years, the number of births has increased due to the rising number of women of childbearing age, as the baby-boom cohort reaches maturity.¹⁵

Fertility rates have historically varied by a number of factors including racial group. Fertility rates for Blacks have been higher than for Whites and until recently remained higher even as rates for both groups declined. Rates for Asians have also been higher than for Whites, though only slightly, and the difference between the two groups declined during the 1980s.¹⁶ Since the 1990s, there has been some evidence that fertility rates for Blacks are declining towards the levels of Whites.¹⁷

Fertility rates produced by the Census Bureau in 1993 and 1996 follow a common set of assumptions. First, the projections assume no racial/ethnic fertility convergence. Second, since the end of the Baby Boom, completed cohort fertility has remained about the same and the Bureau has assumed that this pattern of stability will continue in the future. Third, foreign-born women have had higher fertility than native born women in the past and it was assumed that this will continue. The Bureau assumed that the pattern of fertility is the same for Hispanic women of all races. Thus projections are made for Hispanic women of all races, as well as separately for non-Hispanic women by race (White, Black, Asian, etc.). Fertility rates for non-Hispanic Whites and Blacks were held constant from the base year 1993 onward, reflecting the assumed stability of recent

¹⁴ The general fertility rate is defined as births per 1,000 women aged 15-44 years.

¹⁵ Daugherty, Helen Ginn & Kenneth C. W. Kemmeyer, *An Introduction to Population*, New York: Guilford Press. 1995.

¹⁶ US Bureau of the Census, *Statistical Abstracts of the United States: 1996* (116th edition.) Washington, DC, 1996, Table 92.

¹⁷ See footnote 8.

fertility patterns. Declines for Hispanic and non-Hispanic Asian women reflected the assumed diminishing weight of foreign-born women within these groups.¹⁸

In 2000, the Census Bureau revised its fertility rate projection methodology. The Bureau established separate methodologies for the short- and long-terms. Since the short-term time horizon extends to the year 2025, it is this time period that is relevant to the Population Model inputs. For this period, the Bureau relied on a combination of birth expectations data and demographic theory. The former was obtained from the 1995 National Survey of Family Growth Cycle V (NSFG Cycle V) data set. Based on these data, the Bureau established target total fertility rates for the year 2025. A base table for 1998 was calculated from National Center for Health Statistics (NCHS) birth registration data and Census population estimates for 1996 to 1998. Age-specific fertility rates were then interpolated from the base and target year data. Because birth expectations data were deficient for non-Hispanic Asian females, the Bureau calculated a target total fertility for this group based on the assumption that fertility would converge halfway to "replacement level" (2,100 births per 1,000 women) by the year 2025. This assumption in turn reflects the idea, proposed by assimilation theory and confirmed by some empirical research, that over time immigrants (and immigrant-heavy racial/ethnic groups such as Asians) will tend to adopt the fertility behaviors of native women.¹⁹

Births

Inputs of births to the model's historical section provide a subregional-level control to the national-level fertility behavior reflected in the age-specific fertility rate inputs. The Population Model requires inputs of reported resident live births, by racial/ethnic group, for each five-year interval through the year 2000. As part of Task 1.1.1, historical data and recent estimates of total births were obtained from US Census Bureau and state Department of Health (DOH) sources for the years 1970 through 1999. These data and sources are discussed in detail in that Technical Memorandum.

Births data are typically compiled by state Departments of Health, and selected fertility statistics are published annually in registration reports. The departments have recently begun maintaining annual reports at their web sites, beginning with reports for the early to mid-1990s.²⁰ Under the federal/state cooperative program, the Census Bureau works with the states to produce an annual series of births estimates that is consistent in methodology for the entire nation. Census Bureau estimates are released regularly on their web site.²¹ Census and DOH birth totals are generally quite close. Census estimates have been adopted for the 1990s, while previous years use the DOH figures, as in TMDI Task 8.2. Neither the Census Bureau nor the state Departments of Health publishes tabulations of births by the racial/ethnic categories used in the Population Model. For most of the historical period incorporated in the model, racial/ethnic data are extremely limited, and where reported usually do not include separate figures for Hispanics and Asians except for the most recent years. Therefore it was necessary to

¹⁸ See notes 11 and 12, above.

¹⁹ See footnote 8.

²⁰ New York State: www.health.state.ny.us; New Jersey: www.state.nj.us/health/chs/; Connecticut: www.state.ct.us/dph/.

²¹ www.census.gov/population/www/estimates/popest.html.

disaggregate births by racial/ethnic group within the Population Model. For most years, it was determined that reported racial/ethnic births data were too limited to be of use in the estimation process. Instead, disaggregation was based on birth estimates for each racial/ethnic group, which were generated from historical age/race-specific fertility rates and population figures for women of child-bearing age for each period. (The births estimation methodology is discussed in Section 1.3, below.) The racial/ethnic shares of the reported totals were assumed to follow the distribution of the estimates for the corresponding periods. Since the mid-1980s reporting of births by racial/ethnic origin of mother has improved substantially, and have been incorporated into the racial/ethnic disaggregation as available for given time periods and geographic locations. Total births by racial/ethnic group were divided between male and female on a 51-49 basis.

Deaths

Inputs of deaths to the model's historical section provide a subregional-level control to the national-level mortality behavior reflected in the age-specific survival rate inputs. The Population Model requires inputs of reported deaths, by racial/ethnic group, for each five-year interval through the year 2000. As part of Task 1.1.1, historical data and recent estimates of total deaths were obtained from US Census Bureau and state Department of Health (DOH) sources for the years 1970 through 1999.²² These data and sources are discussed in detail in that Technical Memorandum.

Availability of racial/ethnic data for deaths is even more limited than for births. Reported total deaths for each period were disaggregated within the model using population figures and survival rates following a methodology comparable to that discussed above for births. Racial/ethnic figures from state registration reports were incorporated where available.

Net Migration

For the historical period, net migration is calculated within the model as the residual of the population at the end of the interval and natural increase over the interval, as discussed in Section 1.3 on methodology, below. In the forecast section, net migration is calculated in two components: an initial estimate based on historical rates of net migration, and an adjustment reflecting labor force demand as computed in the Labor Force Model. The first component of net migration is calculated within the model based on net migration for the previous period; this is discussed in Section 1.3. The second component is input from the Labor Force Model and reflects the effect of employment demand on the migration of workers in or out of a given subregion. The Labor Force Model outputs are expressed as race/age/sex-specific migration flows. (See TMDI Technical Memorandum 8.4 for a further discussion of the Labor Force Model.) Because the Labor Force Model's age groupings differ from those used in the Population Model, groupings were adjusted within the Population Model based on the age-distribution of that model's initial net migration estimates.

²² See footnotes 19 and 20, above.

1.3 METHODOLOGY

Population Models were developed on a subregional basis and within subregions by racial/ethnic group, as discussed in Section 1.1 above. The models' conceptual organization is illustrated in Figures 1 and 2. As the latter show, each model is functionally divided into an historical and a forecast section. In the forecast section, base year 2000 population figures are projected forward based on estimated future patterns of fertility and mortality, as well as recent subregional patterns of net migration. Because the fertility and mortality rates used in this section are based on national rather than subregional patterns,²³ an adjustment for subregional conditions is necessary. This is the primary purpose of the historical section. In this section births and deaths adjustment factors are generated based on the difference between actual reported subregional births and deaths in recent years, and the level of births and deaths that would have resulted if regional fertility and mortality rates had followed national patterns. The adjustment factors are carried forward into future periods to modify the expected number of births and deaths that result from application of forecasted fertility and mortality rates.

The historical section also generates estimates of past net migration rates, which are used in the forecast section in the projection of future levels of net migration. In addition, the forecast section of the model depends, directly and indirectly, on the labor force and employment models, as shown in Figure 3. These relationships can be stated briefly as follows: Employment is forecasted independently of population and labor force. Labor force supply is assumed to respond to employment demand, and net population migration is assumed to be affected by subregional labor force requirements. Thus, forecasted net migration is determined by both past patterns of migration and forecasted employment opportunities.

Overview of the Cohort-Survival Methodology

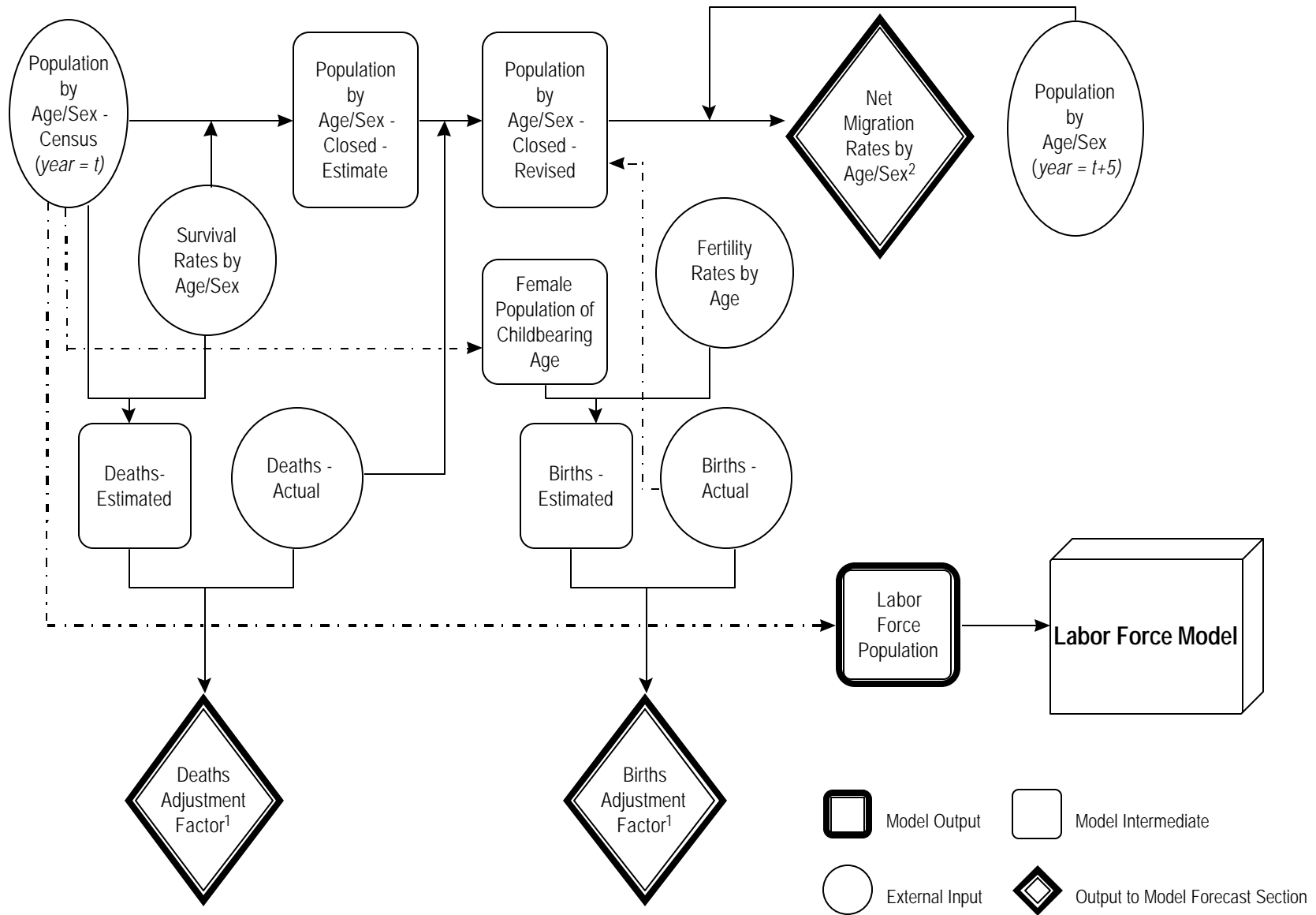
The Population Model is a modified version of the Cohort-Survival methodology. The latter is a standard population forecasting technique that is used to account for the effects of natural increase, i.e., the sum of births and deaths. In this technique a base year population is projected forward, subject to anticipated levels of fertility and mortality, to produce the estimated population for a future year. This future year population can then be used as the basis for a further round of projections. A projection interval of five years, as used in the Population Model, is typical; however one year, or any other time period, can be used.

In the Population model the Cohort Survival method has been extended to account for net migration, which as discussed above is in turn assumed to respond to forecasted employment levels.

Each component of change (births, deaths, and net migration) is accounted for separately. While changes in natural increase (i.e., births and deaths) depend on socioeconomic factors that cannot always be foreseen (such as severe economic

²³ See section 1.2 for a discussion of vital rate inputs.

Figure 1. Population Model - Historical Section



¹Output based on 1985 to 2000 time intervals only

²Output based on 1995 to 2000 time interval only

Figure 2. Population Model - Forecast Section

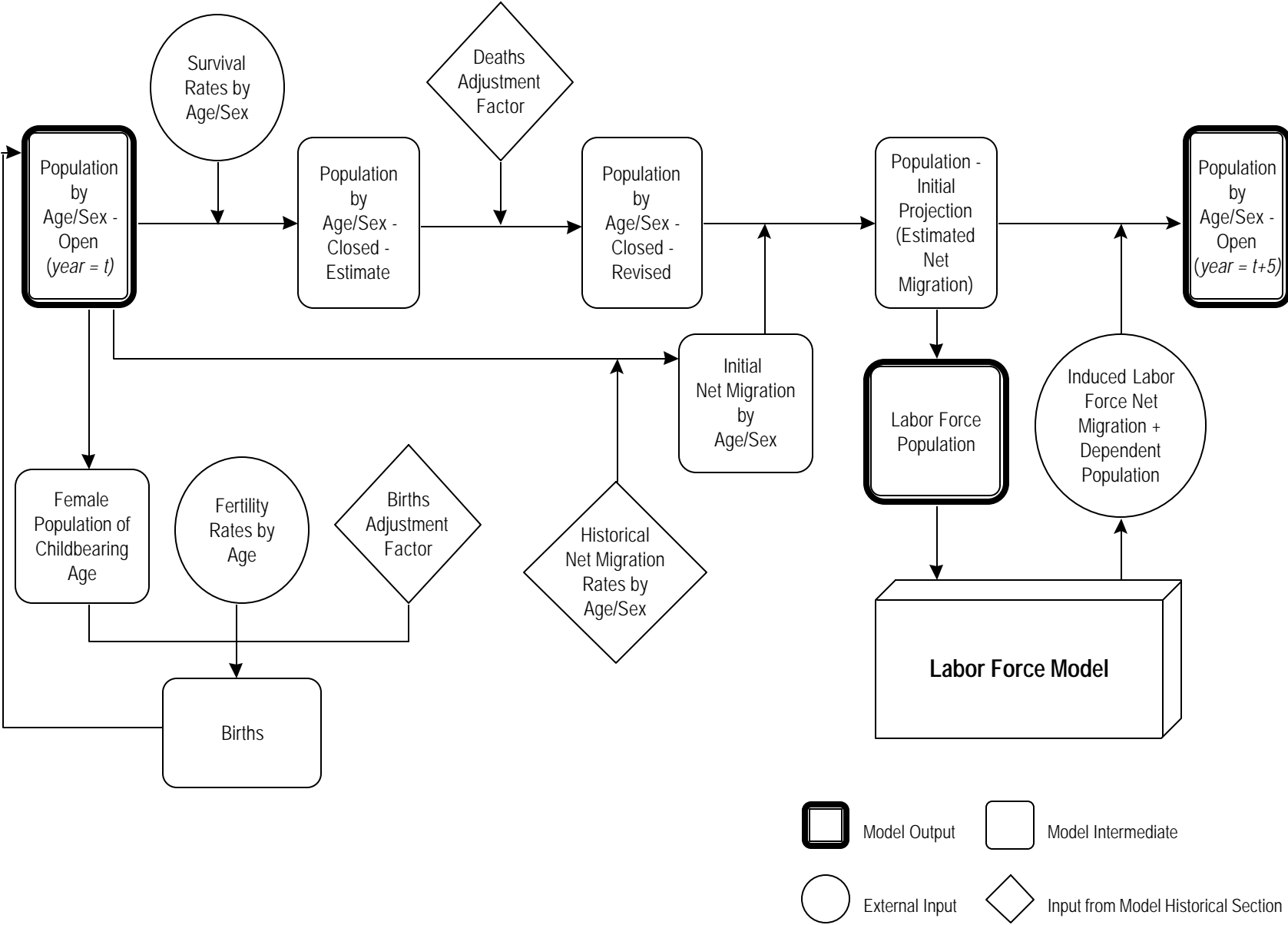
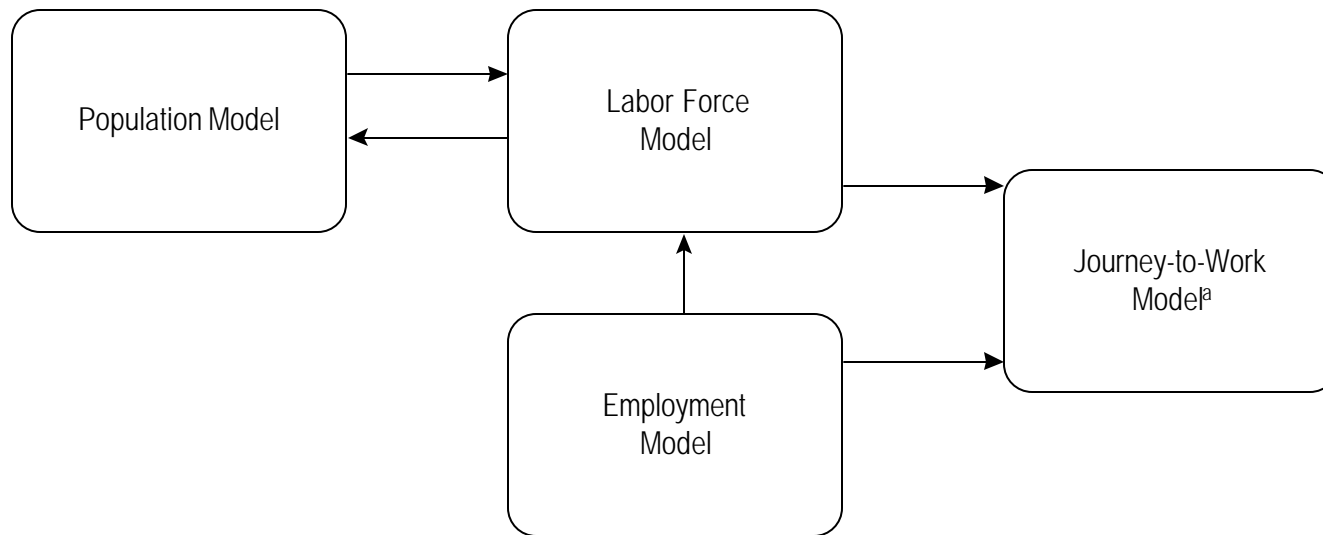


Figure 3. Interrelationships of Population, Labor Force, Employment and Journey-to-Work Models



^aA separate Journey-to-Work model was developed under Track 8 of the TMDI project, but is not part of the 2025 round of forecasts. Journey-to-work forecasts will be produced by the Enhanced Best Practices Model currently under development by the TMDI project.

downturns or lifestyle changes) patterns display some degree of regularity over time and changes are usually gradual. In addition, accurate historical births and deaths are available from state sources and can be used to control modeling results. Net migration trends are more difficult to forecast reliably because they vary widely over time and are subject to influences that are often volatile in nature (e.g., government policies, political and economic events specific to foreign countries, etc.). In addition, historical net migration data are not as robust as births or deaths data.

In the cohort-survival method, the population is divided into a number of separate age groups, or cohorts, and the behavior of each group is accounted for separately in terms of fertility and mortality. Although in principle any age grouping could be used, a five-year cohort is standard; in the Population Model, five-year cohorts are used through age 84, with an additional cohort for ages 85 and over. Live births are calculated by applying age-specific fertility rates to the female population cohorts of childbearing age, and are brought into the model at each interval as the youngest age cohort. Deaths are accounted for by applying age/sex-specific survival rates to each cohort and are subtracted from the model during each interval. An initial (“closed”) population projection for each age/sex-cohort is calculated as the cohort’s initial population (including births) minus deaths, that is based on natural increase alone without the effects of net migration.

In the Population Model net migration is accounted for based on two factors, historical rates of net migration by age/sex/race, and forecasted demand for labor on a racial/ethnic basis. Thus, an initial estimate of net migration by age/sex-cohort is calculated as a function of the previous net migration levels expressed as age-specific rates of the “closed” population projection for the prior period. The predicted net in-and/or out-migration by age and sex is supplemented by a labor induced migration component when the demand for labor in the Labor Force Model is not adequately matched by the labor supply from the “closed” population and expected migration.

A final (“open”) forecast by age/sex-cohort is made by adding the net migration component(s) to the “closed” projection, as expressed in the equation:

$$P = P' + M + L$$

where, for any given age/sex-cohort, P represents the “open” forecast, P' represents the “closed” projection, M represents net migration, and L represents labor induced in or out-migration. The open forecasts are functionally equivalent within the model to census-year population figures or intercensal estimates or interpolations.

This method is used to produce forecasts, at five-year intervals, for the years 2000 through 2025.

The structures of the historical and forecast sections differ and are therefore discussed in more detail separately, below. All discussions are at the level of the racial/ethnic submodels within each subregional model. These submodels are interdependent where necessary to aggregate historical births and deaths statistics by racial/ethnic group or to disaggregate employment and commutation shares in the Labor Force Model. For the sake of convenience, the aggregation methodology is included in the section above on

model inputs. All figures discussed below are therefore specific to given racial/ethnic groups.

Historical Section

Figure 1 presents the conceptual organization of the Population Model's historical section. In the historical section of the model, the cohort survival method is applied to historical population, fertility and survival data, generating estimates, for each interval, of the various components of population change (births, deaths, net migration). By comparing the model's results with actual reported births and deaths statistics, actual-to-estimated adjustment factors are developed which are used to control birth and death estimates generated in the forecast section. The net migration figures generated by the model for the historical period 1995 to 2000 are used as a base for forecasting net migration in subsequent years. In addition, the population model supplies historical labor force population figures to the labor force model. The outputs of the historical section can thus be summarized as follows:

- Births Adjustment Factor (to Population Model forecast section)
- Deaths Adjustment Factor (to Population Model forecast section)
- Net Migration Rate by Age and Sex (to Population Model forecast section)
- Labor Force Population (to Labor Force Model)

In the historical section, each five-year interval is discrete; the results of one period are not carried over to the next. New Census population data (or interpolated population figures for non-Census years) are introduced at the beginning of each interval as a base for estimates generated within that period. The sum of historical results is used, however, in the computation of adjustment factors. A single birth and death adjustment factor is generated for each racial/ethnic group; this factor is then applied uniformly across age groups and for all time intervals in the model's section.

Each interval in the historical section follows several steps. First, cohort-specific survival rates are applied to each age group, generating an estimated number of deaths within that age group during the interval. Second, the estimated deaths are controlled by the actual reported total deaths (for all ages) for the interval, resulting in an age-specific deaths estimate in agreement with historical deaths totals. Births over the five-year interval are also entered and survived. Third, the adjusted deaths for each age cohort are subtracted from the cohort's population at the beginning of the interval, resulting in a "closed" population projection for the end of the interval, which excludes the effect of net migration. Fourth, net migration is estimated for each age cohort by comparing this projected "closed" population, based on natural increase alone, with the actual population at the end of the interval from Census data (or intercensal interpolations). The net migration estimate for each cohort is equal to the difference between these two figures, a positive figure if the actual population for the cohort exceeds the "closed"

projection, a negative figure if it is less. This process is then repeated for the subsequent interval using the new Census figures.²⁴

Births Adjustment Factors

Birth and death adjustment factors are generated within the historical section for application in the forecast section. The purpose of these factors is to act as a control to the model's births and deaths forecasting methodology by comparing outputs for historical periods with actual reported births and deaths data for the same years. The ratio of actual to estimated births/deaths in past years can then be used to adjust births/deaths estimates generated in the model's forecast section.

The Population Model includes separate sections within each racial/ethnic submodel for the estimation of live births. Births are estimated for each five-year interval as a whole, based on population figures for women of childbearing age (ages 10 through 49) and fertility rates by age for the mid-point of each five-year interval.²⁵ These population and fertility rate figures are specific to each racial/ethnic group and five-year age cohort. Fertility rates are expressed as the number of live births per thousand women. The number of live births in a given five-year interval is calculated separately for each female age cohort, and these figures are summed to equal the total number of births for each racial/ethnic group.

Estimated births generated by the model for the period 1980 through 1995 are totaled, as are actual reported births for the same period. The Births Adjustment Factor is calculated as the ratio of actual to estimated births. For the historical period, actual births are used in the model. These totals are divided between males and females on a 51-to-49 basis and incorporated within the main section of the model.

Deaths Adjustment Factors

Death estimates are generated within the main section of the model as a part of the cohort survival method. A separate deaths estimate is made for each age/sex cohort at every time interval as a function of the cohort's population at the beginning of the interval and its five-year survival rate. These age/sex-specific death figures are summed within the model to equal the total number of deaths for each racial/ethnic group during each interval.

In the historical period, estimated deaths are adjusted upward or downward by actual deaths. In the forecast period, death adjustment factors, generated by the same methodology used in the calculation of birth adjustment factors, are applied to adjust deaths accordingly.

²⁴ Because end-of-period Census population figures make it possible to calculate net migration for a given period as a residual of actual final population and estimated natural increase, input from the Labor Force Model is not necessary in the Population Model's historical section. The historical section of the Labor Force Model incorporates Census-based estimates of actual labor force supply, and therefore produces no historical estimates of induced labor force immigration.

²⁵ All data inputs are discussed in Section 1.2, above.

Forecast Section

Figure 2 presents the conceptual organization of the Population Model's forecast section. While the forecast section of the model is largely similar to that of the historical section, described above, there are some differences in the calculation of the various components. Whereas in the historical section birth and death adjustment factors are generated through the comparison of model outputs with reported data, in the forecast section these factors are applied as controls. And whereas in the historical section it is possible to calculate net migration for an interval as the residual of the population at the interval's end after natural increase is accounted for over the interval, in the forecast section this is not possible since it is this final population which is to be determined. Net migration for each interval is thus projected based on the level for the previous interval, natural increase, and the effects of employment demand. The births, deaths and net migration components are discussed separately in greater detail below.

For each interval, the effects of births and deaths are accounted for first, with births inputted as the youngest age cohort (less than five years) and each cohort then "survived" forward to produce an initial, "closed," projection which excludes the effects of net migration. The net migration component is then added, producing a final, "open" forecast for the end of the interval. These "open" forecasts are equivalent in the model structure to Census data or intercensal interpolations, and are used as a basis for forecasting in the next interval. This procedure for any given age cohort and time interval can be expressed in the equation:

$$P = P' + M + L$$

where P represents the "open" population forecast, P' represents the "closed" projection, M represents net migration (from prior interval rates), and L represents labor induced in- or out-migration.

Births and Deaths

Births are calculated in a separate model subsection within each racial/ethnic submodel. An initial births estimate is made using the same methodology as described for the historical section above: births for each age cohort of women of child-bearing age are calculated separately, based on the population for the cohort and its fertility rate; cohort-specific births are then combined to equal the initial total for any given racial/ethnic group. The final total for each group is then calculated as the product of the initial total and the group's births adjustment factor, generated in the model's historical section. Births are then divided between males and females on a 51-to-49 basis and incorporated in the model's main section as the youngest age cohort.

Deaths are accounted for in the model's main section. First, an initial deaths estimate is made for each cohort based on the cohort's population at the start of the interval and the cohort-specific survival rate. For the 5 to 9 year old cohort, for example, this can be expressed in the equation:

$${}_{5-9}D'_{t+5} = {}_{0-4}P_t - ({}_{0-4}P_t \times {}_{0-4}S_t)$$

where D' represents the initial deaths estimate, P represents the cohort's initial population, S represents the cohort's five-year survival rate and t represents a given time interval. A final deaths estimate is produced as a function of the initial deaths estimate and the adjustment factor:

$${}_{5-9}D_{t+5} = {}_{5-9}D'_{t+5} \times a$$

where a represents the adjustment factor, a constant for each racial/ethnic group for all age cohorts and time intervals.

The number of deaths within a cohort is subtracted from the cohort's initial population to produce a "closed" population projection for the cohort. This can be expressed in the equation:

$${}_{5-9}P'_{t+5} = {}_{0-4}P_t - {}_{5-9}D_{t+5}$$

where P' is the "closed" projection, P is the population at the beginning of the interval and D is the number of deaths.

Within the spreadsheet, the model appears as a matrix of such calculations, as shown in the figure below.

	A	B	C	D	E	F
1	Pop 2000	Surv Rate	Pop 2005	Deaths Est	Deaths Adj	Pop 2005 Closedr
2	P0-4	S0-4				
3	P5-9	S5-9	A2 x B2	A2 - C3	D3 x ADJ	A2 - E3
4	P10-14	S10-14	A3 x B3	A3 - C4	D4 x ADJ	A3 - E4
5	P15-19	S15-19	A4 x B4	A4 - C5	D5 x ADJ	A4 - E5
6	P20-24	S20-24	A5 x B5	A5 - C6	D6 x ADJ	A5 - E6
7

Net Migration

Net migration comprises two components and is calculated in two steps. First, an initial estimate is made of net migration for each age cohort, based on the net migration level for the previous interval and growth in "closed" population between the two intervals, as expressed, for any given cohort, in the equation:

$$M'_{t+5} = M_t \times \frac{P'_{t+5}}{P_t}$$

where M' represents the initial net migration estimate for a given cohort, M represents a final Net Migration estimate, P' represents a “closed” population projection, and t represents a given time interval. Second, the initial estimate for each cohort is adjusted based on the match between forecasted labor force supply and demand for the time period. This match is determined in the Labor Force Model, and is described in TMDI Technical Memorandum 8.4. The Labor Force Model produces outputs, at each interval, of race/sex/age-specific net migration levels, to account for the in- or out-migration of workers in search of employment. In the Population Model these figures are added to the initial net migration estimates to produce a final net migration estimate for each age cohort:

$$M_t = M'_t + L_t$$

where L represents the net migration figure input from the Labor Force Model.

1.4 DISAGGREGATION OF SUBREGIONAL FORECASTS TO COUNTY LEVEL

County forecasts were not incorporated in the Population Model directly, but were made by disaggregating the Model's subregional outputs to the county level based on separate projections for each county. Under TMDI Task 8, the latter were developed using SPSS software to determine linear, cubic and quadratic equations best fitting historical trends for each county, based on annual data from the period 1970 through 1994. Some projections were modified, in consultation with local planning agencies, based on local population forecasts. This process of statistical analysis modeling was not repeated for the current set of forecast extensions, which rely on the same base projections used for the TMDI. Draft versions of the resulting forecasts were then modified based on reviews from county and regional planning agencies.

The limitation of this approach is that it is not directly sensitive to the factors that influence population change, but instead simply projects past patterns into the future, with adjustments based on expert opinion. Proposed model enhancements will address these limitations by developing cohort survival models, similar to the current subregional models, at the county level.

1.5 WORK PRODUCTS

The subregional Population Models are delivered to NYMTC in Microsoft Excel '97 workbooks. Because of their numerous points of interaction, the Population and Labor Force Models are combined in a single workbook for each subregion. Within each workbook, racial/ethnic submodels are included on separate worksheets. The workbooks also include worksheets that summarize various model outputs. *Since worksheets contain references to other worksheets within a given workbook, these sheets should be separated only with care to account for these references.* Each subregional model is contained in a separate workbook.

The text of this memorandum is contained in a Microsoft Word 97 file. The tables and appendix presented in this report are delivered in an Microsoft Excel workbook. Figures are delivered as a Microsoft Word file, with the exception of Figure 4, which is in Excel format. The entire memo has also been delivered as an Adobe Acrobat .pdf file.

Summary and analysis of Population Model results are included in Technical Memorandum 1.3.1.

Figure 4. Sample Population Model Spreadsheet Layout

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
1		Historical Section ----->																					
2	MALE WHITE NONH	1970	SURV	1975e	EST	ADJ	1975r	1970-75	1975e	SURV	1980e	EST	ADJ	1980r	1975-80	1980	SURV	1985e	EST	ADJ	1985r	1980-85	
3	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	
4																							
5	Births	53,132	0.98894						46,469	0.98894						48,959	0.98894						
6	Under 5	65,164	0.99808	52,544	588	726	52,406	4,450	56,856	0.99808	45,955	514	565	45,904	2,644	48,548	0.99808	48,418	541	575	48,384	4,604	
7	5 - 9	81,111	0.99877	65,039	125	155	65,009	3,223	68,232	0.99877	56,747	109	120	56,736	(1,383)	55,353	0.99877	48,455	93	99	48,449	5,262	
8	10 - 14	83,842	0.99643	81,011	100	124	80,988	(3,806)	77,182	0.99643	68,148	84	93	68,140	2,381	70,521	0.99643	55,285	68	72	55,281	4,848	
9	15 - 19	67,373	0.99320	83,543	300	370	83,472	(11,376)	72,097	0.99320	76,906	276	303	76,879	(59)	76,820	0.99320	70,269	252	267	70,254	(5,301)	
10	20 - 24	47,156	0.99273	66,915	458	566	66,807	(11,046)	55,761	0.99273	71,606	490	539	71,558	(7,192)	64,366	0.99273	76,298	522	554	76,266	(15,822)	
11	25 - 29	47,139	0.99284	46,813	343	424	46,732	5,706	52,438	0.99284	55,355	406	446	55,315	2,423	57,738	0.99284	63,898	468	497	63,869	(3,614)	
12	30 - 34	44,852	0.99191	46,801	338	417	46,722	6,213	52,935	0.99191	52,063	375	413	52,026	8,991	61,017	0.99191	57,325	413	439	57,299	7,518	
13	35 - 39	48,320	0.98912	44,490	363	448	44,404	6,729	51,134	0.98912	52,507	428	470	52,464	1,483	53,947	0.98912	60,524	493	524	60,493	(1,587)	
14	40 - 44	53,849	0.98317	47,794	526	649	47,671	2,383	50,054	0.98317	50,577	556	611	50,522	(4,263)	46,259	0.98317	53,360	587	623	53,324	625	
15	45 - 49	51,076	0.97210	52,943	906	1,120	52,729	(3,884)	48,845	0.97210	49,212	842	926	49,128	(2,513)	46,615	0.97210	45,480	779	826	45,433	3,005	
16	50 - 54	45,116	0.95340	49,651	1,425	1,760	49,316	(1,785)	47,531	0.95340	47,483	1,363	1,498	47,348	2,597	49,945	0.95340	45,315	1,300	1,380	45,235	619	
17	55 - 59	42,077	0.92617	43,014	2,102	2,597	42,519	1,433	43,952	0.92617	45,316	2,215	2,434	45,096	732	45,828	0.92617	47,618	2,327	2,470	47,475	(4,462)	
18	60 - 64	37,539	0.88708	38,970	3,107	3,838	38,239	(890)	37,349	0.88708	40,707	3,245	3,567	40,386	(3,227)	37,159	0.88708	42,444	3,384	3,591	42,237	(4,011)	
19	65 - 69	27,879	0.83107	33,300	4,239	5,236	32,302	(2,789)	29,514	0.83107	33,131	4,218	4,636	32,713	(1,564)	31,149	0.83107	32,963	4,196	4,453	32,706	(911)	
20	70 - 74	20,144	0.75252	23,169	4,709	5,817	22,061	(245)	21,816	0.75252	24,528	4,986	5,480	24,034	(546)	23,488	0.75252	25,887	5,262	5,584	25,565	(2,001)	
21	75 - 79	12,982	0.65692	15,159	4,985	6,158	13,986	143	14,129	0.65692	16,417	5,399	5,934	15,882	(606)	15,276	0.65692	17,675	5,813	6,169	17,319	(1,011)	
22	80 - 84	7,285	0.55019	8,528	4,454	5,502	7,480	524	8,005	0.55019	9,282	4,847	5,328	8,801	(77)	8,724	0.55019	10,035	5,241	5,562	9,714	(73)	
23	85 & Over	4,346	0.43027	5,878	5,753	7,106	4,525	519	5,044	0.43027	6,574	6,474	7,116	5,933	(191)	5,742	0.43027	7,270	7,196	7,637	6,829	(626)	
24																							
25	Total	840,381		805,561	#####	#####	797,369	(4,497)	792,872		802,514	36,828	#####	798,865	(370)	847,454		808,518	38,937	41,324	806,130	(12,936)	
26																							
27	FEMALE WHITE NONH	1970	SURV	1975e	EST	ADJ	1975r	1970-75	1975e	SURV	1980e	EST	ADJ	1980r	1975-80	1980	SURV	1985e	EST	ADJ	1985r	1980-85	
28	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	
29																							
30	Births	51,048	0.99124						44,647	0.99124						47,039	0.99124						
31	Under 5	62,895	0.99852	50,601	447	553	50,495	3,991	54,486	0.99852	44,255	391	430	44,217	1,860	46,077	0.99852	46,627	412	437	46,602	3,591	
32	5 - 9	77,198	0.99914	62,802	93	115	62,780	2,080	64,861	0.99914	54,406	81	89	54,398	(1,874)	52,524	0.99914	46,009	68	72	46,005	4,956	
33	10 - 14	78,780	0.99838	77,131	66	82	77,116	(4,179)	72,937	0.99838	64,805	56	61	64,800	2,294	67,094	0.99838	52,479	45	48	52,476	4,337	
34	15 - 19	69,230	0.99751	78,652	128	158	78,622	(6,968)	71,654	0.99751	72,819	118	130	72,807	1,270	74,077	0.99751	66,985	109	116	66,978	(5,099)	
35	20 - 24	57,294	0.99746	69,058	173	213	69,017	(8,679)	60,338	0.99746	71,475	179	196	71,457	(8,076)	63,381	0.99746	73,892	185	196	73,881	(14,735)	
36	25 - 29	52,074	0.99716	57,149	145	180	57,115	(664)	56,451	0.99716	60,184	153	168	60,169	659	60,828	0.99716	63,220	161	171	63,210	(1,172)	
37	30 - 34	48,919	0.99616	51,926	148	183	51,891	5,337	57,228	0.99616	56,290	160	176	56,275	9,262	65,537	0.99616	60,655	173	184	60,644	6,259	
38	35 - 39	50,341	0.99406	48,731	188	232	48,687	5,615	54,301	0.99406	57,008	220	242	56,986	1,276	58,262	0.99406	65,285	252	267	65,270	(3,252)	
39	40 - 44	54,979	0.99030	50,042	299	370	49,971	2,078	52,049	0.99030	53,979	323	355	53,947	(4,827)	49,120	0.99030	57,916	346	368	57,894	(904)	
40	45 - 49	52,829	0.98389	54,446	533	658	54,320	(3,727)	50,593	0.98389	51,545	505	555	51,495	(3,137)	48,358	0.98389	48,644	476	505	48,615	2,438	
41	50 - 54	49,378	0.97373	51,978	851	1,051	51,778	(965)	50,813	0.97373	49,778	815	896	49,698	2,550	52,248	0.97373	47,579	779	827	47,531	667	
42	55 - 59	46,277	0.95884	48,081	1,297	1,602	47,776	(167)	47,609	0.95884	49,478	1,335	1,467	49,346	(405)	48,941	0.95884	50,876	1,372	1,456	50,792	(5,355)	
43	60 - 64	41,322	0.93697	44,372	1,905	2,353	43,924	(2,037)	41,886	0.93697	45,649	1,960	2,154	45,455	(3,004)	42,451	0.93697	46,926	2,015	2,138	46,803	(4,384)	
44	65 - 69	33,774	0.90526	38,717	2,604	3,217	38,105	(1,564)	36,541	0.90526	39,246	2,640	2,902	38,985	323	39,308	0.90526	39,775	2,676	2,840	39,611	(709)	
45	70 - 74	28,201	0.85643	30,575	3,200	3,953	29,822	792	30,613	0.85643	33,079	3,462	3,805	32,736	290	33,026	0.85643	35,584	3,724	3,952	35,556	(2,567)	
46	75 - 79	20,040	0.78029	24,152	4,049	5,001	23,199	(720)	22,479	0.78029	26,218	4,395	4,831	25,782	(864)	24,918	0.78029	28,284	4,742	5,032	27,994	(1,537)	
47	80 - 84	12,646	0.67651	15,637	4,403	5,439	14,601	350	14,951	0.67651	17,540	4,939	5,428	17,051	206	17,257	0.67651	19,443	5,475	5,810	19,108	(122)	
48	85 & Over	8,548	0.54146	13,184	8,011	9,895	11,299	(87)	11,212	0.54146	16,185	9,978	#####	15,197	(1,322)	13,875	0.54146	19,187	11,945	12,677	18,455	(2,392)	
49																							
50	Total	895,771		867,231	28,540	#####	860,517	(9,514)	851,003		863,941	31,709	#####	860,799	(3,517)	904,321		869,367	34,954	37,097	867,224	(19,981)	
51																							
52	POPULATION	1,736,153		1,672,792	63,360	78,267	1,657,886	(14,011)	1,643,875		1,666,454	68,536											

Figure 4. Sample Population Model Spreadsheet Layout

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AO
1																						
2	MALE WHITE NONH	1985e	SURV	1990e	EST	ADJ	1990r	1985-90	1990	SURV	1995e	EST	ADJ	1995r	1990-95	1995	SURV	2000e	EST	ADJ	2000r	1995-00
3	POPULATION	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	ESTIMATE	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR
4																						
5	Births	54,339	0.9889						57,099	0.9926						47,567	0.9938					
6	Under 5	52,988	0.9981	53,738	601	61.3	53,726	3,702	57,428	0.9983	56,675	42.4	41.5	56,684	(4,984)	51,700	0.9986	47,272	295	300	47,266	(1,294)
7	5 - 9	53,711	0.9988	52,886	102	10.4	52,884	(815)	52,069	0.9989	57,332	9.6	9.4	57,334	(2,965)	54,369	0.9991	51,626	74	75	51,625	5,043
8	10 - 14	60,129	0.9964	53,645	66	6.8	53,643	(3,906)	49,737	0.9965	52,012	5.7	5.6	52,013	(1,141)	50,872	0.9967	54,318	51	52	54,317	(2,310)
9	15 - 19	64,953	0.9932	59,914	215	21.9	59,910	(6,824)	53,086	0.9935	49,562	1.75	1.71	49,566	2,204	51,771	0.9937	50,707	1.65	1.69	50,704	(248)
10	20 - 24	60,444	0.9927	64,511	442	45.1	64,502	(7,980)	56,522	0.9931	52,740	3.46	3.39	52,747	(3,913)	48,834	0.9930	51,444	3.27	3.33	51,438	(10,292)
11	25 - 29	60,256	0.9928	60,004	440	44.9	59,995	2,778	62,773	0.9926	56,133	3.89	3.80	56,142	(3,600)	52,542	0.9915	48,494	3.39	3.46	48,488	(6,177)
12	30 - 34	64,817	0.9919	59,824	431	44.0	59,815	8,802	68,617	0.9900	62,310	4.63	4.53	62,320	(1,431)	60,889	0.9877	52,093	4.49	4.58	52,084	1,077
13	35 - 39	58,906	0.9891	64,293	524	53.5	64,282	(417)	63,865	0.9867	67,931	6.86	6.71	67,946	(2,278)	65,668	0.9852	60,139	7.50	7.64	60,124	7,347
14	40 - 44	53,950	0.9832	58,265	641	65.4	58,252	3,388	61,640	0.9827	63,015	8.50	8.32	63,033	3,852	66,886	0.9828	64,696	9.72	9.91	64,677	7,454
15	45 - 49	48,438	0.9721	53,041	908	92.7	53,023	(2,763)	50,260	0.9744	60,575	1,065	1,041	60,599	(4,793)	55,805	0.9765	65,737	1,149	1,172	65,714	(4,363)
16	50 - 54	45,854	0.9534	47,086	1,351	1,37.9	47,059	(5,297)	41,762	0.9587	48,974	1,286	1,258	49,002	3,968	52,969	0.9627	54,492	1,314	1,339	54,466	9,711
17	55 - 59	43,014	0.9262	43,717	2,137	2,18.0	43,673	(3,474)	40,199	0.9333	40,038	1,724	1,686	40,076	4,013	44,089	0.9388	50,995	1,974	2,013	50,956	(2,978)
18	60 - 64	38,226	0.8871	39,838	3,176	3,24.1	39,773	(481)	39,292	0.8975	37,517	2,682	2,623	37,576	(1,986)	35,590	0.9064	41,390	2,699	2,751	41,337	(9,450)
19	65 - 69	31,795	0.8311	33,909	4,317	4,40.5	33,821	(1,380)	32,441	0.8473	35,263	4,029	3,941	35,351	(6,337)	29,015	0.8609	32,258	3,331	3,396	32,193	(6,605)
20	70 - 74	23,564	0.7525	26,424	5,371	5,48.1	26,314	(2,675)	23,639	0.7719	27,486	4,955	4,847	27,594	(2,990)	24,604	0.7873	24,977	4,037	4,116	24,898	671
21	75 - 79	16,308	0.6569	17,732	5,832	5,95.1	17,613	(273)	17,340	0.6667	18,246	5,393	5,275	18,364	1,381	19,745	0.6799	19,372	5,233	5,335	19,269	2,881
22	80 - 84	9,641	0.5502	10,713	5,595	5,70.9	10,599	(41)	10,558	0.5347	11,561	5,779	5,653	11,687	623	12,310	0.5485	13,426	6,319	6,443	13,302	761
23	85 & Over	6,204	0.4303	7,974	7,871	8,03.2	7,813	(1,148)	6,665	0.4288	8,504	8,719	8,529	8,694	(499)	8,195	0.4498	10,438	#####	10,265	10,241	(515)
24																						
25	Total	793,194		807,515	40,018	40,83.6	806,697	(18,804)	844,992		805,875	39,117	38,264	806,728	(20,876)	833,419		793,873	#####	#####	793,100	(9,289)
26																						
27	FEMALE WHITE NONH	1985e	SURV	1990e	EST	ADJ	1990r	1985-90	1990	SURV	1995e	EST	ADJ	1995r	1990-95r	1995	SURV	2000e	EST	ADJ	2000r	1995-00r
28	POPULATION	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	ESTIMATE	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR
29																						
30	Births	52,208	0.9912						54,860	0.9939						45,701	0.9949					
31	Under 5	50,193	0.9985	51,751	457	46.7	51,741	2,568	54,309	0.9987	54,524	335	328	54,532	(5,632)	48,899	0.9989	45,470	231	235	45,466	(1,976)
32	5 - 9	50,961	0.9991	50,119	74	7.6	50,117	(720)	49,397	0.9993	54,239	70	68	54,241	(2,327)	51,914	0.9994	48,846	53	54	48,845	5,586
33	10 - 14	56,814	0.9984	50,917	44	4.5	50,916	(4,383)	46,533	0.9984	49,361	36	35	49,362	(1,469)	47,893	0.9985	51,881	33	34	51,881	(2,628)
34	15 - 19	61,879	0.9975	56,721	92	9.4	56,719	(7,038)	49,681	0.9976	46,458	75	73	46,460	1,880	48,340	0.9978	47,819	74	76	47,817	(819)
35	20 - 24	59,146	0.9975	61,725	154	15.7	61,722	(6,811)	54,911	0.9976	49,563	118	116	49,565	(3,078)	46,487	0.9978	48,231	109	111	48,229	(10,167)
36	25 - 29	62,039	0.9972	58,996	150	15.3	58,993	4,256	63,249	0.9972	54,780	131	128	54,783	(1,743)	53,040	0.9972	46,383	104	106	46,381	(3,550)
37	30 - 34	66,904	0.9962	61,862	176	18.0	61,859	6,411	68,270	0.9961	63,071	178	174	63,075	(2,591)	60,484	0.9963	52,893	147	149	52,890	(193)
38	35 - 39	62,018	0.9941	66,647	257	26.2	66,641	(867)	65,774	0.9943	68,006	264	258	68,012	(482)	67,530	0.9948	60,259	225	229	60,254	9,032
39	40 - 44	56,990	0.9903	61,649	369	37.6	61,642	3,218	64,860	0.9911	65,402	372	364	65,410	4,581	69,991	0.9920	67,181	350	356	67,174	7,948
40	45 - 49	51,053	0.9839	56,437	553	56.4	56,426	(2,679)	53,747	0.9855	64,283	577	565	64,295	(4,874)	59,421	0.9865	69,428	563	574	69,417	(4,322)
41	50 - 54	48,198	0.9737	50,230	822	83.9	50,213	(6,065)	44,148	0.9756	52,967	780	763	52,984	2,228	55,212	0.9767	58,618	803	818	58,603	7,673
42	55 - 59	45,437	0.9588	46,932	1,266	1,29.2	46,906	(4,974)	41,932	0.9599	43,069	1,079	1,056	43,092	2,254	45,347	0.9612	53,926	1,285	1,311	53,901	(5,140)
43	60 - 64	42,419	0.9370	43,566	1,870	1,90.9	43,528	(1,142)	42,386	0.9389	40,251	1,681	1,644	40,288	(2,729)	37,559	0.9406	43,588	1,759	1,793	43,553	(10,821)
44	65 - 69	38,903	0.9053	39,745	2,673	2,72.8	39,690	(1,193)	38,497	0.9083	39,798	2,588	2,532	39,854	(6,315)	33,539	0.9110	35,328	2,231	2,275	35,284	(6,704)
45	70 - 74	32,789	0.8564	35,217	3,686	3,76.1	35,141	(2,589)	32,552	0.8601	34,968	3,529	3,452	35,045	(2,675)	32,369	0.8647	30,555	2,984	3,042	30,496	1,691
46	75 - 79	26,457	0.7803	28,081	4,708	4,80.4	27,985	10	27,995	0.7838	27,997	4,555	4,455	28,097	1,265	29,362	0.7919	27,990	4,379	4,465	27,905	2,824
47	80 - 84	18,986	0.6765	20,644	5,813	5,93.1	20,525	189	20,714	0.6670	21,943	6,052	5,920	22,075	(279)	21,796	0.6807	23,253	6,110	6,229	23,133	(255)
48	85 & Over	16,063	0.5415	21,541	13,507	13,78.3	21,265	(3,015)	18,250	0.5718	24,251	14,713	14,392	24,572	(3,710)	20,863	0.5949	27,247	15,412	15,713	26,946	(3,471)
49																						
50	Total	847,244		862,780	36,672	37,42.1	862,030	(24,825)	892,065		854,932	37,132	36,322	855,742	(25,697)	875,747		838,897	36,850	#####	838,176	(15,290)
51																						
52	POPULATION	1,640,438		1,670,294	76,690	78.257	1,668,728	(43,630														

Figure 4. Sample Population Model Spreadsheet Layout

	A	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
1		Forecast Section ----->																	
2	MALE WHITE NONH	2000	SURV	2005e	EST	ADJ	2005r	2000-05e	+2000-05	2000-05r	2005	SURV	2010e	EST	ADJ	2010r	2005-10e	+2005-10	2005-10r
3	POPULATION	ESTIMATE	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR
4																			
5	Births	41,360	0.9940								37,624	0.9943							
6	Under 5	45,972	0.9987	41,114	246	251	41,109	(1,126)		(1,126)	39,983	0.9988	37,409	21.5	22.0	37,405	(1,024)		(1,024)
7	5 - 9	56,668	0.9991	45,914	58	59	45,913	4,485		4,485	50,398	0.9991	39,934	48	49	39,933	3,901		3,901
8	10 - 14	52,008	0.9974	56,618	51	52	56,617	(2,407)		(2,407)	54,209	0.9975	50,355	43	44	50,354	(2,141)		(2,141)
9	15 - 19	50,455	0.9945	51,875	133	135	51,872	(254)		(254)	51,618	0.9947	54,076	134	136	54,073	(265)		(265)
10	20 - 24	41,146	0.9947	50,180	276	281	50,174	(10,039)	1,265	(8,774)	41,400	0.9948	51,345	273	278	51,340	(8,978)	134	(8,844)
11	25 - 29	42,310	0.9942	40,927	219	224	40,922	(5,213)	1,239	(3,974)	36,948	0.9944	41,186	214	218	41,182	(4,000)	120	(3,880)
12	30 - 34	53,161	0.9921	42,065	246	251	42,060	870	1,239	2,109	44,169	0.9924	36,740	208	212	36,736	1,842	120	1,961
13	35 - 39	67,471	0.9893	52,742	419	427	52,734	6,444	2,105	8,549	61,283	0.9897	43,832	337	344	43,825	7,105	190	7,295
14	40 - 44	72,131	0.9848	66,752	719	733	66,738	7,692	2,105	9,797	76,535	0.9854	60,651	631	644	60,639	8,902	190	9,092
15	45 - 49	61,351	0.9769	71,037	1,094	1,115	71,016	(4,715)	2,157	(2,559)	68,458	0.9777	75,415	1,121	1,142	75,393	(2,716)	243	(2,473)
16	50 - 54	64,177	0.9636	59,936	1,415	1,443	59,908	10,681	2,157	12,838	72,746	0.9648	66,934	1,524	1,554	66,904	14,337	243	14,580
17	55 - 59	47,978	0.9419	61,838	2,338	2,384	61,793	(3,612)	1,465	(2,146)	59,647	0.9440	70,188	2,559	2,609	70,138	(2,436)	178	(2,258)
18	60 - 64	31,887	0.9074	45,192	2,786	2,840	45,138	(10,319)	1,465	(8,854)	36,284	0.9104	56,304	3,343	3,408	56,238	(11,031)	178	(10,852)
19	65 - 69	25,588	0.8601	28,934	2,953	3,010	28,877	(5,925)		(5,925)	22,952	0.8645	33,034	3,250	3,314	32,971	(6,765)		(6,765)
20	70 - 74	25,569	0.7886	22,009	3,579	3,649	21,939	591		591	22,530	0.7951	19,841	3,111	3,172	19,780	533		533
21	75 - 79	22,150	0.6881	20,165	5,405	5,510	20,059	2,999		2,999	23,058	0.6974	17,914	4,616	4,706	17,824	2,665		2,665
22	80 - 84	14,063	0.5680	15,240	6,910	7,045	15,105	864		864	15,969	0.5805	16,081	6,977	7,113	15,945	912		912
23	85 & Over	9,726	0.4768	12,625	#####	11,382	12,406	(624)		(624)	11,782	0.4961	15,115	#####	12,884	14,868	(748)		(748)
24																			
25	Total	825,171		785,161	#####	#####	784,379	(9,609)	15,198	5,589	827,593		786,353	#####	#####	785,547	93	1,596	1,689
26																			
27	FEMALE WHITE NONH	2000	SURV	2005e	EST	ADJ	2005r	2000-05e	+2000-05	2000-05r	2005	SURV	2010e	EST	ADJ	2010r	2005-10e	+2005-10	2005-10r
28	POPULATION	ESTIMATE	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR
29																			
30	Births	39,738	0.9953								36,149	0.9955							
31	Under 5	43,490	0.9990	39,552	186	190	39,548	(1,719)		(1,719)	37,829	0.9991	35,986	163	166	35,983	(1,564)		(1,564)
32	5 - 9	54,431	0.9993	43,447	42	43	43,446	4,969		4,969	48,415	0.9993	37,793	35	36	37,793	4,322		4,322
33	10 - 14	49,253	0.9986	54,394	37	38	54,393	(2,755)		(2,755)	51,638	0.9986	48,383	32	32	48,383	(2,451)		(2,451)
34	15 - 19	46,998	0.9978	49,182	70	72	49,181	(842)		(842)	48,339	0.9979	51,567	71	72	51,566	(883)		(883)
35	20 - 24	38,062	0.9978	46,895	103	105	46,893	(9,885)	1,159	(8,726)	38,168	0.9978	48,237	102	104	48,235	(8,975)	123	(8,852)
36	25 - 29	42,831	0.9972	37,977	85	87	37,975	(2,907)	1,216	(1,691)	36,284	0.9973	38,085	83	84	38,083	(1,696)	115	(1,581)
37	30 - 34	52,698	0.9961	42,711	120	122	42,708	(156)	1,216	1,060	43,769	0.9962	36,186	98	100	36,184	898	115	1,013
38	35 - 39	69,287	0.9942	52,490	208	212	52,486	7,868	2,152	10,020	62,505	0.9944	43,602	167	170	43,599	8,323	194	8,517
39	40 - 44	75,122	0.9912	68,886	401	408	68,878	8,150	2,152	10,301	79,180	0.9915	62,157	349	355	62,150	9,295	194	9,489
40	45 - 49	65,095	0.9861	74,464	658	671	74,451	(4,635)	2,230	(2,405)	72,046	0.9865	78,510	670	683	78,497	(2,535)	249	(2,286)
41	50 - 54	66,276	0.9770	64,188	908	925	64,170	8,402	2,230	10,632	74,802	0.9778	71,076	970	989	71,057	11,773	249	12,022
42	55 - 59	48,761	0.9632	64,749	1,527	1,557	64,719	(6,172)	1,469	(4,702)	60,016	0.9645	73,138	1,664	1,696	73,106	(5,312)	177	(5,134)
43	60 - 64	32,732	0.9419	46,966	1,795	1,830	46,931	(11,660)	1,469	(10,191)	36,740	0.9438	57,885	2,132	2,174	57,843	(12,560)	177	(12,383)
44	65 - 69	28,580	0.9109	30,829	1,903	1,940	30,792	(5,850)		(5,850)	24,941	0.9137	34,674	2,066	2,106	34,634	(6,580)		(6,580)
45	70 - 74	32,187	0.8624	26,034	2,546	2,596	25,985	1,441		1,441	27,425	0.8667	22,789	2,152	2,194	22,747	1,261		1,261
46	75 - 79	30,729	0.7865	27,758	4,429	4,515	27,672	2,801		2,801	30,473	0.7932	23,771	3,654	3,726	23,699	2,399		2,399
47	80 - 84	22,879	0.6732	24,170	6,560	6,688	24,042	(264)		(264)	23,777	0.6830	24,170	6,303	6,426	24,047	(265)		(265)
48	85 & Over	23,476	0.5861	29,160	17,195	17,531	28,824	(3,712)		(3,712)	25,111	0.6033	31,389	17,499	17,841	31,047	(3,999)		(3,999)
49																			
50	Total	862,624		823,852	38,772	#####	823,094	(16,929)	15,294	(1,635)	857,608		819,399	38,208	#####	818,652	(8,549)	1,594	(6,955)
51																			
52	POPULATION	1,687,795		1,609,013	78,783	80,322	1,607,473	(26,538)	30,492	3,954	1,685,200		1,605,752	79,448	81,001	1,604,199	(8,456)	3,190	(5,266)
53																			
54																			
55																			

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4. Sample Population Model Spreadsheet Layout

	A	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA
1																			
2	MALE WHITE NONH	2010	SURV	2015e	EST	ADJ	2015r	2010-15e	+2010-15	2010-15r	2015	SURV	2020e	EST	ADJ	2020r	2015-20e	+2015-20	2015-20r
3	POPULATION	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR
4																			
5	Births	36,144	0.9945								35,861	0.9947							
6	Under 5	36,380	0.9988	35,946	1.99	203	35,942	(984)		(984)	34,958	0.9989	35,672	1.89	1.93	35,668	(977)		(977)
7	5 - 9	43,835	0.9992	36,338	4.2	43	36,337	3,550		3,550	39,887	0.9992	34,919	3.9	40	34,918	3,411		3,411
8	10 - 14	48,213	0.9976	43,799	3.6	37	43,798	(1,862)		(1,862)	41,936	0.9977	39,856	3.1	32	39,855	(1,695)		(1,695)
9	15 - 19	53,808	0.9949	48,098	1.14	117	48,096	(236)		(236)	47,860	0.9951	41,840	9.6	98	41,838	(205)		(205)
10	20 - 24	42,496	0.9950	53,533	2.75	280	53,528	(9,221)	248	(8,973)	44,555	0.9952	47,625	2.40	240	47,620	(7,983)	1,752	(6,231)
11	25 - 29	37,302	0.9945	42,284	2.12	216	42,279	(3,983)	217	(3,767)	38,513	0.9947	44,340	2.15	219	44,336	(3,950)	1,789	(2,161)
12	30 - 34	38,697	0.9926	37,099	2.03	207	37,095	1,980	217	2,197	39,292	0.9929	38,310	2.03	207	38,306	2,269	1,789	4,058
13	35 - 39	51,120	0.9901	38,412	2.85	291	38,406	6,393	289	6,681	45,088	0.9904	39,012	2.80	285	39,007	6,786	2,152	8,938
14	40 - 44	69,731	0.9859	50,612	5.08	518	50,602	7,587	289	7,876	58,477	0.9864	44,656	4.32	441	44,647	6,949	2,152	9,101
15	45 - 49	72,920	0.9785	68,747	9.84	1,004	68,727	(2,255)	430	(1,825)	66,903	0.9793	57,683	7.95	810	57,667	(1,531)	3,012	1,480
16	50 - 54	81,484	0.9661	71,355	1,565	1,595	71,324	15,544	430	15,973	87,298	0.9674	65,521	1,382	1,409	65,494	14,668	3,012	17,679
17	55 - 59	67,880	0.9460	78,722	2,763	2,817	78,668	(2,532)	358	(2,174)	76,494	0.9480	84,449	2,849	2,905	84,393	(2,332)	3,114	782
18	60 - 64	45,386	0.9134	64,212	3,668	3,739	64,141	(12,377)	358	(12,019)	52,122	0.9165	72,515	3,979	4,056	72,437	(13,574)	3,114	(10,460)
19	65 - 69	26,206	0.8688	41,457	3,929	4,006	41,380	(8,490)		(8,490)	32,890	0.8732	47,767	4,355	4,440	47,682	(9,783)		(9,783)
20	70 - 74	20,313	0.8016	22,768	3,438	3,505	22,701	612		612	23,313	0.8081	28,718	4,172	4,253	28,637	772		772
21	75 - 79	20,489	0.7068	16,284	4,029	4,108	16,205	2,423		2,423	18,628	0.7162	18,840	4,473	4,560	18,753	2,803		2,803
22	80 - 84	16,856	0.5930	14,481	6,007	6,125	14,364	821		821	15,185	0.6055	13,341	5,287	5,390	13,238	757		757
23	85 & Over	14,120	0.5153	17,272	#####	13,972	17,004	(855)		(855)	16,149	0.5345	17,827	#####	13,771	17,563	(883)		(883)
24																			
25	Total	823,380		781,418	#####	42,782	780,598	(3,886)	2,835	(1,051)	815,408		772,890	#####	#####	772,059	(4,497)	21,884	17,386
26																			
27	FEMALE WHITE NONH	2010	SURV	2015e	EST	ADJ	2015r	2010-15e	+2010-15	2010-15r	2015	SURV	2020e	EST	ADJ	2020r	2015-20e	+2015-20	2015-20r
28	POPULATION	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR
29																			
30	Births	34,727	0.9957								34,454	0.9958							
31	Under 5	34,419	0.9991	34,576	151	154	34,573	(1,503)		(1,503)	33,071	0.9991	34,311	143	146	34,308	(1,491)		(1,491)
32	5 - 9	42,115	0.9994	34,388	31	32	34,387	3,933		3,933	38,320	0.9994	33,042	29	29	33,042	3,779		3,779
33	10 - 14	45,932	0.9987	42,089	26	27	42,088	(2,132)		(2,132)	39,956	0.9987	38,297	23	23	38,296	(1,940)		(1,940)
34	15 - 19	50,683	0.9980	45,871	61	62	45,870	(786)		(786)	45,085	0.9980	39,906	51	52	39,905	(683)		(683)
35	20 - 24	39,382	0.9979	50,580	103	105	50,578	(9,282)	229	(9,053)	41,525	0.9980	44,996	88	90	44,995	(8,054)	1,610	(6,444)
36	25 - 29	36,503	0.9974	39,300	82	84	39,299	(1,631)	208	(1,423)	37,876	0.9975	41,441	83	85	41,439	(1,500)	1,721	221
37	30 - 34	37,198	0.9963	36,408	95	97	36,406	1,020	208	1,228	37,634	0.9965	37,781	95	97	37,779	1,274	1,721	2,995
38	35 - 39	52,115	0.9946	37,061	137	139	37,058	7,239	289	7,528	44,586	0.9948	37,501	133	136	37,498	7,617	2,102	9,719
39	40 - 44	71,638	0.9918	51,835	280	285	51,830	7,913	289	8,202	60,031	0.9922	44,356	230	235	44,351	7,018	2,102	9,121
40	45 - 49	76,211	0.9870	71,054	584	595	71,043	(2,069)	435	(1,634)	69,409	0.9875	59,560	471	480	59,551	(1,370)	3,022	1,652
41	50 - 54	83,079	0.9786	75,221	990	1,009	75,202	12,724	435	13,159	88,360	0.9794	68,541	868	885	68,524	11,990	3,022	15,012
42	55 - 59	67,972	0.9658	81,298	1,781	1,816	81,263	(5,707)	353	(5,355)	75,909	0.9671	86,537	1,824	1,859	86,501	(5,700)	3,025	(2,674)
43	60 - 64	45,460	0.9457	65,645	2,327	2,373	65,599	(14,043)	353	(13,691)	51,908	0.9476	73,408	2,501	2,550	73,359	(15,310)	3,025	(12,285)
44	65 - 69	28,053	0.9165	42,990	2,469	2,518	42,942	(8,159)		(8,159)	34,783	0.9193	49,188	2,721	2,774	49,135	(9,336)		(9,336)
45	70 - 74	24,008	0.8711	25,712	2,342	2,387	25,666	1,423		1,423	27,089	0.8754	31,978	2,806	2,860	31,923	1,770		1,770
46	75 - 79	26,098	0.7998	20,913	3,095	3,155	20,853	2,111		2,111	22,964	0.8064	23,714	3,375	3,440	23,649	2,394		2,394
47	80 - 84	23,782	0.6929	20,873	5,225	5,327	20,771	(229)		(229)	20,543	0.7028	18,519	4,445	4,532	18,432	(203)		(203)
48	85 & Over	27,049	0.6204	33,261	17,570	17,913	32,918	(4,240)		(4,240)	28,678	0.6376	32,723	16,498	16,820	32,400	(4,173)		(4,173)
49																			
50	Total	846,424		809,076	37,348	38,078	808,346	(13,419)	2,799	(10,620)	832,180		795,796	36,384	#####	795,085	(13,917)	21,352	7,435
51																			
52	POPULATION	1,669,805		1,590,494	79,310	80,860	1,588,944	(17,306)	5,634	(11,672)	1,647,588		1,568,686	78,901	80,443	1,567,144	(18,415)	43,236	24,821
53																			
54																			
55																			

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4-4

Figure 4. Sample Population Model Spreadsheet Layout

	A	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK
1											
2	MALE WHITE NONH	2020	SURV	2025e	EST	ADJ	2025r	2020-25e	+2020-25	2020-25r	2025
3	POPULATION	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN
4											
5	Births	36,281	0.9950								0
6	Under 5	34,691	0.9989	36,098	183	186	36,094	(988)		(988)	35,106
7	5 - 9	38,329	0.9992	34,654	37	38	34,654	3,385		3,385	38,039
8	10 - 14	38,161	0.9978	38,300	29	29	38,300	(1,628)		(1,628)	36,671
9	15 - 19	41,633	0.9953	38,077	84	85	38,075	(187)		(187)	37,889
10	20 - 24	41,389	0.9953	41,435	198	201	41,432	(5,421)	528	(4,894)	36,538
11	25 - 29	42,175	0.9949	41,197	193	196	41,193	(2,008)	627	(1,381)	39,812
12	30 - 34	42,364	0.9931	41,960	215	219	41,956	4,445	627	5,072	47,028
13	35 - 39	47,945	0.9908	42,073	291	297	42,067	9,639	798	10,437	52,504
14	40 - 44	53,748	0.9869	47,502	442	451	47,494	9,681	798	10,479	57,972
15	45 - 49	59,147	0.9802	53,046	702	716	53,032	1,361	938	2,299	55,331
16	50 - 54	83,173	0.9686	57,973	1,174	1,197	57,950	15,643	938	16,581	74,531
17	55 - 59	85,175	0.9500	80,564	2,609	2,660	80,513	746	1,102	1,848	82,361
18	60 - 64	61,977	0.9195	80,916	4,258	4,342	80,833	(11,672)	1,102	(10,570)	70,263
19	65 - 69	37,899	0.8775	56,986	4,991	5,089	56,889	(11,672)		(11,672)	45,217
20	70 - 74	29,409	0.8147	33,257	4,642	4,733	33,166	894		894	34,060
21	75 - 79	21,556	0.7255	23,958	5,451	5,557	23,851	3,566		3,566	27,417
22	80 - 84	13,994	0.6181	15,640	5,916	6,032	15,524	888		888	16,412
23	85 & Over	16,680	0.5538	17,886	#####	13,038	17,636	(887)		(887)	16,749
24											
25	Total	825,726		781,523	#####	#####	780,659	15,783	7,456	23,240	803,899
26											
27	FEMALE WHITE NONH	2020	SURV	2025e	EST	ADJ	2025r	2020-25e	+2020-25	2020-25r	2025
28	POPULATION	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN
29											
30	Births	34,858	0.9960								0
31	Under 5	32,817	0.9992	34,719	139	142	34,716	(1,509)		(1,509)	33,207
32	5 - 9	36,820	0.9994	32,790	27	28	32,789	3,750		3,750	36,539
33	10 - 14	36,356	0.9988	36,799	21	21	36,799	(1,864)		(1,864)	34,935
34	15 - 19	39,221	0.9981	36,312	44	45	36,311	(622)		(622)	35,690
35	20 - 24	38,551	0.9981	39,147	74	75	39,146	(5,606)	483	(5,124)	34,022
36	25 - 29	41,660	0.9976	38,476	75	76	38,475	205	601	806	39,281
37	30 - 34	40,774	0.9966	41,560	101	103	41,558	3,295	601	3,896	45,454
38	35 - 39	47,217	0.9950	40,636	139	141	40,633	10,532	776	11,308	51,941
39	40 - 44	53,472	0.9925	46,983	234	239	46,978	9,661	776	10,437	57,415
40	45 - 49	61,203	0.9880	53,068	403	411	53,060	1,472	923	2,395	55,456
41	50 - 54	83,536	0.9802	60,467	736	751	60,453	13,244	923	14,167	74,620
42	55 - 59	83,827	0.9683	81,879	1,657	1,690	81,847	(2,530)	1,057	(1,474)	80,373
43	60 - 64	61,074	0.9495	81,173	2,654	2,706	81,121	(13,585)	1,057	(12,528)	68,593
44	65 - 69	39,799	0.9221	57,990	3,084	3,145	57,930	(11,007)		(11,007)	46,923
45	70 - 74	33,693	0.8798	36,701	3,098	3,159	36,640	2,031		2,031	38,671
46	75 - 79	26,042	0.8131	29,642	4,051	4,130	29,562	2,992		2,992	32,555
47	80 - 84	18,229	0.7127	21,174	4,868	4,963	21,079	(232)		(232)	20,847
48	85 & Over	28,227	0.6548	31,475	14,982	15,275	31,182	(4,016)		(4,016)	27,166
49											
50	Total	837,378		800,990	36,388	#####	800,279	6,212	7,195	13,408	813,687
51											
52	POPULATION	1,663,104		1,582,513	80,591	82,166	1,580,938	21,996	14,652	36,648	1,617,586
53											
54											
55											

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4-5

Figure 4. Sample Population Model Spreadsheet Layout

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
56	WHITE NONHISPANIC BIRTHS PROJECTION/ACTUALS, 1970 TO 2025																					
57			1970-75							1978							1983					
58	FEMALE	1970	BIRTH	1970-75					1975	BIRTH	1975-80					1980	BIRTH	1980-85				
59	POPULATION	CENSUS	RATE	BIRTHS					CLOSED	RATE	BIRTHS					CENSUS	RATE	BIRTHS				
60																						
61	10 - 14	78,780	0.80	315					72,937	0.80	292					67,094	0.80	268				
62	15 - 19	69,230	32.78	11347					71,654	38.49	13790					74,077	44.20	16371				
63	20 - 24	57,294	108.18	30991					60,338	107.05	32296					63,381	105.92	33567				
64	25 - 29	52,074	122.44	31880					56,451	116.10	32770					60,828	109.76	33382				
65	30 - 34	48,919	63.78	15600					57,228	64.32	18405					65,537	64.86	21254				
66	35 - 39	50,341	25.22	6348					54,301	23.17	6291					58,262	21.12	6152				
67	40 - 44	54,979	6.00	1649					52,049	4.82	1254					49,120	3.64	894				
68	45 - 49	52,829	0.10	26					50,593	0.10	25	10 YR:				48,358	0.10	24				
69																						
70	Total	464,445		98,156					475,551		105,122	203,278				486,657		111,913				
71																						
72	Actual/Adjusted			104,179							91,115	195,295						95,998				
73	Adj Factor			1.061							0.867	0.960728						0.858				

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4. Sample Population Model Spreadsheet Layout

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AO	
56	WHITE NONHISPANIC BI																						
57			1988							1993							1998						
58	FEMALE	1985	BIRTH	1985-90					1990	BIRTH	1990-95					1995	BIRTH	1995-00					
59	POPULATION	CLOSED	RATE	BIRTHS					OPEN	RATE	BIRTHS					OPEN	RATE	BIRTHS					
60																							
61	10 - 14	56,814	0.50	142					46,533	0.50	116					47,893	0.50	120					
62	15 - 19	61,879	41.70	12902					49,681	42.50	10557					48,340	42.50	10272					
63	20 - 24	59,146	102.10	30194					54,911	99.20	27236					46,487	99.20	23057					
64	25 - 29	62,039	110.70	34338					63,249	113.40	35862					53,040	113.40	30074					
65	30 - 34	66,904	70.60	23617					68,270	78.30	26728					60,484	78.30	23679					
66	35 - 39	62,018	23.90	7411					65,774	29.70	9767					67,530	29.70	10028					
67	40 - 44	56,990	4.30	1225					64,860	4.70	1524					69,991	4.70	1645					
68	45 - 49	51,053	0.10	26	10 YR:				53,747	0.20	54	15 Yr Adjustment:				59,421	0.20	59					
69																							
70	Total	476,841		109,855	221,768				467,025		111,845	333,612				453,185		98,935					
71																							
72	Actual/Adjusted			106,547	202,545						111,958	314,504						93,268					
73	Adj Factor			0.970	0.913322						1.001	0.942721	<--Births Adjustment Factor for Projection Years										

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4-7

Figure 4. Sample Population Model Spreadsheet Layout

	A	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
56	WHITE NONHISPANIC BI																		
57			2003									2008							
58	FEMALE	2000	BIRTH	2000-05							2005	BIRTH	2005-10						
59	POPULATION	OPEN	RATE	BIRTHS							OPEN	RATE	BIRTHS						
60																			
61	10 - 14	49,253	0.50	123							51,638	0.50	129						
62	15 - 19	46,998	42.50	9987							48,339	42.50	10272						
63	20 - 24	38,062	99.20	18879							38,168	99.20	18931						
64	25 - 29	42,831	113.40	24285							36,284	113.40	20573						
65	30 - 34	52,698	78.30	20631							43,769	78.30	17135						
66	35 - 39	69,287	29.70	10289							62,505	29.70	9282						
67	40 - 44	75,122	4.70	1765							79,180	4.70	1861						
68	45 - 49	65,095	0.20	65							72,046	0.20	72						
69																			
70	Total	439,346		86,025							431,929		78,256						
71																			
72	Actual/Adjusted			81,098									73,773						
73	Adj Factor																		

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4. Sample Population Model Spreadsheet Layout

	A	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA
56	WHITE NONHISPANIC BI																		
57			2013									2018							
58	FEMALE	2010	BIRTH	2010-15							2015	BIRTH	2015-20						
59	POPULATION	OPEN	RATE	BIRTHS							OPEN	RATE	BIRTHS						
60																			
61	10 - 14	45,932	0.50	115							39,956	0.50	100						
62	15 - 19	50,683	42.50	10770							45,085	42.50	9580						
63	20 - 24	39,382	99.20	19534							41,525	99.20	20596						
64	25 - 29	36,503	113.40	20697							37,876	113.40	21476						
65	30 - 34	37,198	78.30	14563							37,634	78.30	14734						
66	35 - 39	52,115	29.70	7739							44,586	29.70	6621						
67	40 - 44	71,638	4.70	1684							60,031	4.70	1411						
68	45 - 49	76,211	0.20	76							69,409	0.20	69						
69																			
70	Total	409,662		75,177							376,101		74,587						
71																			
72	Actual/Adjusted			70,871									70,315						
73	Adj Factor																		

N.B. For closed years "e" refers to estimated, "r" to revised

Figure 4. Sample Population Model Spreadsheet Layout

	A	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK
56	WHITE NONHISPANIC BI										
57			2023								
58	FEMALE	2020	BIRTH	2020-25							
59	POPULATION	OPEN	RATE	BIRTHS							
60											
61	10 - 14	36,356	0.50	91							
62	15 - 19	39,221	42.50	8334							
63	20 - 24	38,551	99.20	19121							
64	25 - 29	41,660	113.40	23621							
65	30 - 34	40,774	78.30	15963							
66	35 - 39	47,217	29.70	7012							
67	40 - 44	53,472	4.70	1257							
68	45 - 49	61,203	0.20	61							
69											
70	Total	358,456		75,461							
71											
72	Actual/Adjusted			71,138							
73	Adj Factor										

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group

[All figures are for US as a whole.]

Age	Through 1990	1992	1997	2002	2007	2012	2017	2022
White Males								
Births	0.98894	0.99257	0.99381	0.99405	0.99428	0.99450	0.99473	0.99496
Under 5	0.99808	0.99832	0.99858	0.99874	0.99879	0.99884	0.99889	0.99894
5 to 9	0.99877	0.99891	0.99907	0.99910	0.99914	0.99918	0.99921	0.99925
10 to 14	0.99643	0.99649	0.99675	0.99745	0.99754	0.99763	0.99772	0.99780
15 to 19	0.99320	0.99348	0.99369	0.99454	0.99472	0.99490	0.99508	0.99526
20 to 24	0.99273	0.99313	0.99305	0.99467	0.99484	0.99501	0.99518	0.99534
25 to 29	0.99284	0.99262	0.99146	0.99419	0.99437	0.99455	0.99473	0.99490
30 to 34	0.99191	0.99000	0.98769	0.99212	0.99237	0.99263	0.99288	0.99313
35 to 39	0.98912	0.98669	0.98520	0.98934	0.98970	0.99006	0.99042	0.99077
40 to 44	0.98317	0.98273	0.98282	0.98483	0.98536	0.98588	0.98641	0.98693
45 to 49	0.97210	0.97441	0.97646	0.97694	0.97774	0.97854	0.97935	0.98015
50 to 54	0.95340	0.95873	0.96272	0.96356	0.96483	0.96610	0.96736	0.96863
55 to 59	0.92617	0.93329	0.93879	0.94194	0.94395	0.94597	0.94799	0.95000
60 to 64	0.88708	0.89747	0.90639	0.90740	0.91042	0.91344	0.91645	0.91947
65 to 69	0.83107	0.84726	0.86085	0.86011	0.86446	0.86881	0.87316	0.87751
70 to 74	0.75252	0.77186	0.78733	0.78863	0.79513	0.80164	0.80815	0.81466
75 to 80	0.65692	0.66673	0.67995	0.68806	0.69743	0.70680	0.71617	0.72555
80 to 84	0.55019	0.53474	0.54848	0.56795	0.58048	0.59300	0.60553	0.61806
85+	0.43027	0.42882	0.44975	0.47684	0.49607	0.51531	0.53454	0.55377

White Females								
Births	0.99124	0.99389	0.99495	0.99531	0.99549	0.99566	0.99584	0.99601
Under 5	0.99852	0.99872	0.99891	0.99903	0.99906	0.99910	0.99914	0.99918
5 to 9	0.99914	0.99928	0.99937	0.99932	0.99934	0.99937	0.99940	0.99943
10 to 14	0.99838	0.99839	0.99845	0.99858	0.99863	0.99868	0.99873	0.99879
15 to 19	0.99751	0.99762	0.99776	0.99781	0.99789	0.99797	0.99804	0.99812
20 to 24	0.99746	0.99762	0.99777	0.99776	0.99784	0.99791	0.99799	0.99807
25 to 29	0.99716	0.99718	0.99724	0.99720	0.99730	0.99739	0.99749	0.99758
30 to 34	0.99616	0.99614	0.99628	0.99605	0.99619	0.99633	0.99646	0.99660
35 to 39	0.99406	0.99434	0.99482	0.99422	0.99442	0.99463	0.99483	0.99503
40 to 44	0.99030	0.99110	0.99195	0.99124	0.99154	0.99185	0.99215	0.99246
45 to 49	0.98389	0.98548	0.98649	0.98606	0.98654	0.98701	0.98749	0.98797
50 to 54	0.97373	0.97555	0.97672	0.97696	0.97776	0.97856	0.97936	0.98016
55 to 59	0.95884	0.95991	0.96121	0.96319	0.96448	0.96576	0.96705	0.96834
60 to 64	0.93697	0.93893	0.94060	0.94186	0.94377	0.94568	0.94759	0.94950
65 to 69	0.90526	0.90832	0.91102	0.91091	0.91372	0.91653	0.91934	0.92215
70 to 74	0.85643	0.86009	0.86472	0.86241	0.86675	0.87109	0.87543	0.87977
75 to 80	0.78029	0.78383	0.79192	0.78654	0.79317	0.79980	0.80644	0.81307
80 to 84	0.67651	0.66701	0.68069	0.67318	0.68305	0.69292	0.70279	0.71266
85+	0.54146	0.57178	0.59488	0.58607	0.60325	0.62044	0.63762	0.65481

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group

Age	Through 1990	1992	1997	2002	2007	2012	2017	2022
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Black Males

Births	0.98034	0.98158	0.98314	0.98522	0.98588	0.98654	0.98719	0.98785
Under 5	0.99706	0.99699	0.99716	0.99757	0.99768	0.99778	0.99789	0.99800
5 to 9	0.99822	0.99857	0.99865	0.99858	0.99864	0.99870	0.99876	0.99882
10 to 14	0.99648	0.99345	0.99226	0.99563	0.99580	0.99598	0.99615	0.99633
15 to 19	0.99257	0.98544	0.98227	0.98890	0.98934	0.98979	0.99023	0.99068
20 to 24	0.98928	0.98378	0.98095	0.98825	0.98872	0.98919	0.98965	0.99012
25 to 29	0.98617	0.98248	0.97813	0.98729	0.98778	0.98827	0.98877	0.98926
30 to 34	0.98192	0.97601	0.96852	0.98280	0.98348	0.98417	0.98485	0.98553
35 to 39	0.97625	0.96881	0.96195	0.97707	0.97799	0.97891	0.97984	0.98076
40 to 44	0.96658	0.95997	0.95483	0.96680	0.96817	0.96954	0.97090	0.97227
45 to 49	0.95122	0.94635	0.94537	0.95205	0.95402	0.95600	0.95797	0.95994
50 to 54	0.92686	0.92225	0.92583	0.93185	0.93460	0.93735	0.94011	0.94286
55 to 59	0.88849	0.88723	0.89224	0.90447	0.90825	0.91202	0.91579	0.91956
60 to 64	0.84189	0.84081	0.84641	0.86183	0.86692	0.87200	0.87709	0.88218
65 to 69	0.77992	0.78478	0.79158	0.81198	0.81846	0.82494	0.83141	0.83789
70 to 74	0.70933	0.71862	0.72383	0.74077	0.74938	0.75799	0.76660	0.77521
75 to 80	0.63296	0.63821	0.63519	0.66048	0.67104	0.68160	0.69215	0.70271
80 to 84	0.55301	0.56164	0.56889	0.58836	0.60003	0.61170	0.62337	0.63503
85+	0.48793	0.53172	0.56992	0.56270	0.57860	0.59450	0.61040	0.62630

Black Females

Births	0.98341	0.98439	0.98580	0.98774	0.98828	0.98882	0.98936	0.98990
Under 5	0.99762	0.99754	0.99768	0.99800	0.99808	0.99817	0.99826	0.99835
5 to 9	0.99881	0.99869	0.99871	0.99891	0.99896	0.99901	0.99906	0.99910
10 to 14	0.99833	0.99783	0.99789	0.99822	0.99829	0.99836	0.99843	0.99850
15 to 19	0.99711	0.99625	0.99607	0.99700	0.99711	0.99723	0.99734	0.99746
20 to 24	0.99573	0.99485	0.99444	0.99569	0.99586	0.99603	0.99621	0.99638
25 to 29	0.99403	0.99282	0.99156	0.99375	0.99400	0.99426	0.99451	0.99477
30 to 34	0.99162	0.98910	0.98712	0.99043	0.99083	0.99123	0.99163	0.99203
35 to 39	0.98720	0.98460	0.98370	0.98628	0.98686	0.98743	0.98801	0.98859
40 to 44	0.98042	0.97910	0.97949	0.98054	0.98135	0.98216	0.98296	0.98377
45 to 49	0.97062	0.96948	0.97107	0.97137	0.97254	0.97371	0.97488	0.97604
50 to 54	0.95446	0.95427	0.95662	0.95776	0.95945	0.96115	0.96284	0.96454
55 to 59	0.93117	0.93105	0.93238	0.93783	0.94029	0.94275	0.94521	0.94767
60 to 64	0.90305	0.89805	0.89755	0.90422	0.90784	0.91147	0.91509	0.91871
65 to 69	0.86204	0.86365	0.86585	0.86824	0.87297	0.87769	0.88241	0.88714
70 to 74	0.81142	0.81886	0.82483	0.82556	0.83153	0.83750	0.84347	0.84944
75 to 80	0.74762	0.75373	0.75470	0.75976	0.76755	0.77534	0.78313	0.79092
80 to 84	0.67101	0.67785	0.68407	0.68244	0.69189	0.70135	0.71081	0.72027
85+	0.59152	0.65436	0.68004	0.65646	0.67086	0.68526	0.69966	0.71406

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group

Age	Through 1990	1992	1997	2002	2007	2012	2017	2022
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Asian Males

Births	0.98981	0.99483	0.99569	0.99602	0.99616	0.99629	0.99643	0.99657
Under 5	0.99809	0.99866	0.99888	0.99893	0.99897	0.99901	0.99905	0.99909
5 to 9	0.99882	0.99940	0.99950	0.99918	0.99921	0.99924	0.99928	0.99931
10 to 14	0.99707	0.99789	0.99803	0.99787	0.99794	0.99801	0.99808	0.99815
15 to 19	0.99388	0.99643	0.99674	0.99609	0.99620	0.99632	0.99643	0.99654
20 to 24	0.99331	0.99601	0.99636	0.99623	0.99633	0.99643	0.99654	0.99664
25 to 29	0.99328	0.99496	0.99492	0.99637	0.99645	0.99654	0.99663	0.99671
30 to 34	0.99225	0.99311	0.99263	0.99578	0.99587	0.99596	0.99605	0.99614
35 to 39	0.99031	0.99196	0.99180	0.99378	0.99394	0.99410	0.99426	0.99442
40 to 44	0.98478	0.98981	0.99054	0.99049	0.99076	0.99103	0.99130	0.99157
45 to 49	0.97554	0.98332	0.98513	0.98449	0.98495	0.98541	0.98588	0.98634
50 to 54	0.95811	0.97649	0.97899	0.97620	0.97690	0.97760	0.97830	0.97900
55 to 59	0.93474	0.96096	0.96439	0.96341	0.96447	0.96552	0.96658	0.96764
60 to 64	0.89688	0.93829	0.94397	0.94166	0.94316	0.94466	0.94616	0.94766
65 to 69	0.84539	0.90319	0.91223	0.91481	0.91674	0.91868	0.92062	0.92255
70 to 74	0.77445	0.84694	0.85796	0.87341	0.87619	0.87898	0.88177	0.88456
75 to 80	0.68605	0.78876	0.79808	0.80669	0.81091	0.81513	0.81935	0.82357
80 to 84	0.58873	0.70632	0.71655	0.73274	0.73826	0.74377	0.74928	0.75479
85+	0.50033	0.67852	0.69657	0.70372	0.71365	0.72359	0.73353	0.74347

Asian Females

Births	0.99219	0.99666	0.99724	0.99688	0.99698	0.99708	0.99718	0.99728
Under 5	0.99853	0.99873	0.99893	0.99909	0.99912	0.99916	0.99919	0.99923
5 to 9	0.99914	0.99925	0.99934	0.99928	0.99931	0.99934	0.99937	0.99940
10 to 14	0.99847	0.99900	0.99905	0.99863	0.99868	0.99873	0.99879	0.99884
15 to 19	0.99774	0.99891	0.99899	0.99824	0.99830	0.99835	0.99841	0.99847
20 to 24	0.99760	0.99894	0.99903	0.99826	0.99832	0.99837	0.99842	0.99848
25 to 29	0.99728	0.99822	0.99830	0.99841	0.99845	0.99849	0.99852	0.99856
30 to 34	0.99643	0.99650	0.99671	0.99752	0.99759	0.99765	0.99772	0.99779
35 to 39	0.99475	0.99457	0.99509	0.99608	0.99620	0.99631	0.99643	0.99655
40 to 44	0.99091	0.99327	0.99394	0.99426	0.99443	0.99460	0.99476	0.99493
45 to 49	0.98522	0.99149	0.99221	0.99155	0.99177	0.99200	0.99223	0.99245
50 to 54	0.97641	0.98195	0.98304	0.98639	0.98675	0.98711	0.98747	0.98784
55 to 59	0.96335	0.97269	0.97385	0.98003	0.98054	0.98105	0.98156	0.98207
60 to 64	0.94312	0.96418	0.96536	0.96957	0.97025	0.97093	0.97160	0.97228
65 to 69	0.91497	0.94749	0.94926	0.95333	0.95427	0.95521	0.95615	0.95710
70 to 74	0.86865	0.91530	0.91838	0.92603	0.92753	0.92904	0.93054	0.93204
75 to 80	0.80086	0.86913	0.87444	0.87997	0.88245	0.88493	0.88741	0.88989
80 to 84	0.71155	0.80186	0.81095	0.81262	0.81637	0.82012	0.82388	0.82763
85+	0.60918	0.80114	0.81879	0.80785	0.81556	0.82328	0.83100	0.83871

Source: Urbanomics, in consultation with US Census Bureau, Population Division;

See memo text for methodology.

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group

Age	Through 1990	1992	1997	2002	2007	2012	2017	2022
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Hispanic Males

Births	0.98775	0.9911	0.9926	0.9924	0.9927	0.9930	0.9933	0.9936
Under 5	0.99740	0.9981	0.9982	0.9984	0.9985	0.9985	0.9986	0.9987
5 to 9	0.99892	0.9991	0.9992	0.9991	0.9991	0.9992	0.9992	0.9992
10 to 14	0.99501	0.9957	0.9961	0.9970	0.9971	0.9972	0.9974	0.9975
15 to 19	0.98928	0.9917	0.9915	0.9934	0.9937	0.9939	0.9941	0.9944
20 to 24	0.98860	0.9904	0.9895	0.9923	0.9926	0.9929	0.9931	0.9934
25 to 29	0.98962	0.9888	0.9859	0.9915	0.9918	0.9921	0.9924	0.9927
30 to 34	0.98872	0.9864	0.9814	0.9896	0.9900	0.9903	0.9907	0.9911
35 to 39	0.98647	0.9828	0.9788	0.9878	0.9882	0.9887	0.9891	0.9895
40 to 44	0.98147	0.9805	0.9780	0.9854	0.9859	0.9864	0.9869	0.9874
45 to 49	0.97123	0.9737	0.9739	0.9792	0.9799	0.9806	0.9813	0.9820
50 to 54	0.95795	0.9633	0.9658	0.9690	0.9701	0.9711	0.9721	0.9731
55 to 59	0.93794	0.9461	0.9493	0.9529	0.9544	0.9560	0.9575	0.9590
60 to 64	0.90270	0.9211	0.9269	0.9296	0.9316	0.9337	0.9357	0.9377
65 to 69	0.85246	0.8864	0.8955	0.8973	0.9000	0.9027	0.9054	0.9081
70 to 74	0.78471	0.8315	0.8423	0.8520	0.8557	0.8595	0.8632	0.8669
75 to 80	0.69106	0.7528	0.7621	0.7838	0.7890	0.7942	0.7995	0.8047
80 to 84	0.51986	0.6558	0.6664	0.6922	0.6994	0.7066	0.7139	0.7211
85+	0.51986	0.6152	0.6333	0.6371	0.6498	0.6625	0.6752	0.6879

Hispanic Females

Births	0.99004	0.99281	0.99404	0.99377	0.99402	0.99427	0.99452	0.99477
Under 5	0.99823	0.99852	0.99866	0.99882	0.99887	0.99892	0.99897	0.99901
5 to 9	0.99900	0.99927	0.99932	0.99936	0.99939	0.99942	0.99944	0.99947
10 to 14	0.99833	0.99850	0.99855	0.99886	0.99890	0.99893	0.99897	0.99901
15 to 19	0.99743	0.99790	0.99822	0.99845	0.99850	0.99854	0.99859	0.99864
20 to 24	0.99718	0.99763	0.99781	0.99811	0.99817	0.99823	0.99829	0.99835
25 to 29	0.99678	0.99685	0.99633	0.99773	0.99780	0.99787	0.99794	0.99801
30 to 34	0.99553	0.99604	0.99538	0.99696	0.99705	0.99715	0.99724	0.99733
35 to 39	0.99353	0.99443	0.99422	0.99579	0.99592	0.99605	0.99617	0.99630
40 to 44	0.99069	0.99189	0.99201	0.99333	0.99353	0.99374	0.99395	0.99415
45 to 49	0.98477	0.98720	0.98785	0.98945	0.98978	0.99010	0.99042	0.99074
50 to 54	0.97660	0.98044	0.98157	0.98330	0.98381	0.98431	0.98482	0.98533
55 to 59	0.96351	0.96999	0.97108	0.97446	0.97523	0.97599	0.97676	0.97752
60 to 64	0.94326	0.95277	0.95419	0.95795	0.95912	0.96029	0.96146	0.96263
65 to 69	0.91259	0.92690	0.92920	0.93345	0.93524	0.93703	0.93881	0.94060
70 to 74	0.86247	0.89383	0.89751	0.90380	0.90630	0.90880	0.91130	0.91380
75 to 80	0.79037	0.84015	0.84642	0.84862	0.85251	0.85640	0.86030	0.86419
80 to 84	0.60622	0.74919	0.76022	0.76765	0.77342	0.77918	0.78494	0.79071
85+	0.60622	0.70746	0.72777	0.73986	0.75054	0.76122	0.77190	0.78258

Source: Urbanomics, in consultation with US Census Bureau, Population Division;

See memo text for methodology.

Table 2. Projected Life Expectancy^a by Age, Sex and Racial/Ethnic Group, 1999 to 2100

[Values for 1999 and 2100 from complete life table (Appx. 1), other years interpolated. All figures are for US as a whole.]

White Males

Age	1999	2002	2007	2012	2017	2022	2100
0	74.69	75.07	75.71	76.35	76.99	77.62	87.57
5	70.24	70.61	71.23	71.85	72.46	73.08	82.72
10	65.30	65.67	66.28	66.90	67.52	68.13	77.73
15	60.37	60.74	61.35	61.96	62.58	63.19	72.75
20	55.64	56.00	56.61	57.21	57.82	58.42	67.86
25	50.94	51.30	51.89	52.49	53.09	53.68	62.99
30	46.20	46.55	47.14	47.73	48.32	48.91	58.12
35	41.49	41.84	42.42	43.01	43.59	44.17	53.27
40	36.87	37.21	37.79	38.36	38.93	39.50	48.43
45	32.31	32.65	33.21	33.77	34.33	34.89	43.62
50	27.87	28.20	28.74	29.28	29.83	30.37	38.86
55	23.64	23.95	24.48	25.00	25.52	26.04	34.19
60	19.66	19.96	20.45	20.95	21.44	21.94	29.66
65	16.03	16.31	16.77	17.22	17.68	18.14	25.31
70	12.78	13.03	13.46	13.88	14.31	14.73	21.35
75	9.95	10.18	10.56	10.95	11.33	11.71	17.70
80	7.60	7.80	8.14	8.48	8.82	9.16	14.44
85	5.73	5.91	6.20	6.49	6.78	7.07	11.63

White Females

Age	1999	2002	2007	2012	2017	2022	2100
0	80.07	80.42	81.00	81.58	82.17	82.75	91.83
5	75.53	75.87	76.44	77.00	77.57	78.14	86.97
10	70.58	70.92	71.48	72.05	72.61	73.18	81.99
15	65.63	65.97	66.53	67.09	67.66	68.22	77.00
20	60.77	61.11	61.66	62.22	62.78	63.34	72.05
25	55.90	56.23	56.79	57.34	57.89	58.45	67.09
30	51.03	51.36	51.91	52.46	53.01	53.56	62.15
35	46.19	46.52	47.06	47.61	48.15	48.70	57.21
40	41.40	41.72	42.26	42.80	43.34	43.88	52.29
45	36.68	37.00	37.53	38.06	38.59	39.12	47.40
50	32.06	32.37	32.89	33.41	33.93	34.45	42.56
55	27.60	27.90	28.41	28.91	29.42	29.92	37.79
60	23.36	23.65	24.13	24.61	25.10	25.58	33.11
65	19.39	19.66	20.12	20.57	21.03	21.48	28.57
70	15.70	15.96	16.38	16.81	17.23	17.66	24.29
75	12.36	12.59	12.98	13.37	13.76	14.15	20.24
80	9.41	9.62	9.97	10.32	10.67	11.02	16.47
85	6.94	7.12	7.43	7.73	8.04	8.34	13.09

^aAverage years of life remaining at specified age.

Table 2. Projected Life Expectancy^a by Age, Sex and Racial/Ethnic Group, 1999 to 2100

Black Males

Age	1999	2002	2007	2012	2017	2022	2100
0	68.39	68.94	69.86	70.78	71.69	72.61	86.92
5	64.61	65.13	66.00	66.86	67.73	68.60	82.12
10	59.70	60.22	61.08	61.94	62.81	63.67	77.13
15	54.80	55.32	56.17	57.03	57.89	58.75	72.15
20	50.25	50.76	51.60	52.44	53.29	54.13	67.28
25	45.86	46.35	47.17	48.00	48.82	49.64	62.45
30	41.37	41.85	42.66	43.46	44.26	45.07	57.61
35	36.95	37.42	38.21	38.99	39.77	40.56	52.80
40	32.67	33.13	33.89	34.65	35.41	36.17	48.02
45	28.50	28.94	29.67	30.40	31.13	31.86	43.27
50	24.63	25.04	25.73	26.43	27.12	27.81	38.58
55	20.98	21.37	22.01	22.65	23.30	23.94	33.99
60	17.63	17.98	18.57	19.16	19.75	20.34	29.54
65	14.65	14.97	15.49	16.02	16.55	17.07	25.29
70	12.02	12.30	12.77	13.24	13.71	14.18	21.49
75	9.80	10.04	10.45	10.85	11.26	11.67	17.99
80	8.04	8.24	8.58	8.92	9.26	9.60	14.89
85	6.60	6.77	7.04	7.32	7.60	7.87	12.19

Black Females

Age	1999	2002	2007	2012	2017	2022	2100
0	75.13	75.62	76.43	77.23	78.04	78.85	91.48
5	71.24	71.70	72.46	73.22	73.99	74.75	86.66
10	66.32	66.78	67.54	68.30	69.06	69.82	81.68
15	61.41	61.86	62.62	63.38	64.13	64.89	76.69
20	56.55	57.00	57.75	58.51	59.26	60.01	71.74
25	51.75	52.20	52.94	53.69	54.43	55.18	66.80
30	47.00	47.44	48.18	48.91	49.65	50.39	61.87
35	42.35	42.78	43.51	44.23	44.95	45.67	56.95
40	37.83	38.25	38.96	39.66	40.37	41.07	52.06
45	33.43	33.84	34.52	35.20	35.89	36.57	47.21
50	29.18	29.57	30.23	30.88	31.54	32.19	42.41
55	25.16	25.53	26.15	26.77	27.39	28.01	37.69
60	21.38	21.73	22.31	22.89	23.47	24.05	33.09
65	17.98	18.30	18.82	19.35	19.88	20.41	28.63
70	15.02	15.30	15.77	16.24	16.71	17.18	24.50
75	12.29	12.54	12.95	13.36	13.77	14.18	20.57
80	9.89	10.10	10.45	10.80	11.14	11.49	16.93
85	7.80	7.97	8.26	8.55	8.84	9.13	13.65

Table 2. Projected Life Expectancy^a by Age, Sex and Racial/Ethnic Group, 1999 to 2100

Asian Males

Age	1999	2002	2007	2012	2017	2022	2100
0	80.87	81.12	81.54	81.96	82.38	82.81	89.37
5	76.28	76.52	76.93	77.34	77.75	78.15	84.51
10	71.34	71.58	71.99	72.39	72.80	73.21	79.53
15	66.41	66.65	67.05	67.46	67.86	68.26	74.54
20	61.64	61.88	62.27	62.67	63.07	63.46	69.65
25	56.87	57.10	57.49	57.89	58.28	58.67	64.76
30	52.08	52.31	52.70	53.08	53.47	53.86	59.88
35	47.26	47.49	47.87	48.26	48.64	49.02	55.00
40	42.50	42.73	43.11	43.48	43.86	44.24	50.15
45	37.80	38.02	38.39	38.77	39.14	39.51	45.31
50	33.23	33.45	33.81	34.17	34.53	34.89	40.53
55	28.82	29.03	29.38	29.72	30.07	30.42	35.83
60	24.64	24.84	25.16	25.49	25.82	26.15	31.25
65	20.72	20.90	21.21	21.51	21.81	22.12	26.85
70	17.12	17.29	17.57	17.85	18.13	18.41	22.80
75	13.81	13.97	14.22	14.48	14.74	15.00	19.04
80	10.96	11.10	11.33	11.56	11.80	12.03	15.66
85	8.45	8.57	8.78	8.99	9.20	9.41	12.65

Asian Females

Age	1999	2002	2007	2012	2017	2022	2100
0	86.53	86.73	87.08	87.42	87.76	88.10	93.42
5	81.89	82.09	82.42	82.75	83.08	83.41	88.56
10	76.94	77.14	77.47	77.79	78.12	78.45	83.57
15	72.01	72.21	72.53	72.86	73.18	73.51	78.58
20	67.13	67.32	67.64	67.97	68.29	68.61	73.62
25	62.26	62.45	62.77	63.09	63.40	63.72	68.67
30	57.35	57.54	57.85	58.17	58.49	58.80	63.72
35	52.45	52.64	52.95	53.26	53.58	53.89	58.78
40	47.62	47.81	48.11	48.42	48.73	49.04	53.86
45	42.83	43.01	43.31	43.62	43.92	44.22	48.95
50	38.12	38.30	38.59	38.89	39.19	39.48	44.10
55	33.49	33.66	33.95	34.24	34.53	34.82	39.31
60	29.04	29.21	29.48	29.76	30.03	30.31	34.61
65	24.66	24.82	25.08	25.35	25.61	25.88	30.01
70	20.58	20.73	20.98	21.23	21.48	21.73	25.64
75	16.66	16.80	17.04	17.28	17.52	17.76	21.47
80	13.16	13.29	13.51	13.73	13.95	14.17	17.59
85	10.02	10.14	10.34	10.54	10.74	10.94	14.05

Table 2. Projected Life Expectancy^a by Age, Sex and Racial/Ethnic Group, 1999 to 2100

Hispanic Males

Age	1999	2002	2007	2012	2017	2022	2100
0	77.15	77.49	78.06	78.63	79.20	79.76	88.63
5	72.89	73.21	73.75	74.29	74.83	75.37	83.79
10	67.96	68.28	68.82	69.36	69.89	70.43	78.81
15	63.04	63.36	63.89	64.43	64.96	65.49	73.82
20	58.37	58.68	59.21	59.73	60.25	60.78	68.94
25	53.79	54.10	54.61	55.11	55.62	56.13	64.08
30	49.21	49.51	50.00	50.50	50.99	51.49	59.22
35	44.65	44.94	45.42	45.90	46.38	46.87	54.38
40	40.15	40.43	40.90	41.36	41.83	42.29	49.56
45	35.66	35.93	36.38	36.83	37.28	37.73	44.76
50	31.24	31.50	31.93	32.37	32.80	33.23	40.00
55	26.99	27.24	27.65	28.06	28.48	28.89	35.33
60	22.97	23.20	23.59	23.98	24.36	24.75	30.78
65	19.23	19.44	19.80	20.15	20.51	20.87	26.41
70	15.82	16.02	16.34	16.67	16.99	17.32	22.41
75	12.68	12.86	13.16	13.45	13.75	14.05	18.68
80	9.93	10.09	10.36	10.62	10.89	11.16	15.31
85	7.56	7.70	7.94	8.18	8.41	8.65	12.34

Hispanic Females

Age	1999	2002	2007	2012	2017	2022	2100
0	83.72	83.99	84.44	84.90	85.35	85.80	92.86
5	79.37	79.63	80.05	80.48	80.91	81.34	88.01
10	74.42	74.68	75.10	75.53	75.95	76.38	83.02
15	69.47	69.72	70.15	70.57	71.00	71.42	78.03
20	64.57	64.82	65.24	65.67	66.09	66.51	73.08
25	59.68	59.93	60.35	60.77	61.18	61.60	68.12
30	54.80	55.05	55.46	55.88	56.29	56.71	63.18
35	49.94	50.19	50.60	51.01	51.42	51.83	58.24
40	45.10	45.34	45.75	46.16	46.56	46.97	53.32
45	40.33	40.57	40.97	41.37	41.77	42.17	48.42
50	35.66	35.89	36.29	36.68	37.07	37.46	43.57
55	31.10	31.33	31.71	32.09	32.47	32.85	38.79
60	26.71	26.93	27.30	27.66	28.03	28.39	34.10
65	22.52	22.73	23.07	23.42	23.77	24.11	29.52
70	18.66	18.85	19.18	19.50	19.83	20.15	25.22
75	15.08	15.26	15.56	15.86	16.16	16.46	21.12
80	11.76	11.92	12.20	12.47	12.74	13.01	17.26
85	8.95	9.09	9.33	9.57	9.81	10.05	13.79

Table 3. Age-Specific & Total Fertility Rates for Female Population Age 10 to 49

[All figures for US as a whole. Adopted from US Census Bureau Middle Series. See memo text for a discussion of Census Bureau fertility assumptions.]

Non-Hispanic White

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018	2023
Ages:											
10 - 14	0.80	0.80	0.80	0.50	0.50	0.50	0.44	0.45	0.46	0.46	0.46
15 - 19	32.78	38.49	44.20	41.70	42.50	41.80	41.06	41.95	43.34	43.91	44.41
20 - 24	108.18	107.05	105.92	102.10	99.20	96.60	94.04	96.05	97.97	99.96	101.84
25 - 29	122.44	116.10	109.76	110.70	113.40	113.30	108.15	110.28	112.54	114.76	117.02
30 - 34	63.78	64.32	64.86	70.60	78.30	77.70	85.69	87.69	89.99	91.41	93.11
35 - 39	25.22	23.17	21.12	23.90	29.70	29.90	34.28	35.31	36.25	37.37	37.81
40 - 44	6.00	4.82	3.64	4.30	4.70	4.90	6.31	6.26	6.47	6.71	6.95
45 - 49	0.10	0.10	0.10	0.10	0.20	0.20	0.31	0.30	0.29	0.30	0.32
Total Fertility Rate	1796.50	1774.25	1752.00	1769.50	1842.50	1824.50	1851.33	1891.44	1936.55	1974.43	2009.62

Non-Hispanic Black

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018	2023
Ages:											
10 - 14	3.86	3.86	3.86	3.20	5.00	5.00	3.56	3.81	3.62	3.61	3.63
15 - 19	102.28	100.35	98.42	92.80	115.10	109.80	93.34	94.11	96.27	94.97	95.05
20 - 24	149.82	143.78	137.74	132.80	160.20	156.00	133.91	134.39	134.77	134.63	135.73
25 - 29	109.90	106.38	102.86	103.60	111.20	109.80	91.48	92.01	92.36	92.61	92.56
30 - 34	62.08	62.15	62.22	66.30	66.60	65.10	60.59	60.82	61.26	61.49	61.63
35 - 39	29.80	27.89	25.98	29.00	27.50	27.00	27.93	28.24	28.36	28.64	28.74
40 - 44	8.10	6.94	5.78	6.60	5.20	5.20	5.80	5.74	5.82	5.85	5.93
45 - 49	0.38	0.38	0.38	0.20	0.30	0.20	0.27	0.26	0.25	0.26	0.26
Total Fertility Rate	2331.10	2258.65	2186.20	2172.50	2455.50	2390.50	2084.38	2096.92	2113.65	2110.29	2117.65

Non-Hispanic Asian/Other

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018	2023
Ages:											
10 - 14	1.16	1.16	1.16	0.72	0.70	0.70	0.57	0.59	0.59	0.59	0.59
15 - 19	32.78	29.49	26.20	24.72	28.60	24.50	24.80	24.07	24.38	24.18	24.11
20 - 24	108.18	101.17	94.16	90.77	93.30	75.50	77.60	77.68	76.73	76.76	76.29
25 - 29	122.44	132.94	143.43	144.66	161.60	121.70	135.16	133.82	133.42	132.28	131.87
30 - 34	63.78	83.78	103.77	112.96	136.90	102.40	131.29	130.12	129.98	129.07	128.80
35 - 39	25.22	33.19	41.16	46.58	62.50	48.60	61.14	60.84	60.02	60.27	59.67
40 - 44	6.00	7.94	9.88	11.67	12.90	10.40	14.18	14.09	14.00	13.76	13.87
45 - 49	0.70	0.70	0.70	0.70	1.30	1.00	0.90	0.89	0.87	0.87	0.85
Total Fertility Rate	1801.28	1951.79	2102.30	2163.85	2489.00	1924.00	2228.17	2210.56	2199.94	2188.92	2180.28

Hispanic

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018	2023
Ages:											
10 - 14	2.60	2.60	2.60	2.40	2.30	2.60	2.28	2.39	2.32	2.28	2.23
15 - 19	102.28	96.44	90.60	86.90	99.60	103.70	98.84	95.66	95.79	93.63	92.08
20 - 24	149.82	159.06	168.30	165.10	180.50	184.10	179.87	176.97	174.00	171.18	168.24
25 - 29	109.90	128.40	146.90	151.70	149.80	152.40	150.70	148.32	145.82	143.80	140.92
30 - 34	62.08	76.94	91.80	102.20	95.80	96.70	93.75	92.40	90.88	89.29	88.19
35 - 39	29.80	35.80	41.80	43.40	43.10	45.30	42.95	42.31	41.69	40.99	40.24
40 - 44	8.10	9.55	11.00	10.60	9.20	10.80	10.37	10.00	9.86	9.73	9.56
45 - 49	0.60	0.60	0.60	0.50	0.60	0.60	0.57	0.57	0.55	0.55	0.54
Total Fertility Rate	2325.90	2546.95	2768.00	2814.00	2904.50	2981.00	2896.69	2843.10	2804.57	2757.26	2710.06

Source: US Census Bureau, Population Division.
See memo text for full citation.

Table 4. Births Inputs by Racial/Ethnic Group, 1985 to 1999

	<i>White</i>	<i>Black</i>	<i>Asian/Other</i>	<i>Hispanic</i>	<i>Total</i>
New York City					
1985-89	203,955	192,172	34,975	183,004	614,106
1990-94	199,581	182,402	56,294	217,368	655,645
1995-99	173,803	170,044	54,375	205,288	603,511
Long Island					
1985-89	140,910	16,494	3,971	15,848	177,223
1990-94	148,821	20,210	6,635	20,416	196,082
1995-99	134,459	19,900	6,715	25,215	186,289
Mid-Hudson					
1985-89	106,547	16,962	4,098	14,425	142,032
1990-94	111,958	20,059	6,237	19,175	157,430
1995-99	99,976	19,801	6,382	20,338	146,497
New Jersey					
1985-89	283,767	71,324	17,174	67,100	439,366
1990-94	286,836	81,685	27,943	75,254	471,718
1995-99	258,775	79,455	29,750	83,188	451,168
Connecticut					
1985-89	95,237	17,920	2,900	12,393	128,450
1990-94	97,717	17,179	3,654	15,347	133,897
1995-99	87,256	16,598	3,910	16,968	124,732
Total New York Metro Region					
1985-89	830,417	314,872	63,118	292,770	1,501,177
1990-94	844,913	321,535	100,763	347,560	1,614,771
1995-99	754,269	305,798	101,132	350,998	1,512,196

Source: Urbanomics, based on US Census Bureau and New York, New Jersey and Connecticut State Department of Health estimates (see model text for methodology)

Table 5. Deaths Inputs by Racial/Ethnic Group, 1985 to 1999

	<i>White</i>	<i>Black</i>	<i>Asian/Other</i>	<i>Hispanic</i>	<i>Total</i>
New York City					
1985-89	243,042	79,373	10,237	40,763	373,415
1990-94	215,967	86,947	8,894	43,282	355,091
1995-99	183,765	87,227	10,493	42,491	323,976
Long Island					
1985-89	100,537	6,334	930	3,035	110,836
1990-94	99,693	7,389	857	2,298	110,238
1995-99	96,284	8,390	1,132	3,300	109,106
Mid-Hudson					
1985-89	78,257	6,483	724	2,362	87,826
1990-94	75,181	8,083	703	1,986	85,954
1995-99	72,913	9,243	932	2,770	85,858
New Jersey					
1985-89	238,365	28,884	3,245	13,093	283,586
1990-94	233,009	32,409	3,107	13,375	281,900
1995-99	228,011	35,055	4,640	16,961	284,666
Connecticut					
1985-89	73,604	5,531	444	1,914	81,493
1990-94	71,771	5,730	338	2,013	79,851
1995-99	73,094	6,526	481	2,554	82,655
Total New York Metro Region					
1985-89	733,805	126,605	15,580	61,167	937,156
1990-94	695,621	140,558	13,900	62,954	913,033
1995-99	654,066	146,440	17,678	68,076	886,261

Source: Urbanomics, based on US Census Bureau and New York, New Jersey and Connecticut State Department of Health estimates (see model text for methodology)

Table 6. Estimated Population by Age, Sex & Racial/Ethnic Group: 1995 & 2000

1995

Total		White Non-Hispanic		Black Non-Hispanic		Asian Non-Hispanic		Hispanic	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

NY Metro Region

<5 yrs	756,637	722,569	394,521	374,228	134,330	130,849	47,082	44,915	180,704	172,577
5-9 yrs	702,946	670,707	378,684	360,065	139,038	134,930	41,788	38,051	143,436	137,661
10-14 yrs	660,584	631,799	356,905	338,745	129,490	126,085	42,501	40,646	131,688	126,323
15-19 yrs	635,411	606,557	339,437	317,732	123,846	123,852	38,593	37,680	133,535	127,293
20-24 yrs	630,088	637,100	348,838	339,766	112,756	123,442	41,602	44,843	126,892	129,049
25-29 yrs	731,764	755,212	423,560	417,713	121,315	138,884	46,278	55,344	140,611	143,271
30-34 yrs	859,865	889,824	519,674	515,387	129,733	155,635	58,155	62,457	152,303	156,345
35-39 yrs	853,956	889,776	539,203	541,507	121,468	146,022	59,544	60,091	133,741	142,156
40-44 yrs	751,082	814,289	490,654	509,411	101,422	131,509	51,490	52,140	107,516	121,229
45-49 yrs	660,440	730,669	446,221	470,103	85,905	115,348	41,955	43,568	86,359	101,650
50-54 yrs	534,360	591,262	363,979	383,557	70,982	96,816	30,989	30,307	68,410	80,582
55-59 yrs	428,936	481,577	292,075	312,330	57,599	79,690	24,156	23,110	55,106	66,447
60-64 yrs	379,077	437,504	272,915	299,805	45,977	65,388	17,381	18,172	42,804	54,139
65-69 yrs	353,252	442,226	269,951	324,862	40,091	59,021	11,627	14,644	31,583	43,699
70-74 yrs	291,228	401,300	234,010	312,691	27,632	45,201	8,739	10,947	20,847	32,461
75-79 yrs	209,857	327,101	174,018	264,380	17,587	32,796	5,349	7,106	12,903	22,819
80-84 yrs	126,930	235,085	106,681	194,565	9,019	20,701	3,144	4,088	8,086	15,731
85+ yrs	84,124	218,426	69,541	183,725	6,741	18,586	2,150	3,269	5,692	12,846
Total	9,650,537	10,482,983	6,020,867	6,460,572	1,474,930	1,744,758	572,524	591,375	1,582,216	1,686,278

New York City

<5 yrs	289,412	277,293	76,662	72,300	75,420	73,520	25,027	23,735	112,303	107,738
5-9 yrs	254,347	243,270	67,245	63,631	79,558	77,352	19,867	17,805	87,677	84,482
10-14 yrs	235,241	228,345	62,783	59,891	73,101	72,454	19,905	18,902	79,452	77,098
15-19 yrs	226,974	223,762	62,311	59,373	67,822	69,705	19,132	18,781	77,709	75,903
20-24 yrs	237,447	255,888	80,858	83,052	61,170	70,259	23,504	25,536	71,915	77,041
25-29 yrs	292,237	314,192	114,843	113,755	68,595	81,627	28,242	32,817	80,557	85,993
30-34 yrs	322,435	343,227	129,706	124,689	72,892	91,091	33,680	34,318	86,157	93,129
35-39 yrs	304,462	325,172	128,052	123,791	67,933	85,339	33,006	30,825	75,471	85,217
40-44 yrs	257,156	289,868	111,626	114,126	56,737	76,453	26,931	25,854	61,862	73,435
45-49 yrs	216,552	255,602	97,256	103,925	47,654	66,936	21,506	22,064	50,136	62,677
50-54 yrs	178,517	211,969	81,521	87,761	40,037	57,406	16,291	16,450	40,668	50,352
55-59 yrs	148,122	178,643	68,007	74,818	32,809	47,555	14,020	13,817	33,286	42,453
60-64 yrs	130,699	164,915	66,761	77,741	26,638	40,098	10,952	11,462	26,348	35,614
65-69 yrs	117,296	160,196	66,949	86,188	23,434	36,621	7,364	8,825	19,549	28,562
70-74 yrs	94,740	141,395	59,907	85,277	16,538	28,470	5,425	6,440	12,870	21,208
75-79 yrs	70,786	116,857	48,942	77,671	10,535	20,388	3,297	4,207	8,012	14,591
80-84 yrs	44,316	85,112	32,094	59,805	5,402	12,783	1,907	2,541	4,913	9,983
85+ yrs	31,716	79,114	22,764	57,175	4,102	11,609	1,398	2,151	3,452	8,179
Total	3,452,455	3,894,820	1,378,287	1,524,969	830,379	1,019,665	311,452	316,531	932,337	1,033,655

Source: Urbanomics, based on US Census Bureau (see memo text for methodology).

Table 6. Estimated Population by Age, Sex & Racial/Ethnic Group: 1995 & 2000

1995

Total		White Non-Hispanic		Black Non-Hispanic		Asian Non-Hispanic		Hispanic	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

Long Island

<5 yrs	94,178	89,766	72,411	68,645	7,612	7,420	3,579	3,497	10,576	10,204
5-9 yrs	90,473	85,762	69,864	66,190	8,793	8,330	3,812	3,652	8,004	7,590
10-14 yrs	90,312	85,769	69,993	66,219	8,379	8,111	4,015	3,971	7,925	7,468
15-19 yrs	87,244	81,186	66,302	61,487	8,647	8,506	3,433	3,250	8,862	7,943
20-24 yrs	83,323	79,223	63,755	60,351	7,606	8,060	3,060	2,951	8,902	7,861
25-29 yrs	92,183	91,193	73,474	71,639	7,168	8,078	2,393	2,970	9,148	8,506
30-34 yrs	105,645	107,644	86,464	86,861	6,890	8,231	2,999	3,777	9,292	8,775
35-39 yrs	107,309	111,928	88,833	91,176	6,588	8,149	3,794	4,509	8,094	8,094
40-44 yrs	102,406	110,608	84,860	90,107	6,443	8,327	4,181	4,451	6,922	7,723
45-49 yrs	94,572	103,630	79,069	85,262	6,211	8,223	3,563	3,756	5,729	6,389
50-54 yrs	75,886	82,250	63,683	68,891	5,206	6,377	2,494	2,228	4,503	4,754
55-59 yrs	62,526	67,359	53,461	57,315	4,029	4,897	1,595	1,450	3,441	3,697
60-64 yrs	55,760	59,660	49,324	52,360	2,888	3,490	1,037	1,064	2,511	2,746
65-69 yrs	53,518	60,729	48,627	54,130	2,390	3,278	711	1,006	1,790	2,315
70-74 yrs	41,688	51,405	38,351	46,564	1,642	2,449	557	704	1,138	1,688
75-79 yrs	26,237	37,752	24,243	34,361	951	1,702	323	472	720	1,217
80-84 yrs	15,047	27,594	13,853	25,401	462	1,073	207	233	525	887
85+ yrs	9,512	26,633	8,653	24,728	375	977	130	210	354	718
Total	1,287,819	1,360,091	1,055,220	1,111,687	92,281	105,676	41,882	44,153	98,436	98,575

Mid-Hudson

<5 yrs	80,198	76,067	57,836	54,772	8,329	8,184	3,574	3,353	10,459	9,758
5-9 yrs	75,074	71,704	55,282	52,673	8,836	8,488	3,439	3,260	7,517	7,283
10-14 yrs	70,687	65,766	51,378	48,386	8,516	7,715	3,580	3,224	7,213	6,441
15-19 yrs	66,500	61,412	48,110	44,383	8,147	7,676	2,651	2,644	7,592	6,709
20-24 yrs	63,863	60,452	45,776	43,598	7,656	7,696	2,232	2,214	8,199	6,944
25-29 yrs	72,797	71,656	52,679	52,968	8,621	8,326	2,032	2,835	9,465	7,527
30-34 yrs	87,980	86,933	65,681	65,413	9,324	9,363	3,098	4,009	9,877	8,148
35-39 yrs	88,685	89,783	67,691	69,503	8,643	8,583	3,914	4,431	8,437	7,266
40-44 yrs	82,355	85,928	64,527	67,655	7,416	8,173	3,875	4,092	6,537	6,008
45-49 yrs	74,255	78,833	59,951	63,485	6,124	7,212	3,258	3,351	4,922	4,785
50-54 yrs	58,580	61,677	47,791	50,063	5,115	6,116	2,077	1,969	3,597	3,529
55-59 yrs	46,528	48,467	38,524	39,660	3,953	4,853	1,348	1,286	2,703	2,668
60-64 yrs	39,041	41,987	33,374	35,241	2,889	3,807	855	906	1,923	2,033
65-69 yrs	35,531	41,949	31,071	35,822	2,571	3,614	565	746	1,324	1,767
70-74 yrs	28,860	38,518	25,742	33,887	1,793	2,863	433	544	892	1,224
75-79 yrs	20,890	32,158	18,961	28,560	1,165	2,262	266	353	498	983
80-84 yrs	13,288	24,416	12,103	22,055	654	1,434	151	200	380	727
85+ yrs	8,712	23,134	7,875	21,019	488	1,330	87	140	262	645
Total	1,013,824	1,060,840	784,352	829,143	100,237	107,696	37,438	39,556	91,797	84,445

Table 6. Estimated Population by Age, Sex & Racial/Ethnic Group: 1995 & 2000

1995

Total		White Non-Hispanic		Black Non-Hispanic		Asian Non-Hispanic		Hispanic	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

New Jersey

<5 yrs	228,892	219,051	141,456	134,989	35,453	34,382	13,030	12,558	38,953	37,122
5-9 yrs	218,456	208,558	138,571	132,438	33,907	32,834	13,036	11,865	32,942	31,421
10-14 yrs	204,767	194,679	128,702	121,799	32,113	30,774	13,288	12,958	30,664	29,148
15-19 yrs	200,071	189,078	122,846	115,268	32,502	31,508	11,774	11,523	32,949	30,779
20-24 yrs	193,430	190,327	120,026	115,539	30,419	31,216	11,122	12,221	31,863	31,351
25-29 yrs	212,742	214,711	135,886	132,452	30,398	33,286	11,731	14,712	34,727	34,261
30-34 yrs	267,560	273,651	177,382	177,783	33,883	38,587	16,197	18,058	40,098	39,223
35-39 yrs	275,072	282,238	190,304	191,824	32,070	36,619	16,760	18,282	35,938	35,513
40-44 yrs	239,985	254,583	171,617	177,231	25,868	32,251	14,811	15,892	27,689	29,209
45-49 yrs	213,270	226,956	157,305	162,669	21,606	27,472	12,342	12,958	22,017	23,857
50-54 yrs	171,711	182,273	128,224	132,044	17,231	22,493	9,213	8,741	17,043	18,995
55-59 yrs	133,648	146,226	99,382	106,304	14,032	18,626	6,475	5,914	13,759	15,382
60-64 yrs	119,772	133,550	93,496	102,009	11,533	15,210	4,113	4,258	10,630	12,073
65-69 yrs	114,018	139,905	93,498	113,325	9,848	13,106	2,720	3,685	7,952	9,789
70-74 yrs	97,324	131,376	83,426	111,500	6,510	9,594	2,111	2,968	5,277	7,314
75-79 yrs	69,814	107,004	61,145	92,771	4,142	7,082	1,325	1,924	3,202	5,227
80-84 yrs	41,306	74,890	36,481	65,702	2,109	4,562	799	1,017	1,917	3,609
85+ yrs	25,791	66,685	22,431	59,220	1,493	3,913	484	684	1,383	2,868
Total	3,027,629	3,235,741	2,102,178	2,244,867	375,118	423,514	161,330	170,219	389,003	397,141

Connecticut

<5 yrs	63,957	60,392	46,156	43,522	7,516	7,344	1,872	1,771	8,413	7,755
5-9 yrs	64,596	61,413	47,722	45,133	7,943	7,926	1,635	1,469	7,296	6,885
10-14 yrs	59,577	57,240	44,049	42,450	7,381	7,031	1,713	1,591	6,434	6,168
15-19 yrs	54,622	51,119	39,868	37,221	6,727	6,458	1,604	1,481	6,423	5,959
20-24 yrs	52,025	51,210	38,423	37,226	5,905	6,211	1,684	1,921	6,013	5,852
25-29 yrs	61,805	63,460	46,678	46,899	6,533	7,566	1,880	2,011	6,714	6,984
30-34 yrs	76,245	78,369	60,441	60,641	6,744	8,363	2,181	2,295	6,879	7,070
35-39 yrs	78,428	80,655	64,323	65,213	6,234	7,332	2,070	2,044	5,801	6,066
40-44 yrs	69,180	73,302	58,024	60,292	4,957	6,306	1,693	1,850	4,506	4,854
45-49 yrs	61,791	65,648	52,640	54,762	4,311	5,505	1,285	1,439	3,555	3,942
50-54 yrs	49,666	53,093	42,760	44,798	3,392	4,423	915	920	2,599	2,952
55-59 yrs	38,112	40,882	32,701	34,233	2,776	3,759	718	643	1,917	2,247
60-64 yrs	33,805	37,392	29,960	32,454	2,029	2,782	424	483	1,392	1,673
65-69 yrs	32,889	39,447	29,806	35,397	1,848	2,403	267	381	968	1,266
70-74 yrs	28,616	38,606	26,584	35,463	1,148	1,826	214	290	670	1,027
75-79 yrs	22,130	33,330	20,727	31,017	793	1,362	139	150	471	801
80-84 yrs	12,973	23,073	12,150	21,602	393	850	79	96	351	525
85+ yrs	8,393	22,860	7,818	21,583	284	757	50	84	241	436
Total	868,810	931,491	700,830	749,906	76,915	88,207	20,422	20,916	70,643	72,462

Table 6. Estimated Population by Age, Sex & Racial/Ethnic Group: 1995 & 2000

2000

Total		White Non-Hispanic		Black Non-Hispanic		Asian Non-Hispanic		Hispanic	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

NY Metro Region

<5 yrs	685,572	656,558	331,826	314,375	114,119	110,769	56,491	55,474	183,137	175,941
5-9 yrs	747,566	712,845	379,851	362,209	137,174	132,890	52,629	47,833	177,913	169,913
10-14 yrs	693,688	663,271	363,532	346,740	135,479	131,721	50,296	46,387	144,382	138,423
15-19 yrs	667,866	636,834	350,784	329,657	128,420	126,288	46,521	45,684	142,141	135,205
20-24 yrs	600,747	601,576	314,418	298,837	109,270	118,425	42,271	46,558	134,787	137,756
25-29 yrs	655,410	684,887	352,491	348,253	113,094	127,120	52,950	65,693	136,875	143,820
30-34 yrs	767,997	804,621	432,632	426,943	122,067	145,292	60,494	71,074	152,804	161,313
35-39 yrs	885,971	922,105	531,194	532,789	132,774	157,061	66,550	69,355	155,454	162,900
40-44 yrs	843,883	906,003	536,835	555,322	117,301	142,973	62,513	66,067	127,234	141,641
45-49 yrs	696,750	771,344	450,680	473,621	94,313	125,907	52,263	55,092	99,494	116,723
50-54 yrs	645,111	713,023	445,002	464,398	77,958	107,371	41,545	44,184	80,606	97,070
55-59 yrs	505,998	565,791	346,625	365,174	64,292	90,868	30,671	31,102	64,410	78,647
60-64 yrs	380,176	433,287	257,611	276,490	49,026	70,506	24,796	24,728	48,743	61,562
65-69 yrs	321,840	397,873	229,520	269,278	40,384	59,492	16,091	18,871	35,845	50,231
70-74 yrs	291,045	390,780	223,589	289,686	30,238	47,475	10,783	14,520	26,434	39,098
75-79 yrs	234,976	345,400	189,232	270,412	21,400	37,040	7,744	9,940	16,599	28,008
80-84 yrs	143,403	245,870	118,573	200,133	10,469	21,815	4,454	5,648	9,908	18,274
85+ yrs	101,613	244,873	81,265	198,625	8,887	22,484	3,304	5,203	8,158	18,562
Total	9,869,613	10,696,944	5,935,661	6,322,944	1,506,663	1,775,498	682,366	723,415	1,744,924	1,875,087

New York City

<5 yrs	267,694	257,302	64,413	60,744	63,833	62,312	28,049	26,766	111,399	107,480
5-9 yrs	273,704	260,876	66,289	63,065	76,355	74,025	25,005	22,176	106,056	101,610
10-14 yrs	243,191	235,556	61,230	58,646	75,274	74,186	22,706	21,124	83,982	81,600
15-19 yrs	234,498	230,113	62,386	59,801	69,183	69,845	22,166	21,814	80,763	78,653
20-24 yrs	227,420	243,799	71,526	71,747	59,043	66,818	22,875	25,819	73,976	79,415
25-29 yrs	268,198	292,230	97,567	96,805	63,178	74,442	31,043	37,576	76,411	83,408
30-34 yrs	294,796	318,918	110,054	105,582	68,151	84,225	32,774	36,508	83,816	92,603
35-39 yrs	315,405	336,237	123,919	119,886	72,825	89,808	34,815	34,005	83,847	92,537
40-44 yrs	279,462	311,574	116,040	118,145	62,730	80,702	31,149	31,172	69,543	81,554
45-49 yrs	231,527	272,757	97,720	104,373	51,684	71,641	26,139	26,988	55,984	69,755
50-54 yrs	203,967	244,306	94,779	101,007	42,605	62,071	20,866	22,874	45,717	58,355
55-59 yrs	166,036	200,946	75,423	82,072	36,216	53,266	16,562	17,215	37,834	48,394
60-64 yrs	133,831	167,058	62,159	70,909	28,163	42,377	14,569	14,703	28,940	39,068
65-69 yrs	109,131	147,183	55,337	69,708	23,012	35,605	9,448	10,717	21,334	31,153
70-74 yrs	94,206	137,740	54,965	76,175	17,497	29,039	6,135	8,076	15,609	24,450
75-79 yrs	76,982	120,018	50,240	75,236	12,597	22,326	4,447	5,304	9,699	17,152
80-84 yrs	46,933	83,993	32,725	56,674	5,989	13,271	2,533	3,229	5,686	10,819
85+ yrs	36,226	85,650	24,350	57,740	5,286	13,724	1,827	3,076	4,763	11,110
Total	3,503,208	3,946,256	1,321,121	1,448,316	833,621	1,019,682	353,109	369,143	995,357	1,109,116

Table 6. Estimated Population by Age, Sex & Racial/Ethnic Group: 1995 & 2000

2000

Total		White Non-Hispanic		Black Non-Hispanic		Asian Non-Hispanic		Hispanic	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

Long Island

<5 yrs	79,939	76,379	58,495	55,401	6,332	6,172	4,259	4,266	10,853	10,540
5-9 yrs	96,318	91,478	70,873	67,604	8,692	8,183	5,322	5,018	11,431	10,673
10-14 yrs	93,089	88,740	70,009	66,626	9,171	8,824	4,961	4,806	8,948	8,485
15-19 yrs	92,067	86,132	68,815	64,424	9,325	9,001	4,238	3,984	9,689	8,723
20-24 yrs	78,152	72,670	57,428	52,688	7,799	8,078	3,087	3,133	9,838	8,769
25-29 yrs	78,247	78,377	59,713	58,635	6,648	7,388	2,818	3,661	9,069	8,693
30-34 yrs	89,832	92,222	70,812	70,934	6,564	7,746	3,059	4,312	9,396	9,230
35-39 yrs	109,620	114,242	87,776	90,091	7,627	9,224	4,242	5,318	9,975	9,609
40-44 yrs	114,740	122,895	93,079	98,196	7,829	9,467	5,313	5,905	8,519	9,327
45-49 yrs	99,169	108,922	80,483	86,946	7,223	9,335	4,685	4,999	6,778	7,642
50-54 yrs	97,543	104,994	82,376	87,800	6,046	7,573	3,610	3,559	5,512	6,062
55-59 yrs	75,849	81,022	64,661	68,469	4,851	5,955	2,071	2,005	4,267	4,594
60-64 yrs	54,720	57,294	46,889	48,537	3,295	3,999	1,550	1,518	2,986	3,241
65-69 yrs	48,327	53,884	42,167	45,703	2,700	3,650	1,117	1,486	2,343	3,044
70-74 yrs	43,813	52,332	39,323	45,930	2,048	2,932	758	1,066	1,684	2,405
75-79 yrs	31,847	42,658	28,813	37,897	1,395	2,238	551	744	1,089	1,780
80-84 yrs	18,100	29,900	16,383	27,075	621	1,316	349	357	747	1,152
85+ yrs	12,291	31,134	10,830	28,099	605	1,403	218	381	638	1,252
Total	1,313,664	1,385,275	1,048,924	1,101,054	98,771	112,483	52,206	56,518	113,764	115,219

Mid-Hudson

<5 yrs	67,975	64,532	45,972	43,490	6,817	6,699	4,370	4,215	10,815	10,128
5-9 yrs	81,526	78,105	56,668	54,431	8,702	8,323	4,991	4,691	11,165	10,659
10-14 yrs	74,498	69,262	52,008	49,253	9,544	8,523	4,562	3,978	8,385	7,509
15-19 yrs	71,233	65,930	50,455	46,998	9,011	8,230	3,355	3,268	8,411	7,434
20-24 yrs	60,234	56,073	41,146	38,062	7,827	7,768	2,204	2,399	9,057	7,844
25-29 yrs	62,274	61,817	42,310	42,831	8,181	7,656	2,427	3,623	9,355	7,707
30-34 yrs	75,255	74,720	53,161	52,698	8,955	8,783	3,135	4,629	10,004	8,610
35-39 yrs	92,203	93,277	67,471	69,287	9,927	9,827	4,438	5,364	10,367	8,798
40-44 yrs	94,303	97,598	72,131	75,122	9,042	9,504	5,059	5,577	8,071	7,395
45-49 yrs	78,848	83,761	61,351	65,095	7,135	8,236	4,452	4,588	5,910	5,841
50-54 yrs	77,760	81,643	64,177	66,276	6,018	7,402	3,127	3,314	4,438	4,651
55-59 yrs	57,925	60,044	47,978	48,761	4,811	6,038	1,803	1,853	3,332	3,391
60-64 yrs	38,886	40,999	31,887	32,732	3,336	4,445	1,306	1,343	2,357	2,478
65-69 yrs	30,957	35,825	25,588	28,580	2,803	3,860	901	1,110	1,664	2,275
70-74 yrs	29,660	38,084	25,569	32,187	2,195	3,325	580	850	1,315	1,722
75-79 yrs	25,068	35,658	22,150	30,729	1,704	2,908	458	602	756	1,419
80-84 yrs	15,700	25,799	14,063	22,879	858	1,690	252	317	527	912
85+ yrs	11,131	26,713	9,726	23,476	776	1,877	154	256	475	1,104
Total	1,045,436	1,089,840	783,812	822,886	107,644	115,098	47,575	51,979	106,405	99,878

Table 6. Estimated Population by Age, Sex & Racial/Ethnic Group: 1995 & 2000

2000

Total		White Non-Hispanic		Black Non-Hispanic		Asian Non-Hispanic		Hispanic	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female

New Jersey

<5 yrs	211,605	203,194	122,376	116,270	30,625	29,616	17,745	18,108	40,858	39,199
5-9 yrs	231,841	221,387	140,362	133,817	35,483	34,537	15,241	14,001	40,754	39,032
10-14 yrs	218,514	207,756	133,398	127,109	33,433	32,233	16,054	14,670	35,629	33,745
15-19 yrs	210,962	199,358	126,390	118,536	33,438	32,190	14,820	14,782	36,314	33,851
20-24 yrs	187,526	183,098	110,729	104,475	28,925	29,691	12,459	13,390	35,413	35,542
25-29 yrs	193,099	196,944	114,191	111,353	29,225	30,916	14,538	17,895	35,145	36,780
30-34 yrs	240,384	248,476	147,694	146,055	31,512	36,356	19,164	22,869	42,013	43,195
35-39 yrs	288,890	296,287	189,087	190,305	35,245	39,764	20,544	22,015	44,014	44,203
40-44 yrs	276,671	291,267	191,152	197,097	31,311	35,921	18,728	21,114	35,480	37,135
45-49 yrs	224,474	239,136	158,678	162,802	23,883	30,797	15,275	16,592	26,637	28,945
50-54 yrs	206,691	218,975	153,231	156,726	19,120	25,091	12,790	13,119	21,550	24,039
55-59 yrs	160,052	174,534	118,993	124,789	15,187	21,284	9,286	9,058	16,586	19,403
60-64 yrs	119,857	131,961	88,424	94,527	12,007	16,382	6,742	6,473	12,684	14,579
65-69 yrs	103,910	126,453	80,457	95,428	9,994	13,711	4,182	5,079	9,278	12,235
70-74 yrs	96,088	126,832	78,941	103,164	7,073	10,225	3,035	4,145	7,039	9,298
75-79 yrs	77,629	113,172	66,296	95,515	4,791	7,910	2,100	3,025	4,443	6,722
80-84 yrs	47,062	80,972	40,836	69,930	2,468	4,687	1,180	1,616	2,577	4,739
85+ yrs	31,431	75,735	26,722	65,522	1,816	4,443	1,018	1,365	1,876	4,404
Total	3,126,686	3,335,537	2,087,957	2,213,420	385,538	435,754	204,901	219,316	448,290	467,047

Connecticut

<5 yrs	58,359	55,151	40,570	38,469	6,511	5,970	2,067	2,118	9,212	8,594
5-9 yrs	64,178	60,999	45,659	43,291	7,942	7,822	2,071	1,946	8,507	7,939
10-14 yrs	64,396	61,956	46,889	45,107	8,057	7,955	2,012	1,809	7,438	7,085
15-19 yrs	59,107	55,301	42,737	39,898	7,463	7,022	1,942	1,836	6,964	6,544
20-24 yrs	47,415	45,936	33,589	31,864	5,675	6,070	1,647	1,816	6,504	6,185
25-29 yrs	53,592	55,519	38,711	38,630	5,862	6,719	2,123	2,938	6,896	7,233
30-34 yrs	67,730	70,285	50,910	51,673	6,884	8,181	2,361	2,756	7,575	7,675
35-39 yrs	79,853	82,062	62,941	63,219	7,150	8,438	2,511	2,653	7,251	7,752
40-44 yrs	78,708	82,669	64,433	66,762	6,389	7,378	2,265	2,300	5,621	6,230
45-49 yrs	62,732	66,769	52,448	54,405	4,387	5,898	1,713	1,926	4,184	4,540
50-54 yrs	59,150	63,105	50,440	52,590	4,169	5,234	1,152	1,318	3,389	3,963
55-59 yrs	46,135	49,245	39,570	41,084	3,226	4,324	949	972	2,391	2,865
60-64 yrs	32,882	35,974	28,252	29,786	2,225	3,303	630	690	1,775	2,196
65-69 yrs	29,515	34,528	25,972	29,859	1,874	2,666	443	479	1,225	1,524
70-74 yrs	27,277	35,792	24,790	32,231	1,424	1,955	275	383	788	1,223
75-79 yrs	23,449	33,894	21,734	31,035	913	1,658	188	265	614	935
80-84 yrs	15,608	25,207	14,566	23,576	533	851	140	129	370	652
85+ yrs	10,533	25,642	9,637	23,788	403	1,037	88	126	406	691
Total	880,620	940,035	693,848	737,267	81,088	92,481	24,575	26,460	81,109	83,827

Table 7. Births and Deaths Adjustment Factors by Subregion and Racial/Ethnic Group

	White	Black	Asian/Other	Hispanic
<i>New York City</i>				
Births	0.8799	0.9484	0.8866	0.8611
Deaths	1.0697	1.0646	1.0645	1.0918
<i>Long Island</i>				
Births	0.9682	0.9861	0.9764	0.9623
Deaths	1.0060	1.0036	1.0031	0.8480
<i>Mid-Hudson</i>				
Births	0.9962	0.9902	0.9889	0.9591
Deaths	0.9896	0.9575	0.9607	0.8351
<i>New Jersey</i>				
Births	0.9543	0.9565	0.9605	0.8654
Deaths	1.0364	1.0347	1.0334	1.0342
<i>Connecticut</i>				
Births	0.9487	1.0256	1.0136	0.8972
Deaths	0.9785	1.0075	1.0133	0.9780

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/in Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$

White Non-Hispanic Male

0	1	0.00609	100,000	609	99,467	7,469,179	74.69
1	2	0.00044	99,391	44	99,369	7,369,712	74.15
2	3	0.00032	99,347	32	99,331	7,270,343	73.18
3	4	0.00026	99,315	26	99,302	7,171,011	72.20
4	5	0.00021	99,290	21	99,279	7,071,709	71.22
5	6	0.00022	99,269	21	99,258	6,972,430	70.24
6	7	0.00020	99,248	19	99,238	6,873,171	69.25
7	8	0.00017	99,228	17	99,220	6,773,933	68.27
8	9	0.00016	99,211	16	99,203	6,674,714	67.28
9	10	0.00016	99,196	16	99,187	6,575,510	66.29
10	11	0.00017	99,179	17	99,171	6,476,323	65.30
11	12	0.00017	99,162	17	99,154	6,377,152	64.31
12	13	0.00022	99,146	22	99,135	6,277,998	63.32
13	14	0.00027	99,124	27	99,111	6,178,863	62.33
14	15	0.00037	99,098	36	99,079	6,079,752	61.35
15	16	0.00050	99,061	49	99,037	5,980,673	60.37
16	17	0.00075	99,012	75	98,975	5,881,636	59.40
17	18	0.00095	98,937	94	98,891	5,782,661	58.45
18	19	0.00117	98,844	116	98,786	5,683,771	57.50
19	20	0.00119	98,728	118	98,669	5,584,985	56.57
20	21	0.00118	98,610	116	98,552	5,486,316	55.64
21	22	0.00122	98,494	120	98,434	5,387,763	54.70
22	23	0.00118	98,374	116	98,316	5,289,329	53.77
23	24	0.00110	98,258	109	98,204	5,191,013	52.83
24	25	0.00106	98,149	104	98,098	5,092,809	51.89
25	26	0.00105	98,046	103	97,994	4,994,712	50.94
26	27	0.00102	97,943	100	97,893	4,896,717	50.00
27	28	0.00109	97,843	107	97,789	4,798,824	49.05
28	29	0.00106	97,736	103	97,684	4,701,035	48.10
29	30	0.00117	97,633	115	97,575	4,603,351	47.15
30	31	0.00119	97,518	116	97,460	4,505,775	46.20
31	32	0.00124	97,402	120	97,342	4,408,315	45.26
32	33	0.00136	97,281	133	97,215	4,310,974	44.31
33	34	0.00137	97,149	134	97,082	4,213,759	43.37
34	35	0.00146	97,015	142	96,944	4,116,677	42.43
35	36	0.00174	96,873	169	96,789	4,019,733	41.49
36	37	0.00182	96,704	176	96,616	3,922,944	40.57
37	38	0.00194	96,528	187	96,435	3,826,328	39.64
38	39	0.00195	96,341	188	96,247	3,729,893	38.72
39	40	0.00212	96,153	204	96,051	3,633,647	37.79
40	41	0.00224	95,949	215	95,841	3,537,596	36.87
41	42	0.00234	95,734	224	95,622	3,441,754	35.95
42	43	0.00246	95,510	235	95,393	3,346,132	35.03
43	44	0.00257	95,276	245	95,153	3,250,739	34.12
44	45	0.00304	95,031	289	94,886	3,155,586	33.21
45	46	0.00327	94,742	310	94,587	3,060,700	32.31
46	47	0.00347	94,432	328	94,268	2,966,113	31.41
47	48	0.00368	94,104	347	93,931	2,871,845	30.52

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
48	49	0.00417	93,758	391	93,562	2,777,914	29.63
49	50	0.00436	93,367	407	93,164	2,684,352	28.75
50	51	0.00484	92,961	450	92,736	2,591,188	27.87
51	52	0.00542	92,511	502	92,260	2,498,452	27.01
52	53	0.00595	92,009	548	91,735	2,406,192	26.15
53	54	0.00633	91,461	579	91,171	2,314,457	25.31
54	55	0.00720	90,882	654	90,555	2,223,286	24.46
55	56	0.00776	90,227	700	89,877	2,132,731	23.64
56	57	0.00836	89,527	748	89,153	2,042,854	22.82
57	58	0.00939	88,779	834	88,362	1,953,700	22.01
58	59	0.01052	87,945	925	87,483	1,865,338	21.21
59	60	0.01131	87,020	984	86,528	1,777,856	20.43
60	61	0.01246	86,036	1,072	85,500	1,691,328	19.66
61	62	0.01349	84,963	1,146	84,390	1,605,828	18.90
62	63	0.01542	83,818	1,293	83,171	1,521,438	18.15
63	64	0.01705	82,525	1,407	81,822	1,438,266	17.43
64	65	0.01880	81,118	1,525	80,356	1,356,445	16.72
65	66	0.02070	79,593	1,647	78,769	1,276,089	16.03
66	67	0.02214	77,946	1,726	77,083	1,197,320	15.36
67	68	0.02404	76,220	1,832	75,303	1,120,237	14.70
68	69	0.02573	74,387	1,914	73,430	1,044,934	14.05
69	70	0.02819	72,473	2,043	71,452	971,503	13.40
70	71	0.03179	70,431	2,239	69,311	900,051	12.78
71	72	0.03399	68,192	2,318	67,033	830,740	12.18
72	73	0.03794	65,874	2,499	64,624	763,708	11.59
73	74	0.04110	63,375	2,604	62,072	699,083	11.03
74	75	0.04468	60,770	2,715	59,413	637,011	10.48
75	76	0.04843	58,055	2,812	56,650	577,598	9.95
76	77	0.05410	55,244	2,989	53,749	520,948	9.43
77	78	0.05946	52,255	3,107	50,702	467,199	8.94
78	79	0.06404	49,148	3,148	47,574	416,498	8.47
79	80	0.07126	46,000	3,278	44,361	368,923	8.02
80	81	0.07707	42,722	3,292	41,076	324,562	7.60
81	82	0.08340	39,430	3,289	37,786	283,486	7.19
82	83	0.09029	36,141	3,263	34,510	245,700	6.80
83	84	0.09889	32,878	3,251	31,252	211,190	6.42
84	85	0.10601	29,627	3,141	28,056	179,938	6.07
85	86	0.11452	26,486	3,033	24,970	151,881	5.73
86	87	0.12359	23,453	2,898	22,004	126,912	5.41
87	88	0.13325	20,555	2,739	19,185	104,908	5.10
88	89	0.14352	17,816	2,557	16,537	85,723	4.81
89	90	0.15443	15,259	2,356	14,080	69,186	4.53
90	91	0.16600	12,902	2,142	11,831	55,105	4.27
91	92	0.17825	10,760	1,918	9,801	43,274	4.02
92	93	0.19120	8,842	1,691	7,997	33,473	3.79
93	94	0.20487	7,152	1,465	6,419	25,475	3.56
94	95	0.21928	5,687	1,247	5,063	19,056	3.35
95	96	0.23443	4,440	1,041	3,919	13,993	3.15
96	97	0.25034	3,399	851	2,973	10,074	2.96

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
97	98	0.26703	2,548	680	2,208	7,101	2.79
98	99	0.28449	1,868	531	1,602	4,893	2.62
99	100	0.30273	1,336	405	1,134	3,291	2.46
100	101	0.32176	932	300	782	2,157	2.32
101	102	0.34155	632	216	524	1,375	2.18
102	103	0.36212	416	151	341	851	2.05
103	104	0.38344	265	102	215	510	1.92
104	105	0.40550	164	66	130	296	1.81
105	106	0.42828	97	42	76	165	1.70
106	107	0.45176	56	25	43	89	1.60
107	108	0.47590	30	15	23	46	1.50
108	109	0.50068	16	8	12	23	1.41
109	110	0.52606	8	4	6	11	1.33
110	111	0.55200	4	2	3	5	1.25
111	112	0.57846	2	1	1	2	1.17
112	113	0.60538	1	0	0	1	1.09
113	114	0.63273	0	0	0	0	0.99
114	115	0.66045	0	0	0	0	0.84
115	116	0.66045	0	0	0	0	0.50

White Non-Hispanic Female

0	1	0.00479	100,000	479	99,580	8,006,658	80.07
1	2	0.00039	99,521	39	99,501	7,907,078	79.45
2	3	0.00024	99,482	24	99,470	7,807,577	78.48
3	4	0.00019	99,458	18	99,449	7,708,107	77.50
4	5	0.00016	99,439	16	99,431	7,608,658	76.52
5	6	0.00016	99,423	16	99,416	7,509,227	75.53
6	7	0.00015	99,408	14	99,401	7,409,811	74.54
7	8	0.00014	99,393	14	99,386	7,310,411	73.55
8	9	0.00013	99,379	13	99,373	7,211,025	72.56
9	10	0.00014	99,366	14	99,359	7,111,652	71.57
10	11	0.00013	99,352	13	99,346	7,012,293	70.58
11	12	0.00013	99,339	13	99,333	6,912,947	69.59
12	13	0.00015	99,326	14	99,319	6,813,614	68.60
13	14	0.00016	99,312	16	99,304	6,714,295	67.61
14	15	0.00023	99,296	22	99,285	6,614,991	66.62
15	16	0.00031	99,274	31	99,259	6,515,706	65.63
16	17	0.00043	99,243	43	99,222	6,416,447	64.65
17	18	0.00050	99,200	49	99,175	6,317,226	63.68
18	19	0.00048	99,151	47	99,127	6,218,050	62.71
19	20	0.00045	99,103	45	99,081	6,118,923	61.74
20	21	0.00044	99,059	44	99,037	6,019,842	60.77
21	22	0.00044	99,015	44	98,993	5,920,806	59.80
22	23	0.00041	98,971	40	98,950	5,821,813	58.82
23	24	0.00042	98,930	42	98,909	5,722,863	57.85
24	25	0.00043	98,888	43	98,867	5,623,953	56.87
25	26	0.00045	98,845	44	98,823	5,525,086	55.90
26	27	0.00049	98,801	48	98,777	5,426,263	54.92
27	28	0.00053	98,753	52	98,727	5,327,486	53.95

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
28	29	0.00051	98,701	50	98,676	5,228,759	52.98
29	30	0.00056	98,650	55	98,623	5,130,084	52.00
30	31	0.00056	98,595	55	98,568	5,031,461	51.03
31	32	0.00060	98,540	59	98,510	4,932,893	50.06
32	33	0.00067	98,481	66	98,448	4,834,383	49.09
33	34	0.00068	98,414	67	98,381	4,735,935	48.12
34	35	0.00078	98,347	77	98,309	4,637,554	47.15
35	36	0.00084	98,271	82	98,229	4,539,245	46.19
36	37	0.00089	98,188	88	98,144	4,441,016	45.23
37	38	0.00096	98,101	94	98,053	4,342,872	44.27
38	39	0.00103	98,006	101	97,956	4,244,818	43.31
39	40	0.00110	97,905	108	97,851	4,146,862	42.36
40	41	0.00121	97,797	119	97,738	4,049,011	41.40
41	42	0.00134	97,679	131	97,613	3,951,273	40.45
42	43	0.00144	97,548	141	97,478	3,853,659	39.51
43	44	0.00149	97,407	145	97,334	3,756,182	38.56
44	45	0.00176	97,262	171	97,176	3,658,847	37.62
45	46	0.00182	97,091	176	97,003	3,561,671	36.68
46	47	0.00201	96,914	195	96,817	3,464,669	35.75
47	48	0.00215	96,720	208	96,616	3,367,852	34.82
48	49	0.00247	96,512	238	96,393	3,271,236	33.89
49	50	0.00255	96,274	245	96,151	3,174,843	32.98
50	51	0.00300	96,028	288	95,884	3,078,692	32.06
51	52	0.00329	95,740	315	95,582	2,982,808	31.16
52	53	0.00360	95,425	344	95,253	2,887,225	30.26
53	54	0.00397	95,081	377	94,892	2,791,973	29.36
54	55	0.00437	94,704	414	94,497	2,697,080	28.48
55	56	0.00503	94,290	474	94,053	2,602,583	27.60
56	57	0.00548	93,816	514	93,559	2,508,530	26.74
57	58	0.00602	93,302	562	93,021	2,414,971	25.88
58	59	0.00634	92,740	588	92,446	2,321,950	25.04
59	60	0.00697	92,152	642	91,831	2,229,504	24.19
60	61	0.00812	91,509	743	91,138	2,137,673	23.36
61	62	0.00853	90,767	774	90,380	2,046,535	22.55
62	63	0.00952	89,993	856	89,564	1,956,155	21.74
63	64	0.01051	89,136	936	88,668	1,866,590	20.94
64	65	0.01161	88,200	1,024	87,688	1,777,922	20.16
65	66	0.01262	87,176	1,100	86,626	1,690,234	19.39
66	67	0.01369	86,076	1,178	85,487	1,603,608	18.63
67	68	0.01498	84,898	1,272	84,262	1,518,121	17.88
68	69	0.01598	83,626	1,336	82,958	1,433,859	17.15
69	70	0.01736	82,290	1,429	81,576	1,350,901	16.42
70	71	0.01986	80,862	1,606	80,059	1,269,325	15.70
71	72	0.02123	79,255	1,682	78,414	1,189,266	15.01
72	73	0.02348	77,573	1,822	76,662	1,110,852	14.32
73	74	0.02556	75,752	1,936	74,783	1,034,190	13.65
74	75	0.02792	73,815	2,061	72,785	959,406	13.00
75	76	0.03050	71,754	2,189	70,660	886,622	12.36
76	77	0.03394	69,566	2,361	68,385	815,962	11.73

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
77	78	0.03710	67,205	2,493	65,958	747,576	11.12
78	79	0.04097	64,712	2,651	63,386	681,618	10.53
79	80	0.04514	62,060	2,802	60,660	618,232	9.96
80	81	0.04981	59,259	2,952	57,783	557,572	9.41
81	82	0.05434	56,307	3,060	54,777	499,789	8.88
82	83	0.06048	53,248	3,220	51,637	445,012	8.36
83	84	0.06701	50,027	3,352	48,351	393,374	7.86
84	85	0.07388	46,675	3,448	44,951	345,023	7.39
85	86	0.08156	43,227	3,525	41,464	300,072	6.94
86	87	0.08988	39,701	3,568	37,917	258,608	6.51
87	88	0.09888	36,133	3,573	34,347	220,691	6.11
88	89	0.10860	32,560	3,536	30,792	186,344	5.72
89	90	0.11905	29,024	3,455	27,297	155,552	5.36
90	91	0.13027	25,569	3,331	23,903	128,256	5.02
91	92	0.14229	22,238	3,164	20,656	104,352	4.69
92	93	0.15513	19,074	2,959	17,594	83,696	4.39
93	94	0.16882	16,115	2,720	14,755	66,102	4.10
94	95	0.18336	13,394	2,456	12,166	51,348	3.83
95	96	0.19877	10,938	2,174	9,851	39,181	3.58
96	97	0.21507	8,764	1,885	7,822	29,330	3.35
97	98	0.23224	6,879	1,598	6,080	21,508	3.13
98	99	0.25030	5,282	1,322	4,621	15,428	2.92
99	100	0.26923	3,960	1,066	3,427	10,808	2.73
100	101	0.28901	2,894	836	2,475	7,381	2.55
101	102	0.30963	2,057	637	1,739	4,906	2.38
102	103	0.33106	1,420	470	1,185	3,167	2.23
103	104	0.35326	950	336	782	1,982	2.09
104	105	0.37620	614	231	499	1,199	1.95
105	106	0.39983	383	153	307	701	1.83
106	107	0.42410	230	98	181	394	1.71
107	108	0.44895	132	59	103	213	1.60
108	109	0.47432	73	35	56	110	1.50
109	110	0.50015	38	19	29	54	1.41
110	111	0.52637	19	10	14	25	1.32
111	112	0.55291	9	5	7	11	1.24
112	113	0.57970	4	2	3	5	1.15
113	114	0.60667	2	1	1	2	1.04
114	115	0.63374	1	0	0	1	0.87
115	116	0.66084	0	0	0	0	0.50

Black Non-Hispanic Male

0	1	0.01517	100,000	1,517	98,671	6,838,540	68.39
1	2	0.00101	98,483	100	98,433	6,739,869	68.44
2	3	0.00064	98,384	63	98,352	6,641,436	67.51
3	4	0.00047	98,321	46	98,297	6,543,084	66.55
4	5	0.00041	98,274	40	98,254	6,444,786	65.58
5	6	0.00034	98,234	34	98,217	6,346,532	64.61
6	7	0.00033	98,200	32	98,184	6,248,315	63.63
7	8	0.00029	98,168	29	98,153	6,150,131	62.65

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
8	9	0.00027	98,139	26	98,126	6,051,978	61.67
9	10	0.00026	98,113	26	98,100	5,953,852	60.68
10	11	0.00026	98,087	25	98,075	5,855,752	59.70
11	12	0.00030	98,062	29	98,047	5,757,678	58.71
12	13	0.00029	98,033	29	98,018	5,659,630	57.73
13	14	0.00037	98,004	36	97,986	5,561,612	56.75
14	15	0.00062	97,968	61	97,937	5,463,627	55.77
15	16	0.00085	97,907	83	97,866	5,365,689	54.80
16	17	0.00123	97,824	121	97,764	5,267,824	53.85
17	18	0.00174	97,703	170	97,618	5,170,060	52.92
18	19	0.00225	97,533	220	97,423	5,072,442	52.01
19	20	0.00239	97,313	233	97,197	4,975,018	51.12
20	21	0.00254	97,081	247	96,957	4,877,821	50.25
21	22	0.00256	96,834	248	96,710	4,780,864	49.37
22	23	0.00259	96,586	251	96,461	4,684,154	48.50
23	24	0.00246	96,336	237	96,217	4,587,693	47.62
24	25	0.00252	96,099	243	95,977	4,491,476	46.74
25	26	0.00230	95,856	221	95,746	4,395,498	45.86
26	27	0.00224	95,635	214	95,528	4,299,753	44.96
27	28	0.00233	95,421	222	95,310	4,204,225	44.06
28	29	0.00239	95,199	227	95,085	4,108,915	43.16
29	30	0.00250	94,972	237	94,853	4,013,829	42.26
30	31	0.00259	94,734	245	94,612	3,918,976	41.37
31	32	0.00280	94,489	265	94,357	3,824,364	40.47
32	33	0.00304	94,225	287	94,082	3,730,007	39.59
33	34	0.00317	93,938	298	93,789	3,635,926	38.71
34	35	0.00337	93,640	316	93,482	3,542,136	37.83
35	36	0.00373	93,324	348	93,151	3,448,654	36.95
36	37	0.00374	92,977	347	92,803	3,355,503	36.09
37	38	0.00428	92,629	396	92,431	3,262,700	35.22
38	39	0.00432	92,233	399	92,034	3,170,269	34.37
39	40	0.00460	91,834	422	91,623	3,078,235	33.52
40	41	0.00485	91,412	443	91,190	2,986,612	32.67
41	42	0.00507	90,969	461	90,738	2,895,422	31.83
42	43	0.00547	90,508	495	90,260	2,804,683	30.99
43	44	0.00551	90,013	496	89,765	2,714,423	30.16
44	45	0.00626	89,517	560	89,237	2,624,658	29.32
45	46	0.00743	88,957	661	88,626	2,535,422	28.50
46	47	0.00805	88,296	711	87,941	2,446,795	27.71
47	48	0.00870	87,585	762	87,204	2,358,854	26.93
48	49	0.00902	86,823	783	86,432	2,271,650	26.16
49	50	0.00935	86,040	805	85,638	2,185,219	25.40
50	51	0.01028	85,236	876	84,798	2,099,581	24.63
51	52	0.01127	84,359	951	83,884	2,014,783	23.88
52	53	0.01164	83,409	971	82,923	1,930,899	23.15
53	54	0.01213	82,438	1,000	81,937	1,847,976	22.42
54	55	0.01361	81,437	1,108	80,883	1,766,039	21.69
55	56	0.01524	80,329	1,224	79,717	1,685,155	20.98
56	57	0.01638	79,105	1,296	78,457	1,605,438	20.30

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
57	58	0.01735	77,809	1,350	77,134	1,526,981	19.62
58	59	0.01779	76,459	1,360	75,779	1,449,847	18.96
59	60	0.01838	75,099	1,380	74,408	1,374,069	18.30
60	61	0.02082	73,718	1,535	72,951	1,299,660	17.63
61	62	0.02220	72,183	1,602	71,382	1,226,709	16.99
62	63	0.02556	70,581	1,804	69,679	1,155,327	16.37
63	64	0.02713	68,777	1,866	67,844	1,085,648	15.79
64	65	0.02898	66,911	1,939	65,942	1,017,804	15.21
65	66	0.03160	64,973	2,053	63,946	951,862	14.65
66	67	0.03295	62,920	2,073	61,883	887,916	14.11
67	68	0.03447	60,847	2,097	59,798	826,033	13.58
68	69	0.03806	58,749	2,236	57,631	766,235	13.04
69	70	0.03858	56,513	2,181	55,423	708,604	12.54
70	71	0.04417	54,333	2,400	53,133	653,181	12.02
71	72	0.04608	51,933	2,393	50,736	600,048	11.55
72	73	0.04947	49,540	2,451	48,314	549,311	11.09
73	74	0.05255	47,089	2,475	45,852	500,997	10.64
74	75	0.05770	44,614	2,574	43,327	455,145	10.20
75	76	0.06257	42,040	2,630	40,725	411,818	9.80
76	77	0.06859	39,409	2,703	38,058	371,094	9.42
77	78	0.06888	36,706	2,528	35,442	333,036	9.07
78	79	0.07361	34,178	2,516	32,920	297,594	8.71
79	80	0.07951	31,662	2,518	30,403	264,674	8.36
80	81	0.08891	29,145	2,591	27,849	234,270	8.04
81	82	0.08929	26,553	2,371	25,368	206,421	7.77
82	83	0.09109	24,183	2,203	23,081	181,053	7.49
83	84	0.09409	21,980	2,068	20,946	157,972	7.19
84	85	0.10177	19,912	2,026	18,899	137,026	6.88
85	86	0.10623	17,885	1,900	16,935	118,128	6.60
86	87	0.11108	15,985	1,776	15,097	101,193	6.33
87	88	0.11636	14,210	1,653	13,383	86,095	6.06
88	89	0.12210	12,556	1,533	11,790	72,712	5.79
89	90	0.12833	11,023	1,415	10,316	60,923	5.53
90	91	0.13512	9,608	1,298	8,959	50,607	5.27
91	92	0.14249	8,310	1,184	7,718	41,647	5.01
92	93	0.15052	7,126	1,073	6,590	33,929	4.76
93	94	0.15924	6,053	964	5,571	27,339	4.52
94	95	0.16873	5,090	859	4,660	21,768	4.28
95	96	0.17906	4,231	758	3,852	17,108	4.04
96	97	0.19029	3,473	661	3,143	13,256	3.82
97	98	0.20251	2,812	570	2,528	10,113	3.60
98	99	0.21580	2,243	484	2,001	7,586	3.38
99	100	0.23025	1,759	405	1,556	5,585	3.18
100	101	0.24597	1,354	333	1,187	4,029	2.98
101	102	0.26305	1,021	269	887	2,841	2.78
102	103	0.28161	752	212	646	1,955	2.60
103	104	0.30176	540	163	459	1,308	2.42
104	105	0.32361	377	122	316	849	2.25
105	106	0.34729	255	89	211	533	2.09

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
106	107	0.37292	167	62	136	322	1.93
107	108	0.40062	104	42	84	187	1.79
108	109	0.43051	63	27	49	103	1.65
109	110	0.46268	36	16	27	54	1.51
110	111	0.49723	19	10	14	27	1.39
111	112	0.53424	10	5	7	12	1.27
112	113	0.57377	4	3	3	5	1.15
113	114	0.61585	2	1	1	2	1.01
114	115	0.66045	1	0	0	1	0.84
115	116	0.66045	0	0	0	0	0.50

Black Non-Hispanic Female

0	1	0.01258	100,000	1,258	98,897	7,512,950	75.13
1	2	0.00089	98,742	88	98,698	7,414,053	75.09
2	3	0.00049	98,653	48	98,629	7,315,355	74.15
3	4	0.00039	98,605	38	98,586	7,216,726	73.19
4	5	0.00033	98,567	33	98,551	7,118,140	72.22
5	6	0.00031	98,534	30	98,519	7,019,589	71.24
6	7	0.00027	98,504	26	98,491	6,921,070	70.26
7	8	0.00020	98,478	20	98,467	6,822,579	69.28
8	9	0.00023	98,457	23	98,446	6,724,112	68.29
9	10	0.00022	98,435	22	98,424	6,625,666	67.31
10	11	0.00016	98,413	16	98,405	6,527,241	66.32
11	12	0.00023	98,398	22	98,387	6,428,836	65.34
12	13	0.00023	98,375	23	98,364	6,330,449	64.35
13	14	0.00031	98,353	31	98,337	6,232,086	63.36
14	15	0.00035	98,322	34	98,305	6,133,748	62.38
15	16	0.00037	98,288	37	98,269	6,035,443	61.41
16	17	0.00041	98,251	40	98,231	5,937,174	60.43
17	18	0.00048	98,211	47	98,187	5,838,943	59.45
18	19	0.00055	98,163	54	98,136	5,740,756	58.48
19	20	0.00063	98,109	61	98,079	5,642,620	57.51
20	21	0.00064	98,048	63	98,017	5,544,541	56.55
21	22	0.00066	97,985	65	97,953	5,446,525	55.59
22	23	0.00071	97,920	70	97,885	5,348,572	54.62
23	24	0.00081	97,850	80	97,811	5,250,686	53.66
24	25	0.00087	97,771	85	97,729	5,152,876	52.70
25	26	0.00096	97,686	94	97,639	5,055,147	51.75
26	27	0.00094	97,593	92	97,547	4,957,508	50.80
27	28	0.00097	97,501	94	97,454	4,859,961	49.85
28	29	0.00109	97,407	106	97,354	4,762,507	48.89
29	30	0.00123	97,301	120	97,241	4,665,153	47.95
30	31	0.00140	97,181	136	97,113	4,567,912	47.00
31	32	0.00143	97,045	139	96,975	4,470,799	46.07
32	33	0.00149	96,906	144	96,834	4,373,823	45.13
33	34	0.00173	96,762	167	96,678	4,276,990	44.20
34	35	0.00167	96,594	161	96,514	4,180,312	43.28
35	36	0.00218	96,433	210	96,328	4,083,798	42.35
36	37	0.00231	96,222	222	96,111	3,987,471	41.44

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
37	38	0.00235	96,000	226	95,888	3,891,359	40.53
38	39	0.00268	95,775	256	95,646	3,795,472	39.63
39	40	0.00260	95,518	249	95,394	3,699,825	38.73
40	41	0.00296	95,270	282	95,129	3,604,431	37.83
41	42	0.00293	94,988	279	94,849	3,509,303	36.94
42	43	0.00338	94,709	320	94,549	3,414,454	36.05
43	44	0.00350	94,389	330	94,224	3,319,905	35.17
44	45	0.00397	94,059	374	93,872	3,225,681	34.29
45	46	0.00410	93,685	384	93,493	3,131,808	33.43
46	47	0.00442	93,301	412	93,095	3,038,315	32.56
47	48	0.00472	92,889	438	92,670	2,945,220	31.71
48	49	0.00509	92,450	471	92,215	2,852,550	30.85
49	50	0.00561	91,980	516	91,722	2,760,335	30.01
50	51	0.00616	91,464	564	91,183	2,668,613	29.18
51	52	0.00682	90,901	620	90,591	2,577,431	28.35
52	53	0.00702	90,281	634	89,964	2,486,840	27.55
53	54	0.00779	89,647	699	89,297	2,396,876	26.74
54	55	0.00839	88,948	747	88,575	2,307,579	25.94
55	56	0.00922	88,201	813	87,795	2,219,004	25.16
56	57	0.00955	87,388	835	86,971	2,131,209	24.39
57	58	0.01060	86,553	918	86,095	2,044,238	23.62
58	59	0.01147	85,636	983	85,145	1,958,144	22.87
59	60	0.01181	84,653	1,000	84,153	1,872,999	22.13
60	61	0.01388	83,654	1,161	83,073	1,788,846	21.38
61	62	0.01428	82,493	1,178	81,904	1,705,773	20.68
62	63	0.01605	81,315	1,305	80,662	1,623,869	19.97
63	64	0.01766	80,009	1,413	79,303	1,543,207	19.29
64	65	0.01933	78,596	1,519	77,837	1,463,904	18.63
65	66	0.02209	77,077	1,703	76,226	1,386,068	17.98
66	67	0.02334	75,374	1,760	74,494	1,309,842	17.38
67	68	0.02492	73,615	1,834	72,698	1,235,348	16.78
68	69	0.02532	71,780	1,818	70,872	1,162,650	16.20
69	70	0.02651	69,963	1,855	69,035	1,091,779	15.61
70	71	0.03084	68,108	2,100	67,058	1,022,744	15.02
71	72	0.03163	66,008	2,088	64,964	955,686	14.48
72	73	0.03213	63,920	2,054	62,893	890,722	13.93
73	74	0.03395	61,866	2,100	60,816	827,829	13.38
74	75	0.03590	59,766	2,146	58,693	767,012	12.83
75	76	0.03969	57,621	2,287	56,477	708,319	12.29
76	77	0.04259	55,333	2,357	54,155	651,842	11.78
77	78	0.04550	52,977	2,410	51,771	597,687	11.28
78	79	0.05023	50,566	2,540	49,296	545,915	10.80
79	80	0.05317	48,026	2,553	46,750	496,619	10.34
80	81	0.05875	45,473	2,672	44,137	449,869	9.89
81	82	0.05929	42,801	2,538	41,533	405,732	9.48
82	83	0.06122	40,264	2,465	39,031	364,199	9.05
83	84	0.06801	37,799	2,571	36,513	325,168	8.60
84	85	0.07335	35,228	2,584	33,936	288,655	8.19
85	86	0.07818	32,644	2,552	31,368	254,719	7.80

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
86	87	0.08340	30,092	2,510	28,837	223,351	7.42
87	88	0.08904	27,583	2,456	26,355	194,513	7.05
88	89	0.09515	25,127	2,391	23,931	168,159	6.69
89	90	0.10176	22,736	2,314	21,579	144,227	6.34
90	91	0.10891	20,422	2,224	19,310	122,648	6.01
91	92	0.11666	18,198	2,123	17,136	103,338	5.68
92	93	0.12505	16,075	2,010	15,070	86,202	5.36
93	94	0.13414	14,065	1,887	13,121	71,132	5.06
94	95	0.14398	12,178	1,753	11,301	58,011	4.76
95	96	0.15464	10,425	1,612	9,619	46,709	4.48
96	97	0.16619	8,813	1,465	8,080	37,090	4.21
97	98	0.17869	7,348	1,313	6,692	29,010	3.95
98	99	0.19222	6,035	1,160	5,455	22,318	3.70
99	100	0.20686	4,875	1,008	4,371	16,863	3.46
100	101	0.22270	3,867	861	3,436	12,493	3.23
101	102	0.23982	3,005	721	2,645	9,057	3.01
102	103	0.25831	2,285	590	1,990	6,412	2.81
103	104	0.27826	1,695	472	1,459	4,422	2.61
104	105	0.29977	1,223	367	1,040	2,963	2.42
105	106	0.32292	856	277	718	1,923	2.25
106	107	0.34781	580	202	479	1,205	2.08
107	108	0.37452	378	142	307	726	1.92
108	109	0.40313	237	95	189	419	1.77
109	110	0.43372	141	61	111	230	1.63
110	111	0.46634	80	37	61	120	1.49
111	112	0.50104	43	21	32	58	1.36
112	113	0.53785	21	11	16	26	1.23
113	114	0.57677	10	6	7	11	1.09
114	115	0.61778	4	3	3	4	0.88
115	116	0.66084	2	1	1	1	0.50

Asian Non-Hispanic Male

0	1	0.00406	100,000	406	99,645	8,087,103	80.87
1	2	0.00034	99,594	34	99,577	7,987,458	80.20
2	3	0.00020	99,560	20	99,551	7,887,881	79.23
3	4	0.00026	99,541	26	99,528	7,788,330	78.24
4	5	0.00019	99,515	18	99,506	7,688,802	77.26
5	6	0.00015	99,497	15	99,490	7,589,296	76.28
6	7	0.00020	99,482	20	99,472	7,489,806	75.29
7	8	0.00022	99,462	22	99,451	7,390,334	74.30
8	9	0.00015	99,440	15	99,433	7,290,883	73.32
9	10	0.00014	99,425	14	99,418	7,191,450	72.33
10	11	0.00016	99,411	15	99,404	7,092,032	71.34
11	12	0.00014	99,396	14	99,389	6,992,628	70.35
12	13	0.00019	99,382	19	99,373	6,893,239	69.36
13	14	0.00022	99,363	21	99,353	6,793,867	68.37
14	15	0.00029	99,342	29	99,327	6,694,514	67.39
15	16	0.00057	99,313	56	99,285	6,595,187	66.41
16	17	0.00061	99,257	61	99,226	6,495,902	65.45

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
17	18	0.00067	99,196	67	99,163	6,396,676	64.49
18	19	0.00083	99,129	83	99,088	6,297,513	63.53
19	20	0.00089	99,047	88	99,003	6,198,425	62.58
20	21	0.00087	98,959	86	98,916	6,099,423	61.64
21	22	0.00076	98,873	75	98,836	6,000,507	60.69
22	23	0.00085	98,798	84	98,756	5,901,671	59.73
23	24	0.00074	98,714	73	98,678	5,802,915	58.78
24	25	0.00068	98,641	67	98,608	5,704,237	57.83
25	26	0.00085	98,574	84	98,532	5,605,630	56.87
26	27	0.00080	98,490	79	98,451	5,507,098	55.92
27	28	0.00067	98,411	66	98,378	5,408,647	54.96
28	29	0.00071	98,345	70	98,310	5,310,268	54.00
29	30	0.00090	98,275	89	98,231	5,211,958	53.03
30	31	0.00064	98,186	63	98,155	5,113,727	52.08
31	32	0.00063	98,123	62	98,092	5,015,573	51.12
32	33	0.00077	98,061	75	98,024	4,917,480	50.15
33	34	0.00080	97,986	79	97,947	4,819,457	49.19
34	35	0.00075	97,907	74	97,871	4,721,510	48.22
35	36	0.00078	97,834	76	97,795	4,623,639	47.26
36	37	0.00106	97,757	104	97,705	4,525,844	46.30
37	38	0.00095	97,653	93	97,607	4,428,139	45.35
38	39	0.00111	97,561	109	97,506	4,330,532	44.39
39	40	0.00151	97,452	147	97,379	4,233,025	43.44
40	41	0.00118	97,305	115	97,248	4,135,647	42.50
41	42	0.00130	97,190	126	97,127	4,038,399	41.55
42	43	0.00131	97,064	127	97,001	3,941,271	40.60
43	44	0.00170	96,937	165	96,855	3,844,271	39.66
44	45	0.00192	96,772	185	96,680	3,747,416	38.72
45	46	0.00206	96,587	199	96,487	3,650,736	37.80
46	47	0.00226	96,388	218	96,279	3,554,249	36.87
47	48	0.00224	96,170	215	96,062	3,457,970	35.96
48	49	0.00255	95,954	245	95,832	3,361,908	35.04
49	50	0.00309	95,710	296	95,562	3,266,076	34.12
50	51	0.00338	95,414	322	95,253	3,170,514	33.23
51	52	0.00390	95,092	371	94,907	3,075,261	32.34
52	53	0.00402	94,721	380	94,531	2,980,355	31.46
53	54	0.00386	94,341	364	94,159	2,885,824	30.59
54	55	0.00401	93,977	377	93,788	2,791,665	29.71
55	56	0.00532	93,599	498	93,350	2,697,877	28.82
56	57	0.00630	93,101	587	92,808	2,604,526	27.98
57	58	0.00569	92,514	526	92,251	2,511,719	27.15
58	59	0.00644	91,988	593	91,692	2,419,468	26.30
59	60	0.00664	91,396	607	91,092	2,327,776	25.47
60	61	0.00737	90,789	669	90,454	2,236,684	24.64
61	62	0.00887	90,119	800	89,720	2,146,229	23.82
62	63	0.01011	89,320	903	88,868	2,056,510	23.02
63	64	0.01031	88,417	912	87,961	1,967,642	22.25
64	65	0.01109	87,505	971	87,020	1,879,681	21.48
65	66	0.01420	86,534	1,229	85,920	1,792,661	20.72

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
66	67	0.01353	85,306	1,154	84,729	1,706,741	20.01
67	68	0.01307	84,152	1,100	83,602	1,622,012	19.27
68	69	0.01539	83,052	1,278	82,413	1,538,410	18.52
69	70	0.01760	81,774	1,440	81,054	1,455,997	17.81
70	71	0.01951	80,334	1,568	79,550	1,374,943	17.12
71	72	0.01799	78,767	1,417	78,058	1,295,392	16.45
72	73	0.02233	77,350	1,727	76,486	1,217,334	15.74
73	74	0.02437	75,623	1,843	74,701	1,140,848	15.09
74	75	0.02518	73,779	1,858	72,851	1,066,147	14.45
75	76	0.02725	71,922	1,960	70,942	993,296	13.81
76	77	0.02780	69,962	1,945	68,989	922,355	13.18
77	78	0.03501	68,017	2,382	66,826	853,365	12.55
78	79	0.04030	65,635	2,645	64,313	786,539	11.98
79	80	0.04340	62,990	2,734	61,623	722,226	11.47
80	81	0.04484	60,256	2,702	58,905	660,603	10.96
81	82	0.04500	57,554	2,590	56,259	601,697	10.45
82	83	0.05000	54,964	2,748	53,590	545,438	9.92
83	84	0.05370	52,216	2,804	50,814	491,848	9.42
84	85	0.05836	49,412	2,884	47,970	441,034	8.93
85	86	0.06340	46,528	2,950	45,053	393,064	8.45
86	87	0.06889	43,578	3,002	42,077	348,010	7.99
87	88	0.07488	40,576	3,038	39,057	305,933	7.54
88	89	0.08141	37,538	3,056	36,010	266,876	7.11
89	90	0.08853	34,482	3,053	32,955	230,867	6.70
90	91	0.09629	31,429	3,026	29,916	197,912	6.30
91	92	0.10475	28,403	2,975	26,915	167,996	5.91
92	93	0.11396	25,428	2,898	23,979	141,081	5.55
93	94	0.12400	22,530	2,794	21,133	117,102	5.20
94	95	0.13492	19,736	2,663	18,405	95,969	4.86
95	96	0.14680	17,073	2,506	15,820	77,564	4.54
96	97	0.15972	14,567	2,327	13,404	61,744	4.24
97	98	0.17376	12,240	2,127	11,177	48,340	3.95
98	99	0.18899	10,114	1,911	9,158	37,163	3.67
99	100	0.20552	8,202	1,686	7,359	28,005	3.41
100	101	0.22341	6,516	1,456	5,789	20,646	3.17
101	102	0.24277	5,061	1,229	4,446	14,858	2.94
102	103	0.26369	3,832	1,010	3,327	10,411	2.72
103	104	0.28624	2,822	808	2,418	7,085	2.51
104	105	0.31052	2,014	625	1,701	4,667	2.32
105	106	0.33661	1,389	467	1,155	2,966	2.14
106	107	0.36458	921	336	753	1,811	1.97
107	108	0.39449	585	231	470	1,058	1.81
108	109	0.42640	354	151	279	588	1.66
109	110	0.46035	203	94	156	309	1.52
110	111	0.49635	110	54	82	152	1.39
111	112	0.53439	55	30	40	70	1.27
112	113	0.57447	26	15	18	29	1.14
113	114	0.61651	11	7	8	11	1.01
114	115	0.66045	4	3	3	4	0.84

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$

115	116	0.66045	1	1	1	1	0.50
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Asian Non-Hispanic Female

0	1	0.00318	100,000	318	99,721	8,652,692	86.53
1	2	0.00048	99,682	48	99,658	8,552,971	85.80
2	3	0.00021	99,634	21	99,623	8,453,312	84.84
3	4	0.00022	99,613	22	99,602	8,353,689	83.86
4	5	0.00012	99,591	12	99,585	8,254,087	82.88
5	6	0.00017	99,579	17	99,571	8,154,502	81.89
6	7	0.00016	99,562	16	99,554	8,054,931	80.90
7	8	0.00009	99,546	9	99,542	7,955,377	79.92
8	9	0.00008	99,537	8	99,533	7,855,836	78.92
9	10	0.00012	99,530	12	99,524	7,756,302	77.93
10	11	0.00014	99,518	14	99,511	7,656,779	76.94
11	12	0.00022	99,504	22	99,493	7,557,268	75.95
12	13	0.00021	99,482	21	99,471	7,457,775	74.97
13	14	0.00020	99,461	20	99,451	7,358,303	73.98
14	15	0.00020	99,441	20	99,431	7,258,852	73.00
15	16	0.00036	99,421	36	99,403	7,159,421	72.01
16	17	0.00043	99,385	43	99,364	7,060,019	71.04
17	18	0.00028	99,342	28	99,328	6,960,655	70.07
18	19	0.00031	99,314	31	99,299	6,861,327	69.09
19	20	0.00032	99,283	31	99,267	6,762,028	68.11
20	21	0.00038	99,252	38	99,233	6,662,761	67.13
21	22	0.00034	99,214	34	99,197	6,563,528	66.16
22	23	0.00043	99,180	43	99,159	6,464,331	65.18
23	24	0.00050	99,137	49	99,112	6,365,173	64.21
24	25	0.00042	99,088	41	99,067	6,266,060	63.24
25	26	0.00027	99,046	26	99,033	6,166,993	62.26
26	27	0.00027	99,020	27	99,007	6,067,960	61.28
27	28	0.00032	98,993	31	98,978	5,968,953	60.30
28	29	0.00024	98,962	24	98,950	5,869,975	59.32
29	30	0.00032	98,938	31	98,922	5,771,025	58.33
30	31	0.00036	98,907	36	98,889	5,672,102	57.35
31	32	0.00031	98,871	31	98,856	5,573,213	56.37
32	33	0.00032	98,840	31	98,824	5,474,358	55.39
33	34	0.00049	98,809	49	98,784	5,375,534	54.40
34	35	0.00042	98,760	42	98,739	5,276,749	53.43
35	36	0.00057	98,718	56	98,690	5,178,010	52.45
36	37	0.00058	98,662	57	98,633	5,079,320	51.48
37	38	0.00056	98,605	56	98,577	4,980,687	50.51
38	39	0.00074	98,549	73	98,513	4,882,110	49.54
39	40	0.00089	98,476	88	98,432	4,783,597	48.58
40	41	0.00061	98,388	60	98,358	4,685,165	47.62
41	42	0.00096	98,328	94	98,281	4,586,807	46.65
42	43	0.00106	98,234	104	98,182	4,488,526	45.69
43	44	0.00102	98,130	100	98,080	4,390,343	44.74
44	45	0.00109	98,030	107	97,977	4,292,263	43.79
45	46	0.00132	97,924	129	97,859	4,194,286	42.83

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/in Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
46	47	0.00119	97,795	116	97,737	4,096,427	41.89
47	48	0.00131	97,679	128	97,615	3,998,690	40.94
48	49	0.00138	97,551	135	97,483	3,901,075	39.99
49	50	0.00197	97,416	192	97,320	3,803,592	39.04
50	51	0.00172	97,224	167	97,140	3,706,272	38.12
51	52	0.00188	97,057	183	96,965	3,609,132	37.19
52	53	0.00185	96,874	179	96,784	3,512,166	36.26
53	54	0.00223	96,694	216	96,586	3,415,382	35.32
54	55	0.00270	96,479	260	96,349	3,318,796	34.40
55	56	0.00286	96,218	275	96,081	3,222,447	33.49
56	57	0.00320	95,944	307	95,790	3,126,366	32.59
57	58	0.00367	95,637	351	95,461	3,030,576	31.69
58	59	0.00412	95,286	392	95,090	2,935,115	30.80
59	60	0.00385	94,894	365	94,711	2,840,025	29.93
60	61	0.00449	94,528	424	94,316	2,745,314	29.04
61	62	0.00410	94,104	386	93,911	2,650,997	28.17
62	63	0.00410	93,718	384	93,526	2,557,086	27.28
63	64	0.00505	93,334	472	93,098	2,463,560	26.40
64	65	0.00548	92,863	509	92,608	2,370,461	25.53
65	66	0.00643	92,354	594	92,057	2,277,853	24.66
66	67	0.00796	91,760	731	91,395	2,185,796	23.82
67	68	0.00868	91,030	790	90,635	2,094,401	23.01
68	69	0.00827	90,240	746	89,867	2,003,766	22.20
69	70	0.00905	89,494	810	89,089	1,913,899	21.39
70	71	0.00874	88,683	775	88,296	1,824,811	20.58
71	72	0.01048	87,908	921	87,447	1,736,515	19.75
72	73	0.01254	86,987	1,091	86,441	1,649,068	18.96
73	74	0.01383	85,896	1,188	85,302	1,562,626	18.19
74	75	0.01299	84,708	1,100	84,158	1,477,324	17.44
75	76	0.01690	83,608	1,413	82,902	1,393,166	16.66
76	77	0.01703	82,195	1,400	81,495	1,310,264	15.94
77	78	0.01875	80,795	1,515	80,037	1,228,769	15.21
78	79	0.02264	79,280	1,795	78,382	1,148,732	14.49
79	80	0.02520	77,485	1,953	76,509	1,070,349	13.81
80	81	0.02729	75,532	2,061	74,502	993,841	13.16
81	82	0.02727	73,471	2,004	72,469	919,339	12.51
82	83	0.03054	71,467	2,183	70,376	846,870	11.85
83	84	0.03697	69,285	2,562	68,004	776,493	11.21
84	85	0.03817	66,723	2,547	65,450	708,489	10.62
85	86	0.04244	64,177	2,724	62,815	643,039	10.02
86	87	0.04718	61,453	2,899	60,003	580,224	9.44
87	88	0.05241	58,554	3,069	57,019	520,221	8.88
88	89	0.05819	55,485	3,229	53,870	463,202	8.35
89	90	0.06458	52,256	3,374	50,569	409,331	7.83
90	91	0.07161	48,881	3,500	47,131	358,763	7.34
91	92	0.07936	45,381	3,602	43,580	311,631	6.87
92	93	0.08789	41,779	3,672	39,943	268,051	6.42
93	94	0.09726	38,107	3,706	36,254	228,108	5.99
94	95	0.10755	34,401	3,700	32,551	191,854	5.58

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		Q(x)	l(x)	D(x)	L(x)	T(x)	E(x)
95	96	0.11882	30,701	3,648	28,877	159,302	5.19
96	97	0.13117	27,053	3,549	25,279	130,425	4.82
97	98	0.14466	23,505	3,400	21,805	105,146	4.47
98	99	0.15937	20,105	3,204	18,502	83,342	4.15
99	100	0.17540	16,900	2,964	15,418	64,839	3.84
100	101	0.19283	13,936	2,687	12,592	49,421	3.55
101	102	0.21173	11,249	2,382	10,058	36,828	3.27
102	103	0.23219	8,867	2,059	7,838	26,771	3.02
103	104	0.25428	6,808	1,731	5,943	18,933	2.78
104	105	0.27808	5,077	1,412	4,371	12,990	2.56
105	106	0.30365	3,665	1,113	3,109	8,619	2.35
106	107	0.33105	2,552	845	2,130	5,511	2.16
107	108	0.36030	1,707	615	1,400	3,381	1.98
108	109	0.39145	1,092	428	878	1,981	1.81
109	110	0.42450	665	282	524	1,103	1.66
110	111	0.45945	382	176	295	579	1.51
111	112	0.49626	207	103	155	284	1.38
112	113	0.53490	104	56	76	129	1.24
113	114	0.57527	48	28	35	53	1.09
114	115	0.61729	21	13	14	18	0.88
115	116	0.66084	8	5	4	4	0.50

Hispanic Origin Male

0	1	0.00778	100,000	778	99,318	7,715,131	77.15
1	2	0.00070	99,222	69	99,187	7,615,812	76.76
2	3	0.00047	99,153	47	99,129	7,516,625	75.81
3	4	0.00033	99,106	33	99,089	7,417,496	74.84
4	5	0.00030	99,073	30	99,058	7,318,406	73.87
5	6	0.00023	99,043	23	99,032	7,219,348	72.89
6	7	0.00019	99,021	19	99,011	7,120,316	71.91
7	8	0.00020	99,002	20	98,992	7,021,305	70.92
8	9	0.00019	98,982	19	98,973	6,922,313	69.93
9	10	0.00017	98,963	17	98,955	6,823,340	68.95
10	11	0.00016	98,946	15	98,939	6,724,385	67.96
11	12	0.00015	98,931	14	98,924	6,625,447	66.97
12	13	0.00019	98,916	19	98,907	6,526,523	65.98
13	14	0.00029	98,898	29	98,883	6,427,616	64.99
14	15	0.00041	98,869	41	98,848	6,328,733	64.01
15	16	0.00056	98,828	55	98,800	6,229,884	63.04
16	17	0.00098	98,773	96	98,725	6,131,084	62.07
17	18	0.00120	98,676	118	98,617	6,032,360	61.13
18	19	0.00133	98,558	131	98,493	5,933,742	60.21
19	20	0.00137	98,428	135	98,360	5,835,249	59.28
20	21	0.00141	98,292	138	98,223	5,736,889	58.37
21	22	0.00137	98,154	135	98,087	5,638,666	57.45
22	23	0.00147	98,019	144	97,948	5,540,579	56.53
23	24	0.00166	97,876	162	97,795	5,442,631	55.61
24	25	0.00159	97,714	155	97,636	5,344,836	54.70
25	26	0.00163	97,559	159	97,479	5,247,200	53.79

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
26	27	0.00155	97,400	151	97,325	5,149,721	52.87
27	28	0.00158	97,249	153	97,173	5,052,397	51.95
28	29	0.00173	97,096	168	97,012	4,955,224	51.03
29	30	0.00170	96,928	164	96,845	4,858,212	50.12
30	31	0.00174	96,763	169	96,679	4,761,367	49.21
31	32	0.00187	96,595	180	96,504	4,664,688	48.29
32	33	0.00183	96,414	176	96,326	4,568,183	47.38
33	34	0.00200	96,238	192	96,142	4,471,857	46.47
34	35	0.00209	96,046	201	95,945	4,375,715	45.56
35	36	0.00222	95,845	213	95,739	4,279,770	44.65
36	37	0.00228	95,632	218	95,523	4,184,031	43.75
37	38	0.00233	95,414	222	95,303	4,088,509	42.85
38	39	0.00255	95,192	243	95,070	3,993,206	41.95
39	40	0.00223	94,948	212	94,842	3,898,136	41.06
40	41	0.00262	94,736	248	94,613	3,803,293	40.15
41	42	0.00256	94,489	242	94,368	3,708,681	39.25
42	43	0.00277	94,247	261	94,116	3,614,313	38.35
43	44	0.00278	93,986	262	93,855	3,520,197	37.45
44	45	0.00278	93,724	261	93,594	3,426,342	36.56
45	46	0.00288	93,463	270	93,329	3,332,748	35.66
46	47	0.00305	93,194	284	93,052	3,239,419	34.76
47	48	0.00350	92,910	326	92,747	3,146,367	33.86
48	49	0.00418	92,585	387	92,391	3,053,620	32.98
49	50	0.00388	92,197	357	92,019	2,961,229	32.12
50	51	0.00427	91,840	392	91,644	2,869,210	31.24
51	52	0.00489	91,448	447	91,224	2,777,566	30.37
52	53	0.00499	91,001	454	90,774	2,686,342	29.52
53	54	0.00549	90,547	497	90,298	2,595,569	28.67
54	55	0.00622	90,049	560	89,769	2,505,271	27.82
55	56	0.00625	89,489	559	89,210	2,415,501	26.99
56	57	0.00725	88,930	645	88,608	2,326,291	26.16
57	58	0.00786	88,285	694	87,938	2,237,684	25.35
58	59	0.00886	87,592	776	87,203	2,149,745	24.54
59	60	0.00892	86,815	774	86,428	2,062,542	23.76
60	61	0.01028	86,041	884	85,599	1,976,114	22.97
61	62	0.01099	85,157	936	84,689	1,890,515	22.20
62	63	0.01149	84,220	968	83,737	1,805,826	21.44
63	64	0.01335	83,253	1,111	82,697	1,722,090	20.69
64	65	0.01376	82,141	1,130	81,576	1,639,393	19.96
65	66	0.01492	81,011	1,208	80,407	1,557,816	19.23
66	67	0.01604	79,803	1,280	79,163	1,477,409	18.51
67	68	0.01906	78,523	1,497	77,774	1,398,246	17.81
68	69	0.01961	77,026	1,511	76,271	1,320,472	17.14
69	70	0.02099	75,515	1,585	74,723	1,244,201	16.48
70	71	0.02216	73,930	1,639	73,111	1,169,478	15.82
71	72	0.02387	72,291	1,726	71,429	1,096,368	15.17
72	73	0.02583	70,566	1,823	69,654	1,024,939	14.52
73	74	0.02759	68,743	1,897	67,795	955,285	13.90
74	75	0.03067	66,846	2,050	65,821	887,490	13.28

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
75	76	0.03282	64,796	2,127	63,732	821,669	12.68
76	77	0.03613	62,669	2,264	61,537	757,937	12.09
77	78	0.03871	60,405	2,338	59,236	696,400	11.53
78	79	0.04361	58,067	2,532	56,801	637,164	10.97
79	80	0.04588	55,535	2,548	54,261	580,363	10.45
80	81	0.05153	52,987	2,731	51,622	526,102	9.93
81	82	0.05283	50,256	2,655	48,929	474,481	9.44
82	83	0.05787	47,601	2,755	46,224	425,552	8.94
83	84	0.06371	44,847	2,857	43,418	379,328	8.46
84	85	0.06896	41,990	2,895	40,542	335,910	8.00
85	86	0.07509	39,094	2,936	37,626	295,368	7.56
86	87	0.08175	36,158	2,956	34,681	257,741	7.13
87	88	0.08896	33,203	2,954	31,726	223,061	6.72
88	89	0.09677	30,249	2,927	28,785	191,335	6.33
89	90	0.10522	27,322	2,875	25,884	162,550	5.95
90	91	0.11436	24,447	2,796	23,049	136,665	5.59
91	92	0.12423	21,651	2,690	20,306	113,616	5.25
92	93	0.13489	18,962	2,558	17,683	93,309	4.92
93	94	0.14637	16,404	2,401	15,203	75,627	4.61
94	95	0.15875	14,003	2,223	12,891	60,423	4.32
95	96	0.17206	11,780	2,027	10,766	47,532	4.04
96	97	0.18637	9,753	1,818	8,844	36,765	3.77
97	98	0.20173	7,935	1,601	7,135	27,921	3.52
98	99	0.21818	6,335	1,382	5,644	20,786	3.28
99	100	0.23579	4,952	1,168	4,369	15,143	3.06
100	101	0.25460	3,785	964	3,303	10,774	2.85
101	102	0.27466	2,821	775	2,434	7,471	2.65
102	103	0.29602	2,046	606	1,743	5,037	2.46
103	104	0.31871	1,441	459	1,211	3,294	2.29
104	105	0.34278	981	336	813	2,083	2.12
105	106	0.36825	645	238	526	1,270	1.97
106	107	0.39514	407	161	327	744	1.82
107	108	0.42346	246	104	194	417	1.69
108	109	0.45321	142	64	110	222	1.56
109	110	0.48439	78	38	59	112	1.45
110	111	0.51697	40	21	30	53	1.34
111	112	0.55092	19	11	14	24	1.23
112	113	0.58620	9	5	6	10	1.12
113	114	0.62273	4	2	2	4	1.01
114	115	0.66045	1	1	1	1	0.84
115	116	0.66045	0	0	0	0	0.50

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Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$

Hispanic Origin Female

0	1	0.00638	100,000	638	99,441	8,371,698	83.72
1	2	0.00059	99,362	58	99,333	8,272,256	83.25
2	3	0.00035	99,304	35	99,287	8,172,923	82.30
3	4	0.00026	99,269	25	99,257	8,073,636	81.33
4	5	0.00017	99,244	17	99,235	7,974,380	80.35
5	6	0.00015	99,226	14	99,219	7,875,145	79.37
6	7	0.00017	99,212	17	99,203	7,775,925	78.38
7	8	0.00014	99,195	14	99,188	7,676,722	77.39
8	9	0.00008	99,181	8	99,177	7,577,534	76.40
9	10	0.00012	99,173	12	99,167	7,478,357	75.41
10	11	0.00014	99,161	14	99,154	7,379,190	74.42
11	12	0.00008	99,146	8	99,142	7,280,037	73.43
12	13	0.00017	99,139	17	99,130	7,180,894	72.43
13	14	0.00019	99,122	19	99,112	7,081,764	71.45
14	15	0.00020	99,103	20	99,093	6,982,652	70.46
15	16	0.00029	99,083	29	99,068	6,883,559	69.47
16	17	0.00031	99,054	31	99,039	6,784,491	68.49
17	18	0.00026	99,023	26	99,010	6,685,452	67.51
18	19	0.00030	98,997	30	98,982	6,586,442	66.53
19	20	0.00028	98,967	28	98,953	6,487,459	65.55
20	21	0.00029	98,939	29	98,925	6,388,506	64.57
21	22	0.00038	98,911	38	98,892	6,289,581	63.59
22	23	0.00038	98,873	38	98,854	6,190,689	62.61
23	24	0.00036	98,835	35	98,817	6,091,835	61.64
24	25	0.00037	98,800	36	98,782	5,993,018	60.66
25	26	0.00044	98,764	43	98,742	5,894,237	59.68
26	27	0.00034	98,720	34	98,703	5,795,495	58.71
27	28	0.00042	98,687	41	98,666	5,696,791	57.73
28	29	0.00043	98,645	42	98,624	5,598,125	56.75
29	30	0.00040	98,603	40	98,583	5,499,501	55.77
30	31	0.00050	98,563	49	98,538	5,400,919	54.80
31	32	0.00050	98,514	49	98,489	5,302,380	53.82
32	33	0.00050	98,464	49	98,439	5,203,892	52.85
33	34	0.00060	98,415	59	98,385	5,105,452	51.88
34	35	0.00060	98,356	59	98,326	5,007,067	50.91
35	36	0.00061	98,297	60	98,267	4,908,740	49.94
36	37	0.00075	98,237	73	98,200	4,810,474	48.97
37	38	0.00068	98,164	67	98,130	4,712,273	48.00
38	39	0.00069	98,097	68	98,063	4,614,143	47.04
39	40	0.00074	98,029	72	97,993	4,516,080	46.07
40	41	0.00092	97,957	90	97,912	4,418,087	45.10
41	42	0.00100	97,867	98	97,818	4,320,176	44.14
42	43	0.00106	97,769	103	97,717	4,222,357	43.19
43	44	0.00116	97,666	113	97,609	4,124,640	42.23
44	45	0.00123	97,553	120	97,493	4,027,031	41.28
45	46	0.00145	97,432	141	97,362	3,929,538	40.33
46	47	0.00154	97,291	149	97,217	3,832,176	39.39
47	48	0.00160	97,142	155	97,064	3,734,960	38.45

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
48	49	0.00199	96,987	193	96,890	3,637,896	37.51
49	50	0.00200	96,793	194	96,696	3,541,006	36.58
50	51	0.00208	96,600	201	96,499	3,444,309	35.66
51	52	0.00246	96,398	237	96,280	3,347,810	34.73
52	53	0.00273	96,162	262	96,031	3,251,530	33.81
53	54	0.00309	95,899	297	95,751	3,155,499	32.90
54	55	0.00305	95,603	292	95,457	3,059,748	32.00
55	56	0.00367	95,311	350	95,136	2,964,292	31.10
56	57	0.00400	94,961	380	94,771	2,869,156	30.21
57	58	0.00399	94,581	378	94,392	2,774,385	29.33
58	59	0.00440	94,203	415	93,996	2,679,993	28.45
59	60	0.00487	93,788	456	93,560	2,585,998	27.57
60	61	0.00530	93,332	494	93,085	2,492,438	26.71
61	62	0.00583	92,838	541	92,567	2,399,353	25.84
62	63	0.00695	92,296	642	91,975	2,306,786	24.99
63	64	0.00718	91,655	658	91,326	2,214,811	24.16
64	65	0.00797	90,997	725	90,634	2,123,485	23.34
65	66	0.00924	90,271	835	89,854	2,032,851	22.52
66	67	0.00989	89,437	885	88,994	1,942,997	21.72
67	68	0.01102	88,552	976	88,064	1,854,003	20.94
68	69	0.01179	87,576	1,033	87,060	1,765,939	20.16
69	70	0.01337	86,543	1,157	85,965	1,678,879	19.40
70	71	0.01524	85,386	1,302	84,735	1,592,915	18.66
71	72	0.01579	84,084	1,328	83,420	1,508,179	17.94
72	73	0.01620	82,756	1,341	82,086	1,424,759	17.22
73	74	0.01705	81,416	1,388	80,721	1,342,673	16.49
74	75	0.02004	80,027	1,604	79,225	1,261,952	15.77
75	76	0.02068	78,423	1,621	77,612	1,182,727	15.08
76	77	0.02278	76,802	1,749	75,927	1,105,114	14.39
77	78	0.02439	75,052	1,830	74,137	1,029,187	13.71
78	79	0.02662	73,222	1,949	72,248	955,050	13.04
79	80	0.03052	71,273	2,175	70,186	882,802	12.39
80	81	0.03660	69,098	2,529	67,833	812,616	11.76
81	82	0.03691	66,569	2,457	65,340	744,783	11.19
82	83	0.04163	64,112	2,669	62,777	679,443	10.60
83	84	0.04532	61,442	2,785	60,050	616,666	10.04
84	85	0.04909	58,658	2,879	57,218	556,616	9.49
85	86	0.05416	55,779	3,021	54,268	499,398	8.95
86	87	0.05972	52,758	3,150	51,183	445,130	8.44
87	88	0.06581	49,607	3,264	47,975	393,947	7.94
88	89	0.07247	46,343	3,359	44,664	345,972	7.47
89	90	0.07976	42,984	3,428	41,270	301,309	7.01
90	91	0.08772	39,556	3,470	37,821	260,038	6.57
91	92	0.09640	36,086	3,479	34,347	222,217	6.16
92	93	0.10586	32,607	3,452	30,882	187,870	5.76
93	94	0.11616	29,156	3,387	27,462	156,989	5.38
94	95	0.12736	25,769	3,282	24,128	129,527	5.03
95	96	0.13951	22,487	3,137	20,918	105,399	4.69
96	97	0.15268	19,350	2,954	17,873	84,481	4.37

Source: US Census Bureau, Population Division, 1999 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1999

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$I(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
97	98	0.16693	16,395	2,737	15,027	66,608	4.06
98	99	0.18233	13,659	2,490	12,413	51,581	3.78
99	100	0.19893	11,168	2,222	10,057	39,168	3.51
100	101	0.21680	8,946	1,940	7,977	29,110	3.25
101	102	0.23600	7,007	1,654	6,180	21,134	3.02
102	103	0.25659	5,353	1,374	4,666	14,954	2.79
103	104	0.27860	3,980	1,109	3,425	10,287	2.58
104	105	0.30209	2,871	867	2,437	6,862	2.39
105	106	0.32710	2,004	655	1,676	4,425	2.21
106	107	0.35365	1,348	477	1,110	2,749	2.04
107	108	0.38177	871	333	705	1,639	1.88
108	109	0.41145	539	222	428	934	1.73
109	110	0.44270	317	140	247	506	1.60
110	111	0.47549	177	84	135	259	1.47
111	112	0.50979	93	47	69	124	1.34
112	113	0.54555	45	25	33	55	1.22
113	114	0.58270	21	12	15	22	1.08
114	115	0.62116	9	5	6	8	0.88
115	116	0.66084	3	2	2	2	0.50

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$

White Non-Hispanic Male

0	1	0.00147	100,000	147	99,871	8,756,658	87.57
1	2	0.00011	99,853	11	99,848	8,656,787	86.70
2	3	0.00007	99,842	7	99,838	8,556,939	85.70
3	4	0.00006	99,835	6	99,832	8,457,101	84.71
4	5	0.00005	99,829	5	99,827	8,357,269	83.72
5	6	0.00004	99,824	4	99,822	8,257,442	82.72
6	7	0.00004	99,820	4	99,818	8,157,619	81.72
7	8	0.00003	99,816	3	99,815	8,057,801	80.73
8	9	0.00003	99,813	3	99,811	7,957,986	79.73
9	10	0.00003	99,810	3	99,808	7,858,175	78.73
10	11	0.00003	99,806	3	99,805	7,758,367	77.73
11	12	0.00003	99,803	3	99,802	7,658,562	76.74
12	13	0.00004	99,800	4	99,798	7,558,760	75.74
13	14	0.00005	99,796	5	99,794	7,458,962	74.74
14	15	0.00009	99,791	9	99,786	7,359,169	73.75
15	16	0.00015	99,782	14	99,775	7,259,382	72.75
16	17	0.00026	99,767	26	99,754	7,159,608	71.76
17	18	0.00034	99,741	34	99,724	7,059,853	70.78
18	19	0.00041	99,707	41	99,687	6,960,129	69.81
19	20	0.00041	99,666	41	99,646	6,860,442	68.83
20	21	0.00040	99,625	40	99,605	6,760,796	67.86
21	22	0.00042	99,585	42	99,565	6,661,191	66.89
22	23	0.00041	99,544	41	99,523	6,561,626	65.92
23	24	0.00040	99,503	40	99,483	6,462,103	64.94
24	25	0.00039	99,463	39	99,443	6,362,620	63.97
25	26	0.00041	99,424	40	99,404	6,263,176	62.99
26	27	0.00040	99,384	40	99,364	6,163,773	62.02
27	28	0.00043	99,344	42	99,322	6,064,409	61.04
28	29	0.00042	99,301	42	99,280	5,965,087	60.07
29	30	0.00046	99,259	46	99,236	5,865,806	59.10
30	31	0.00047	99,213	47	99,190	5,766,570	58.12
31	32	0.00048	99,166	48	99,142	5,667,380	57.15
32	33	0.00052	99,118	51	99,093	5,568,238	56.18
33	34	0.00053	99,067	52	99,041	5,469,146	55.21
34	35	0.00056	99,015	56	98,987	5,370,105	54.24
35	36	0.00061	98,959	60	98,929	5,271,118	53.27
36	37	0.00062	98,899	61	98,868	5,172,189	52.30
37	38	0.00066	98,838	65	98,805	5,073,321	51.33
38	39	0.00067	98,773	66	98,740	4,974,516	50.36
39	40	0.00072	98,706	71	98,671	4,875,776	49.40
40	41	0.00074	98,636	73	98,599	4,777,105	48.43
41	42	0.00076	98,563	75	98,525	4,678,506	47.47
42	43	0.00082	98,488	81	98,447	4,579,980	46.50
43	44	0.00081	98,407	79	98,367	4,481,533	45.54
44	45	0.00098	98,327	96	98,279	4,383,166	44.58
45	46	0.00099	98,231	98	98,182	4,284,887	43.62
46	47	0.00107	98,134	105	98,081	4,186,704	42.66
47	48	0.00113	98,028	111	97,973	4,088,623	41.71

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
48	49	0.00127	97,918	125	97,855	3,990,650	40.76
49	50	0.00139	97,793	136	97,725	3,892,795	39.81
50	51	0.00152	97,657	148	97,583	3,795,070	38.86
51	52	0.00163	97,509	159	97,430	3,697,487	37.92
52	53	0.00181	97,350	176	97,262	3,600,057	36.98
53	54	0.00194	97,174	189	97,080	3,502,795	36.05
54	55	0.00219	96,985	212	96,879	3,405,715	35.12
55	56	0.00239	96,773	231	96,658	3,308,835	34.19
56	57	0.00263	96,542	254	96,415	3,212,178	33.27
57	58	0.00293	96,288	282	96,147	3,115,762	32.36
58	59	0.00327	96,006	314	95,849	3,019,615	31.45
59	60	0.00343	95,692	328	95,528	2,923,766	30.55
60	61	0.00380	95,364	363	95,183	2,828,238	29.66
61	62	0.00414	95,001	393	94,805	2,733,055	28.77
62	63	0.00466	94,608	441	94,388	2,638,250	27.89
63	64	0.00516	94,167	486	93,924	2,543,863	27.01
64	65	0.00618	93,681	579	93,391	2,449,939	26.15
65	66	0.00732	93,102	682	92,761	2,356,548	25.31
66	67	0.00834	92,420	771	92,034	2,263,787	24.49
67	68	0.00902	91,649	827	91,236	2,171,752	23.70
68	69	0.00958	90,822	870	90,387	2,080,517	22.91
69	70	0.01039	89,952	935	89,485	1,990,129	22.12
70	71	0.01167	89,017	1,039	88,498	1,900,645	21.35
71	72	0.01232	87,979	1,084	87,437	1,812,147	20.60
72	73	0.01390	86,895	1,208	86,291	1,724,710	19.85
73	74	0.01492	85,687	1,278	85,048	1,638,419	19.12
74	75	0.01625	84,409	1,372	83,723	1,553,371	18.40
75	76	0.01768	83,037	1,468	82,303	1,469,649	17.70
76	77	0.01984	81,569	1,618	80,760	1,387,346	17.01
77	78	0.02164	79,951	1,730	79,085	1,306,586	16.34
78	79	0.02326	78,220	1,819	77,311	1,227,500	15.69
79	80	0.02603	76,401	1,989	75,407	1,150,190	15.05
80	81	0.02819	74,412	2,098	73,364	1,074,783	14.44
81	82	0.03042	72,315	2,200	71,215	1,001,419	13.85
82	83	0.03285	70,115	2,303	68,963	930,204	13.27
83	84	0.03611	67,812	2,449	66,587	861,241	12.70
84	85	0.03871	65,363	2,530	64,098	794,654	12.16
85	86	0.04184	62,833	2,629	61,519	730,556	11.63
86	87	0.04519	60,204	2,721	58,844	669,038	11.11
87	88	0.04878	57,483	2,804	56,081	610,194	10.62
88	89	0.05261	54,679	2,877	53,241	554,112	10.13
89	90	0.05670	51,803	2,937	50,334	500,871	9.67
90	91	0.06106	48,866	2,984	47,374	450,537	9.22
91	92	0.06570	45,882	3,015	44,375	403,163	8.79
92	93	0.07065	42,867	3,028	41,353	358,789	8.37
93	94	0.07590	39,839	3,024	38,327	317,436	7.97
94	95	0.08148	36,815	3,000	35,315	279,109	7.58
95	96	0.08740	33,815	2,955	32,338	243,793	7.21
96	97	0.09367	30,860	2,891	29,415	211,456	6.85

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		Q(x)	l(x)	D(x)	L(x)	T(x)	E(x)
97	98	0.10031	27,969	2,806	26,566	182,041	6.51
98	99	0.10733	25,164	2,701	23,813	155,475	6.18
99	100	0.11475	22,463	2,578	21,174	131,662	5.86
100	101	0.12257	19,885	2,437	18,666	110,488	5.56
101	102	0.13081	17,448	2,282	16,307	91,821	5.26
102	103	0.13949	15,165	2,115	14,108	75,515	4.98
103	104	0.14861	13,050	1,939	12,080	61,407	4.71
104	105	0.15818	11,111	1,758	10,232	49,326	4.44
105	106	0.16822	9,353	1,573	8,566	39,095	4.18
106	107	0.17873	7,780	1,390	7,085	30,528	3.92
107	108	0.18973	6,389	1,212	5,783	23,444	3.67
108	109	0.20121	5,177	1,042	4,656	17,660	3.41
109	110	0.21319	4,135	882	3,695	13,004	3.14
110	111	0.22566	3,254	734	2,887	9,310	2.86
111	112	0.23864	2,520	601	2,219	6,423	2.55
112	113	0.25212	1,918	484	1,676	4,204	2.19
113	114	0.26611	1,435	382	1,244	2,528	1.76
114	115	0.28059	1,053	295	905	1,284	1.22
115	116	0.28059	757	213	379	379	0.50

White Non-Hispanic Female

0	1	0.00127	100,000	127	99,889	9,183,442	91.83
1	2	0.00010	99,873	10	99,868	9,083,554	90.95
2	3	0.00006	99,863	6	99,860	8,983,686	89.96
3	4	0.00005	99,857	5	99,855	8,883,826	88.97
4	5	0.00004	99,852	4	99,850	8,783,971	87.97
5	6	0.00003	99,848	3	99,847	8,684,121	86.97
6	7	0.00003	99,845	3	99,843	8,584,275	85.98
7	8	0.00003	99,842	3	99,840	8,484,431	84.98
8	9	0.00002	99,839	2	99,838	8,384,591	83.98
9	10	0.00003	99,837	3	99,835	8,284,753	82.98
10	11	0.00003	99,834	3	99,833	8,184,918	81.99
11	12	0.00003	99,831	3	99,830	8,085,086	80.99
12	13	0.00003	99,829	3	99,827	7,985,256	79.99
13	14	0.00003	99,826	3	99,824	7,885,428	78.99
14	15	0.00006	99,822	6	99,820	7,785,604	77.99
15	16	0.00008	99,817	8	99,813	7,685,785	77.00
16	17	0.00013	99,809	13	99,802	7,585,972	76.01
17	18	0.00014	99,796	14	99,789	7,486,170	75.01
18	19	0.00015	99,781	15	99,774	7,386,381	74.03
19	20	0.00014	99,767	14	99,760	7,286,607	73.04
20	21	0.00013	99,753	13	99,747	7,186,847	72.05
21	22	0.00014	99,740	14	99,733	7,087,100	71.06
22	23	0.00013	99,726	13	99,720	6,987,367	70.07
23	24	0.00014	99,713	14	99,706	6,887,648	69.07
24	25	0.00014	99,699	14	99,692	6,787,942	68.08
25	26	0.00015	99,685	15	99,678	6,688,250	67.09
26	27	0.00016	99,670	16	99,662	6,588,572	66.10
27	28	0.00017	99,654	17	99,646	6,488,910	65.11

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
28	29	0.00016	99,637	16	99,629	6,389,264	64.13
29	30	0.00018	99,621	18	99,612	6,289,635	63.14
30	31	0.00019	99,603	19	99,594	6,190,022	62.15
31	32	0.00020	99,584	20	99,574	6,090,429	61.16
32	33	0.00021	99,564	21	99,554	5,990,854	60.17
33	34	0.00022	99,544	22	99,532	5,891,300	59.18
34	35	0.00025	99,521	25	99,509	5,791,768	58.20
35	36	0.00026	99,496	26	99,484	5,692,259	57.21
36	37	0.00028	99,471	28	99,457	5,592,776	56.23
37	38	0.00029	99,443	29	99,428	5,493,319	55.24
38	39	0.00032	99,414	31	99,398	5,393,890	54.26
39	40	0.00034	99,382	33	99,366	5,294,492	53.27
40	41	0.00036	99,349	36	99,331	5,195,126	52.29
41	42	0.00039	99,313	39	99,294	5,095,795	51.31
42	43	0.00044	99,274	44	99,252	4,996,502	50.33
43	44	0.00044	99,230	43	99,209	4,897,249	49.35
44	45	0.00054	99,187	54	99,160	4,798,041	48.37
45	46	0.00058	99,134	57	99,105	4,698,880	47.40
46	47	0.00064	99,077	64	99,045	4,599,775	46.43
47	48	0.00069	99,013	68	98,979	4,500,730	45.46
48	49	0.00079	98,945	78	98,906	4,401,751	44.49
49	50	0.00085	98,867	84	98,825	4,302,846	43.52
50	51	0.00098	98,783	97	98,735	4,204,021	42.56
51	52	0.00102	98,686	101	98,636	4,105,286	41.60
52	53	0.00113	98,586	111	98,530	4,006,650	40.64
53	54	0.00126	98,474	124	98,412	3,908,120	39.69
54	55	0.00138	98,350	136	98,282	3,809,708	38.74
55	56	0.00154	98,214	151	98,139	3,711,426	37.79
56	57	0.00169	98,063	166	97,981	3,613,287	36.85
57	58	0.00185	97,898	181	97,807	3,515,306	35.91
58	59	0.00197	97,716	192	97,620	3,417,499	34.97
59	60	0.00211	97,524	206	97,421	3,319,879	34.04
60	61	0.00246	97,318	239	97,198	3,222,458	33.11
61	62	0.00258	97,079	250	96,954	3,125,260	32.19
62	63	0.00287	96,828	278	96,689	3,028,307	31.27
63	64	0.00315	96,551	304	96,398	2,931,617	30.36
64	65	0.00379	96,246	364	96,064	2,835,219	29.46
65	66	0.00447	95,882	429	95,668	2,739,154	28.57
66	67	0.00513	95,453	490	95,208	2,643,487	27.69
67	68	0.00556	94,963	528	94,699	2,548,279	26.83
68	69	0.00593	94,435	560	94,155	2,453,580	25.98
69	70	0.00638	93,875	599	93,575	2,359,425	25.13
70	71	0.00726	93,276	678	92,937	2,265,849	24.29
71	72	0.00766	92,599	709	92,244	2,172,912	23.47
72	73	0.00849	91,890	780	91,500	2,080,668	22.64
73	74	0.00917	91,110	835	90,692	1,989,168	21.83
74	75	0.00999	90,274	902	89,823	1,898,476	21.03
75	76	0.01098	89,372	981	88,882	1,808,652	20.24
76	77	0.01222	88,391	1,081	87,851	1,719,771	19.46

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
77	78	0.01326	87,311	1,158	86,732	1,631,919	18.69
78	79	0.01471	86,153	1,267	85,519	1,545,188	17.94
79	80	0.01618	84,886	1,374	84,199	1,459,668	17.20
80	81	0.01794	83,512	1,498	82,763	1,375,469	16.47
81	82	0.01942	82,014	1,593	81,218	1,292,706	15.76
82	83	0.02163	80,421	1,739	79,551	1,211,489	15.06
83	84	0.02408	78,682	1,894	77,735	1,131,938	14.39
84	85	0.02650	76,787	2,035	75,770	1,054,203	13.73
85	86	0.02928	74,753	2,188	73,658	978,433	13.09
86	87	0.03230	72,564	2,344	71,392	904,775	12.47
87	88	0.03559	70,220	2,499	68,971	833,382	11.87
88	89	0.03916	67,721	2,652	66,395	764,412	11.29
89	90	0.04302	65,070	2,800	63,670	698,016	10.73
90	91	0.04721	62,270	2,940	60,800	634,346	10.19
91	92	0.05172	59,330	3,069	57,796	573,546	9.67
92	93	0.05659	56,262	3,184	54,670	515,750	9.17
93	94	0.06183	53,078	3,282	51,437	461,080	8.69
94	95	0.06745	49,796	3,359	48,117	409,643	8.23
95	96	0.07348	46,438	3,412	44,732	361,527	7.79
96	97	0.07993	43,025	3,439	41,306	316,795	7.36
97	98	0.08681	39,587	3,437	37,868	275,489	6.96
98	99	0.09415	36,150	3,404	34,448	237,621	6.57
99	100	0.10196	32,746	3,339	31,077	203,172	6.20
100	101	0.11025	29,408	3,242	27,787	172,095	5.85
101	102	0.11903	26,166	3,114	24,608	144,309	5.52
102	103	0.12831	23,051	2,958	21,572	119,700	5.19
103	104	0.13811	20,093	2,775	18,706	98,128	4.88
104	105	0.14842	17,318	2,570	16,033	79,422	4.59
105	106	0.15926	14,748	2,349	13,574	63,389	4.30
106	107	0.17062	12,399	2,116	11,341	49,816	4.02
107	108	0.18251	10,284	1,877	9,345	38,474	3.74
108	109	0.19491	8,407	1,639	7,587	29,129	3.46
109	110	0.20784	6,768	1,407	6,065	21,542	3.18
110	111	0.22127	5,361	1,186	4,768	15,477	2.89
111	112	0.23520	4,175	982	3,684	10,708	2.56
112	113	0.24961	3,193	797	2,795	7,024	2.20
113	114	0.26449	2,396	634	2,079	4,230	1.77
114	115	0.27982	1,762	493	1,516	2,150	1.22
115	116	0.29557	1,269	375	635	635	0.50

Black Non-Hispanic Male

0	1	0.00192	100,000	192	99,832	8,692,018	86.92
1	2	0.00013	99,808	13	99,801	8,592,186	86.09
2	3	0.00009	99,795	9	99,790	8,492,385	85.10
3	4	0.00007	99,786	7	99,782	8,392,595	84.11
4	5	0.00006	99,779	6	99,776	8,292,812	83.11
5	6	0.00005	99,774	5	99,771	8,193,036	82.12
6	7	0.00004	99,769	4	99,767	8,093,265	81.12
7	8	0.00004	99,764	4	99,763	7,993,498	80.12

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
8	9	0.00004	99,761	4	99,759	7,893,736	79.13
9	10	0.00004	99,757	4	99,755	7,793,977	78.13
10	11	0.00004	99,753	4	99,751	7,694,222	77.13
11	12	0.00004	99,749	4	99,747	7,594,471	76.14
12	13	0.00004	99,745	4	99,743	7,494,724	75.14
13	14	0.00005	99,741	5	99,738	7,394,981	74.14
14	15	0.00011	99,735	11	99,730	7,295,243	73.15
15	16	0.00017	99,725	17	99,716	7,195,513	72.15
16	17	0.00030	99,708	30	99,693	7,095,796	71.17
17	18	0.00041	99,678	40	99,658	6,996,103	70.19
18	19	0.00049	99,637	49	99,613	6,896,446	69.22
19	20	0.00050	99,588	50	99,563	6,796,833	68.25
20	21	0.00050	99,539	50	99,514	6,697,269	67.28
21	22	0.00052	99,489	51	99,463	6,597,756	66.32
22	23	0.00052	99,437	52	99,411	6,498,292	65.35
23	24	0.00051	99,385	51	99,360	6,398,881	64.38
24	25	0.00051	99,335	50	99,310	6,299,521	63.42
25	26	0.00052	99,284	52	99,259	6,200,211	62.45
26	27	0.00052	99,233	52	99,207	6,100,953	61.48
27	28	0.00055	99,181	55	99,153	6,001,746	60.51
28	29	0.00056	99,126	55	99,098	5,902,593	59.55
29	30	0.00060	99,071	59	99,041	5,803,494	58.58
30	31	0.00061	99,012	61	98,981	5,704,453	57.61
31	32	0.00064	98,951	63	98,920	5,605,472	56.65
32	33	0.00068	98,888	68	98,854	5,506,552	55.68
33	34	0.00070	98,820	69	98,786	5,407,698	54.72
34	35	0.00075	98,751	74	98,714	5,308,913	53.76
35	36	0.00080	98,677	79	98,637	5,210,199	52.80
36	37	0.00081	98,598	80	98,558	5,111,561	51.84
37	38	0.00089	98,518	87	98,475	5,013,003	50.88
38	39	0.00089	98,431	88	98,387	4,914,529	49.93
39	40	0.00096	98,343	95	98,296	4,816,142	48.97
40	41	0.00098	98,248	97	98,200	4,717,846	48.02
41	42	0.00101	98,152	99	98,102	4,619,646	47.07
42	43	0.00111	98,053	108	97,999	4,521,544	46.11
43	44	0.00107	97,945	105	97,892	4,423,545	45.16
44	45	0.00127	97,839	124	97,777	4,325,653	44.21
45	46	0.00130	97,715	127	97,651	4,227,876	43.27
46	47	0.00140	97,587	137	97,519	4,130,225	42.32
47	48	0.00149	97,450	145	97,378	4,032,706	41.38
48	49	0.00164	97,305	159	97,226	3,935,328	40.44
49	50	0.00176	97,146	171	97,060	3,838,103	39.51
50	51	0.00193	96,975	187	96,881	3,741,042	38.58
51	52	0.00205	96,788	198	96,689	3,644,161	37.65
52	53	0.00223	96,590	216	96,482	3,547,472	36.73
53	54	0.00239	96,374	230	96,259	3,450,990	35.81
54	55	0.00268	96,144	258	96,015	3,354,731	34.89
55	56	0.00296	95,886	284	95,744	3,258,716	33.99
56	57	0.00323	95,602	309	95,448	3,162,972	33.08

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
57	58	0.00356	95,293	339	95,124	3,067,524	32.19
58	59	0.00383	94,954	363	94,773	2,972,400	31.30
59	60	0.00395	94,591	373	94,404	2,877,627	30.42
60	61	0.00444	94,218	418	94,009	2,783,223	29.54
61	62	0.00477	93,800	448	93,576	2,689,214	28.67
62	63	0.00543	93,352	507	93,098	2,595,639	27.80
63	64	0.00591	92,845	549	92,571	2,502,540	26.95
64	65	0.00706	92,296	651	91,971	2,409,969	26.11
65	66	0.00853	91,645	782	91,254	2,317,999	25.29
66	67	0.00967	90,863	879	90,424	2,226,745	24.51
67	68	0.01028	89,985	925	89,522	2,136,321	23.74
68	69	0.01105	89,060	984	88,568	2,046,799	22.98
69	70	0.01164	88,075	1,025	87,563	1,958,231	22.23
70	71	0.01308	87,050	1,139	86,480	1,870,668	21.49
71	72	0.01371	85,911	1,178	85,322	1,784,188	20.77
72	73	0.01520	84,733	1,288	84,089	1,698,866	20.05
73	74	0.01621	83,445	1,353	82,768	1,614,777	19.35
74	75	0.01779	82,092	1,460	81,362	1,532,008	18.66
75	76	0.01928	80,632	1,555	79,855	1,450,646	17.99
76	77	0.02160	79,077	1,708	78,223	1,370,792	17.33
77	78	0.02278	77,369	1,762	76,488	1,292,568	16.71
78	79	0.02450	75,607	1,852	74,681	1,216,080	16.08
79	80	0.02701	73,755	1,992	72,759	1,141,400	15.48
80	81	0.02975	71,762	2,135	70,695	1,068,641	14.89
81	82	0.03117	69,627	2,170	68,542	997,946	14.33
82	83	0.03303	67,457	2,228	66,343	929,404	13.78
83	84	0.03558	65,228	2,321	64,068	863,061	13.23
84	85	0.03834	62,907	2,412	61,701	798,993	12.70
85	86	0.04091	60,495	2,475	59,258	737,292	12.19
86	87	0.04365	58,021	2,533	56,754	678,034	11.69
87	88	0.04659	55,488	2,585	54,195	621,280	11.20
88	89	0.04974	52,902	2,632	51,586	567,085	10.72
89	90	0.05312	50,271	2,670	48,936	515,499	10.25
90	91	0.05673	47,601	2,700	46,250	466,563	9.80
91	92	0.06060	44,900	2,721	43,540	420,313	9.36
92	93	0.06474	42,179	2,731	40,814	376,773	8.93
93	94	0.06919	39,448	2,729	38,084	335,959	8.52
94	95	0.07394	36,719	2,715	35,362	297,875	8.11
95	96	0.07904	34,004	2,688	32,660	262,514	7.72
96	97	0.08449	31,316	2,646	29,993	229,854	7.34
97	98	0.09034	28,670	2,590	27,375	199,860	6.97
98	99	0.09659	26,080	2,519	24,821	172,485	6.61
99	100	0.10329	23,561	2,434	22,344	147,664	6.27
100	101	0.11046	21,128	2,334	19,961	125,319	5.93
101	102	0.11813	18,794	2,220	17,684	105,359	5.61
102	103	0.12634	16,574	2,094	15,527	87,675	5.29
103	104	0.13512	14,480	1,957	13,501	72,148	4.98
104	105	0.14451	12,523	1,810	11,618	58,647	4.68
105	106	0.15454	10,713	1,656	9,886	47,029	4.39

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
106	107	0.16525	9,058	1,497	8,309	37,143	4.10
107	108	0.17668	7,561	1,336	6,893	28,834	3.81
108	109	0.18888	6,225	1,176	5,637	21,941	3.52
109	110	0.20189	5,049	1,019	4,540	16,303	3.23
110	111	0.21575	4,030	869	3,595	11,764	2.92
111	112	0.23051	3,160	729	2,796	8,169	2.58
112	113	0.24620	2,432	599	2,133	5,373	2.21
113	114	0.26288	1,833	482	1,592	3,240	1.77
114	115	0.28059	1,351	379	1,162	1,648	1.22
115	116	0.28059	972	273	486	486	0.50

Black Non-Hispanic Female

0	1	0.00170	100,000	170	99,851	9,148,120	91.48
1	2	0.00012	99,830	12	99,824	9,048,269	90.64
2	3	0.00007	99,818	7	99,814	8,948,445	89.65
3	4	0.00006	99,811	6	99,808	8,848,631	88.65
4	5	0.00005	99,805	5	99,803	8,748,824	87.66
5	6	0.00004	99,800	4	99,798	8,649,021	86.66
6	7	0.00004	99,796	4	99,794	8,549,223	85.67
7	8	0.00003	99,793	3	99,791	8,449,428	84.67
8	9	0.00003	99,790	3	99,788	8,349,637	83.67
9	10	0.00003	99,787	3	99,785	8,249,849	82.67
10	11	0.00003	99,784	3	99,782	8,150,064	81.68
11	12	0.00003	99,781	3	99,779	8,050,282	80.68
12	13	0.00003	99,778	3	99,776	7,950,502	79.68
13	14	0.00004	99,775	4	99,773	7,850,726	78.68
14	15	0.00006	99,771	6	99,768	7,750,953	77.69
15	16	0.00009	99,765	9	99,760	7,651,185	76.69
16	17	0.00012	99,756	12	99,749	7,551,425	75.70
17	18	0.00015	99,743	14	99,736	7,451,676	74.71
18	19	0.00015	99,729	15	99,721	7,351,940	73.72
19	20	0.00015	99,714	15	99,706	7,252,218	72.73
20	21	0.00015	99,698	15	99,691	7,152,512	71.74
21	22	0.00016	99,683	16	99,676	7,052,821	70.75
22	23	0.00016	99,668	16	99,660	6,953,146	69.76
23	24	0.00017	99,652	17	99,643	6,853,486	68.77
24	25	0.00018	99,635	18	99,626	6,753,843	67.79
25	26	0.00019	99,617	19	99,607	6,654,217	66.80
26	27	0.00021	99,597	21	99,587	6,554,610	65.81
27	28	0.00021	99,577	21	99,566	6,455,023	64.82
28	29	0.00022	99,556	21	99,545	6,355,456	63.84
29	30	0.00024	99,534	24	99,522	6,255,912	62.85
30	31	0.00027	99,510	27	99,497	6,156,389	61.87
31	32	0.00027	99,483	27	99,470	6,056,893	60.88
32	33	0.00029	99,456	28	99,442	5,957,423	59.90
33	34	0.00031	99,428	31	99,412	5,857,981	58.92
34	35	0.00033	99,397	33	99,380	5,758,569	57.94
35	36	0.00036	99,363	36	99,346	5,659,189	56.95
36	37	0.00039	99,328	38	99,309	5,559,844	55.97

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
37	38	0.00039	99,290	39	99,270	5,460,535	55.00
38	39	0.00044	99,251	44	99,229	5,361,265	54.02
39	40	0.00045	99,207	44	99,185	5,262,036	53.04
40	41	0.00049	99,163	49	99,138	5,162,851	52.06
41	42	0.00051	99,114	51	99,088	5,063,713	51.09
42	43	0.00059	99,063	58	99,034	4,964,625	50.12
43	44	0.00057	99,005	56	98,977	4,865,591	49.15
44	45	0.00071	98,948	70	98,913	4,766,615	48.17
45	46	0.00073	98,878	73	98,842	4,667,701	47.21
46	47	0.00083	98,806	82	98,765	4,568,859	46.24
47	48	0.00088	98,724	87	98,681	4,470,095	45.28
48	49	0.00098	98,637	97	98,589	4,371,414	44.32
49	50	0.00109	98,541	107	98,487	4,272,825	43.36
50	51	0.00122	98,433	120	98,374	4,174,338	42.41
51	52	0.00129	98,314	126	98,251	4,075,964	41.46
52	53	0.00139	98,187	136	98,119	3,977,714	40.51
53	54	0.00155	98,051	152	97,975	3,879,595	39.57
54	55	0.00170	97,899	167	97,816	3,781,619	38.63
55	56	0.00189	97,733	185	97,640	3,683,803	37.69
56	57	0.00204	97,548	199	97,449	3,586,163	36.76
57	58	0.00226	97,349	220	97,239	3,488,715	35.84
58	59	0.00240	97,129	233	97,012	3,391,476	34.92
59	60	0.00254	96,895	246	96,772	3,294,464	34.00
60	61	0.00296	96,649	286	96,506	3,197,692	33.09
61	62	0.00309	96,363	297	96,214	3,101,186	32.18
62	63	0.00343	96,065	330	95,900	3,004,972	31.28
63	64	0.00379	95,735	363	95,554	2,909,072	30.39
64	65	0.00453	95,373	432	95,157	2,813,518	29.50
65	66	0.00547	94,941	520	94,681	2,718,361	28.63
66	67	0.00618	94,421	584	94,129	2,623,680	27.79
67	68	0.00667	93,838	626	93,525	2,529,551	26.96
68	69	0.00687	93,212	640	92,892	2,436,026	26.13
69	70	0.00738	92,571	683	92,230	2,343,134	25.31
70	71	0.00848	91,888	779	91,499	2,250,905	24.50
71	72	0.00882	91,109	803	90,708	2,159,406	23.70
72	73	0.00945	90,306	853	89,880	2,068,698	22.91
73	74	0.01015	89,453	908	88,999	1,978,818	22.12
74	75	0.01092	88,545	967	88,062	1,889,819	21.34
75	76	0.01206	87,578	1,056	87,050	1,801,757	20.57
76	77	0.01327	86,522	1,148	85,948	1,714,707	19.82
77	78	0.01430	85,374	1,221	84,764	1,628,759	19.08
78	79	0.01587	84,153	1,336	83,486	1,543,995	18.35
79	80	0.01717	82,818	1,422	82,107	1,460,510	17.64
80	81	0.01912	81,396	1,556	80,618	1,378,403	16.93
81	82	0.02013	79,840	1,607	79,036	1,297,785	16.25
82	83	0.02177	78,232	1,703	77,381	1,218,749	15.58
83	84	0.02444	76,529	1,871	75,594	1,141,369	14.91
84	85	0.02662	74,659	1,987	73,665	1,065,775	14.28
85	86	0.02898	72,671	2,106	71,618	992,110	13.65

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		Q(x)	l(x)	D(x)	L(x)	T(x)	E(x)
86	87	0.03155	70,565	2,226	69,452	920,491	13.04
87	88	0.03433	68,339	2,346	67,166	851,040	12.45
88	89	0.03734	65,993	2,464	64,760	783,874	11.88
89	90	0.04060	63,528	2,580	62,238	719,113	11.32
90	91	0.04413	60,949	2,690	59,604	656,875	10.78
91	92	0.04794	58,259	2,793	56,862	597,271	10.25
92	93	0.05206	55,466	2,888	54,022	540,409	9.74
93	94	0.05651	52,578	2,971	51,092	486,387	9.25
94	95	0.06131	49,607	3,042	48,086	435,295	8.77
95	96	0.06649	46,565	3,096	45,017	387,210	8.32
96	97	0.07207	43,469	3,133	41,902	342,193	7.87
97	98	0.07808	40,336	3,149	38,761	300,290	7.44
98	99	0.08454	37,187	3,144	35,615	261,529	7.03
99	100	0.09150	34,043	3,115	32,485	225,915	6.64
100	101	0.09897	30,928	3,061	29,397	193,429	6.25
101	102	0.10698	27,867	2,981	26,376	164,032	5.89
102	103	0.11558	24,886	2,876	23,448	137,656	5.53
103	104	0.12479	22,010	2,747	20,636	114,208	5.19
104	105	0.13465	19,263	2,594	17,966	93,572	4.86
105	106	0.14519	16,669	2,420	15,459	75,606	4.54
106	107	0.15644	14,249	2,229	13,135	60,147	4.22
107	108	0.16845	12,020	2,025	11,008	47,012	3.91
108	109	0.18125	9,995	1,812	9,089	36,004	3.60
109	110	0.19486	8,184	1,595	7,386	26,915	3.29
110	111	0.20933	6,589	1,379	5,899	19,529	2.96
111	112	0.22469	5,210	1,171	4,624	13,630	2.62
112	113	0.24096	4,039	973	3,552	9,005	2.23
113	114	0.25819	3,066	792	2,670	5,453	1.78
114	115	0.27638	2,274	629	1,960	2,783	1.22
115	116	0.29557	1,646	486	823	823	0.50

Asian Non-Hispanic Male

0	1	0.00131	100,000	131	99,885	8,936,977	89.37
1	2	0.00011	99,869	11	99,864	8,837,091	88.49
2	3	0.00007	99,858	7	99,854	8,737,228	87.50
3	4	0.00006	99,851	6	99,848	8,637,373	86.50
4	5	0.00005	99,845	5	99,842	8,537,525	85.51
5	6	0.00003	99,840	3	99,838	8,437,683	84.51
6	7	0.00004	99,837	4	99,835	8,337,845	83.51
7	8	0.00004	99,833	4	99,831	8,238,010	82.52
8	9	0.00004	99,829	4	99,827	8,138,180	81.52
9	10	0.00003	99,825	3	99,823	8,038,353	80.52
10	11	0.00003	99,822	3	99,820	7,938,529	79.53
11	12	0.00003	99,819	3	99,817	7,838,709	78.53
12	13	0.00004	99,816	4	99,814	7,738,892	77.53
13	14	0.00005	99,811	5	99,809	7,639,078	76.54
14	15	0.00008	99,807	8	99,803	7,539,269	75.54
15	16	0.00016	99,799	16	99,791	7,439,466	74.54
16	17	0.00025	99,783	25	99,771	7,339,675	73.56

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
17	18	0.00029	99,759	29	99,744	7,239,904	72.57
18	19	0.00036	99,729	35	99,712	7,140,160	71.60
19	20	0.00037	99,694	37	99,675	7,040,448	70.62
20	21	0.00036	99,657	36	99,639	6,940,773	69.65
21	22	0.00036	99,621	36	99,603	6,841,134	68.67
22	23	0.00035	99,585	35	99,568	6,741,531	67.70
23	24	0.00036	99,550	36	99,533	6,641,963	66.72
24	25	0.00033	99,515	33	99,498	6,542,431	65.74
25	26	0.00036	99,482	36	99,464	6,442,932	64.76
26	27	0.00036	99,446	35	99,428	6,343,469	63.79
27	28	0.00034	99,410	34	99,393	6,244,040	62.81
28	29	0.00036	99,376	36	99,358	6,144,647	61.83
29	30	0.00043	99,340	43	99,319	6,045,289	60.85
30	31	0.00037	99,297	37	99,279	5,945,971	59.88
31	32	0.00037	99,260	36	99,242	5,846,692	58.90
32	33	0.00041	99,224	41	99,204	5,747,450	57.92
33	34	0.00045	99,183	45	99,161	5,648,247	56.95
34	35	0.00047	99,139	47	99,115	5,549,086	55.97
35	36	0.00051	99,092	51	99,067	5,449,970	55.00
36	37	0.00053	99,041	53	99,015	5,350,904	54.03
37	38	0.00056	98,988	55	98,961	5,251,889	53.06
38	39	0.00055	98,933	54	98,906	5,152,928	52.08
39	40	0.00064	98,879	64	98,847	5,054,022	51.11
40	41	0.00061	98,815	60	98,785	4,955,175	50.15
41	42	0.00066	98,755	65	98,723	4,856,390	49.18
42	43	0.00068	98,690	68	98,657	4,757,667	48.21
43	44	0.00074	98,623	73	98,586	4,659,010	47.24
44	45	0.00086	98,549	85	98,507	4,560,424	46.28
45	46	0.00087	98,465	85	98,422	4,461,917	45.31
46	47	0.00093	98,379	91	98,334	4,363,495	44.35
47	48	0.00091	98,288	89	98,243	4,265,162	43.39
48	49	0.00108	98,199	106	98,146	4,166,918	42.43
49	50	0.00123	98,093	121	98,032	4,068,773	41.48
50	51	0.00137	97,972	134	97,905	3,970,740	40.53
51	52	0.00146	97,838	143	97,766	3,872,836	39.58
52	53	0.00161	97,695	157	97,616	3,775,069	38.64
53	54	0.00169	97,538	165	97,455	3,677,453	37.70
54	55	0.00182	97,373	177	97,284	3,579,998	36.77
55	56	0.00212	97,196	206	97,093	3,482,714	35.83
56	57	0.00242	96,990	235	96,872	3,385,621	34.91
57	58	0.00251	96,754	243	96,633	3,288,749	33.99
58	59	0.00269	96,512	260	96,382	3,192,116	33.07
59	60	0.00290	96,252	279	96,112	3,095,734	32.16
60	61	0.00318	95,973	305	95,820	2,999,622	31.25
61	62	0.00363	95,668	347	95,494	2,903,802	30.35
62	63	0.00404	95,320	385	95,128	2,808,308	29.46
63	64	0.00435	94,935	413	94,729	2,713,180	28.58
64	65	0.00526	94,522	497	94,274	2,618,451	27.70
65	66	0.00648	94,025	609	93,721	2,524,178	26.85

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
66	67	0.00727	93,416	680	93,076	2,430,457	26.02
67	68	0.00756	92,737	701	92,386	2,337,381	25.20
68	69	0.00837	92,035	771	91,650	2,244,995	24.39
69	70	0.00900	91,265	822	90,854	2,153,345	23.59
70	71	0.01028	90,443	930	89,978	2,062,491	22.80
71	72	0.01019	89,513	912	89,057	1,972,513	22.04
72	73	0.01201	88,601	1,064	88,069	1,883,456	21.26
73	74	0.01294	87,537	1,133	86,971	1,795,387	20.51
74	75	0.01382	86,404	1,194	85,807	1,708,416	19.77
75	76	0.01503	85,210	1,281	84,569	1,622,609	19.04
76	77	0.01624	83,929	1,363	83,247	1,538,040	18.33
77	78	0.01874	82,566	1,547	81,792	1,454,793	17.62
78	79	0.02059	81,019	1,668	80,184	1,373,000	16.95
79	80	0.02270	79,350	1,802	78,449	1,292,816	16.29
80	81	0.02412	77,549	1,871	76,613	1,214,366	15.66
81	82	0.02538	75,678	1,921	74,718	1,137,753	15.03
82	83	0.02780	73,757	2,051	72,732	1,063,036	14.41
83	84	0.03022	71,706	2,167	70,623	990,304	13.81
84	85	0.03252	69,540	2,261	68,409	919,681	13.23
85	86	0.03520	67,278	2,368	66,094	851,272	12.65
86	87	0.03808	64,910	2,472	63,674	785,178	12.10
87	88	0.04118	62,439	2,571	61,153	721,503	11.56
88	89	0.04451	59,867	2,665	58,535	660,350	11.03
89	90	0.04810	57,203	2,751	55,827	601,815	10.52
90	91	0.05195	54,451	2,829	53,037	545,988	10.03
91	92	0.05609	51,622	2,895	50,175	492,952	9.55
92	93	0.06053	48,727	2,949	47,252	442,777	9.09
93	94	0.06529	45,777	2,989	44,283	395,525	8.64
94	95	0.07039	42,789	3,012	41,283	351,242	8.21
95	96	0.07586	39,777	3,017	38,268	309,959	7.79
96	97	0.08170	36,759	3,003	35,258	271,691	7.39
97	98	0.08796	33,756	2,969	32,271	236,433	7.00
98	99	0.09465	30,787	2,914	29,330	204,162	6.63
99	100	0.10178	27,873	2,837	26,455	174,832	6.27
100	101	0.10940	25,036	2,739	23,667	148,377	5.93
101	102	0.11752	22,297	2,620	20,987	124,711	5.59
102	103	0.12617	19,677	2,483	18,435	103,724	5.27
103	104	0.13537	17,194	2,328	16,030	85,288	4.96
104	105	0.14516	14,866	2,158	13,787	69,258	4.66
105	106	0.15555	12,708	1,977	11,720	55,471	4.36
106	107	0.16658	10,732	1,788	9,838	43,751	4.08
107	108	0.17826	8,944	1,594	8,147	33,913	3.79
108	109	0.19064	7,350	1,401	6,649	25,766	3.51
109	110	0.20372	5,949	1,212	5,343	19,117	3.21
110	111	0.21754	4,737	1,030	4,222	13,774	2.91
111	112	0.23211	3,706	860	3,276	9,553	2.58
112	113	0.24747	2,846	704	2,494	6,276	2.21
113	114	0.26362	2,142	565	1,859	3,783	1.77
114	115	0.28059	1,577	443	1,356	1,923	1.22

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/in Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		Q(x)	l(x)	D(x)	L(x)	T(x)	E(x)
115	116	0.28059	1,135	318	567	567	0.50

Asian Non-Hispanic Female

0	1	0.00118	100,000	118	99,897	9,342,345	93.42
1	2	0.00011	99,882	11	99,877	9,242,448	92.53
2	3	0.00006	99,871	6	99,868	9,142,572	91.54
3	4	0.00005	99,865	5	99,863	9,042,703	90.55
4	5	0.00003	99,861	3	99,859	8,942,840	89.55
5	6	0.00003	99,858	3	99,856	8,842,981	88.56
6	7	0.00003	99,855	3	99,853	8,743,125	87.56
7	8	0.00003	99,851	3	99,850	8,643,272	86.56
8	9	0.00002	99,849	2	99,848	8,543,422	85.56
9	10	0.00002	99,846	2	99,845	8,443,574	84.57
10	11	0.00003	99,844	3	99,843	8,343,729	83.57
11	12	0.00003	99,841	3	99,840	8,243,886	82.57
12	13	0.00003	99,838	3	99,837	8,144,047	81.57
13	14	0.00003	99,835	3	99,834	8,044,210	80.57
14	15	0.00004	99,832	4	99,830	7,944,376	79.58
15	16	0.00008	99,828	8	99,824	7,844,546	78.58
16	17	0.00012	99,819	12	99,813	7,744,723	77.59
17	18	0.00012	99,807	12	99,801	7,644,909	76.60
18	19	0.00013	99,795	13	99,789	7,545,108	75.61
19	20	0.00011	99,783	11	99,777	7,445,319	74.62
20	21	0.00013	99,771	13	99,765	7,345,542	73.62
21	22	0.00012	99,758	12	99,752	7,245,777	72.63
22	23	0.00012	99,746	12	99,740	7,146,025	71.64
23	24	0.00014	99,734	14	99,727	7,046,285	70.65
24	25	0.00013	99,720	13	99,714	6,946,557	69.66
25	26	0.00014	99,707	14	99,700	6,846,844	68.67
26	27	0.00014	99,693	14	99,686	6,747,143	67.68
27	28	0.00016	99,680	15	99,672	6,647,457	66.69
28	29	0.00014	99,664	14	99,657	6,547,785	65.70
29	30	0.00016	99,650	16	99,642	6,448,128	64.71
30	31	0.00018	99,633	18	99,624	6,348,487	63.72
31	32	0.00018	99,615	18	99,606	6,248,862	62.73
32	33	0.00019	99,597	18	99,588	6,149,256	61.74
33	34	0.00022	99,579	22	99,568	6,049,668	60.75
34	35	0.00022	99,557	22	99,545	5,950,100	59.77
35	36	0.00023	99,534	23	99,523	5,850,555	58.78
36	37	0.00024	99,512	24	99,500	5,751,032	57.79
37	38	0.00025	99,487	24	99,475	5,651,532	56.81
38	39	0.00031	99,463	31	99,448	5,552,057	55.82
39	40	0.00033	99,432	33	99,416	5,452,609	54.84
40	41	0.00029	99,399	29	99,385	5,353,193	53.86
41	42	0.00037	99,370	36	99,352	5,253,808	52.87
42	43	0.00041	99,334	41	99,313	5,154,456	51.89
43	44	0.00040	99,293	40	99,273	5,055,143	50.91
44	45	0.00045	99,253	45	99,231	4,955,870	49.93
45	46	0.00054	99,209	53	99,182	4,856,639	48.95

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
46	47	0.00056	99,155	56	99,127	4,757,457	47.98
47	48	0.00060	99,099	59	99,070	4,658,330	47.01
48	49	0.00069	99,040	68	99,006	4,559,260	46.03
49	50	0.00080	98,972	79	98,933	4,460,254	45.07
50	51	0.00085	98,893	84	98,851	4,361,321	44.10
51	52	0.00091	98,809	90	98,764	4,262,471	43.14
52	53	0.00092	98,718	91	98,673	4,163,707	42.18
53	54	0.00110	98,627	109	98,573	4,065,034	41.22
54	55	0.00121	98,519	119	98,459	3,966,461	40.26
55	56	0.00138	98,400	136	98,332	3,868,002	39.31
56	57	0.00153	98,264	150	98,189	3,769,670	38.36
57	58	0.00163	98,114	159	98,035	3,671,480	37.42
58	59	0.00183	97,955	179	97,865	3,573,446	36.48
59	60	0.00181	97,776	177	97,687	3,475,580	35.55
60	61	0.00212	97,599	207	97,495	3,377,893	34.61
61	62	0.00217	97,392	212	97,286	3,280,398	33.68
62	63	0.00235	97,180	229	97,066	3,183,112	32.75
63	64	0.00267	96,951	259	96,822	3,086,047	31.83
64	65	0.00302	96,693	292	96,547	2,989,225	30.91
65	66	0.00367	96,401	354	96,224	2,892,678	30.01
66	67	0.00430	96,047	413	95,840	2,796,454	29.12
67	68	0.00471	95,634	451	95,409	2,700,613	28.24
68	69	0.00482	95,183	458	94,954	2,605,204	27.37
69	70	0.00523	94,725	495	94,477	2,510,250	26.50
70	71	0.00577	94,230	544	93,958	2,415,773	25.64
71	72	0.00640	93,686	600	93,386	2,321,815	24.78
72	73	0.00725	93,086	675	92,748	2,228,429	23.94
73	74	0.00793	92,411	733	92,044	2,135,681	23.11
74	75	0.00805	91,678	738	91,309	2,043,637	22.29
75	76	0.00952	90,939	866	90,507	1,952,328	21.47
76	77	0.01019	90,074	918	89,615	1,861,822	20.67
77	78	0.01110	89,155	989	88,661	1,772,207	19.88
78	79	0.01273	88,166	1,122	87,605	1,683,546	19.10
79	80	0.01402	87,044	1,220	86,433	1,595,941	18.33
80	81	0.01541	85,823	1,322	85,162	1,509,508	17.59
81	82	0.01619	84,501	1,368	83,817	1,424,346	16.86
82	83	0.01806	83,133	1,501	82,383	1,340,529	16.13
83	84	0.02087	81,632	1,704	80,780	1,258,146	15.41
84	85	0.02225	79,928	1,779	79,039	1,177,366	14.73
85	86	0.02463	78,150	1,925	77,187	1,098,327	14.05
86	87	0.02724	76,225	2,076	75,186	1,021,140	13.40
87	88	0.03009	74,148	2,231	73,033	945,953	12.76
88	89	0.03320	71,917	2,388	70,723	872,921	12.14
89	90	0.03659	69,530	2,544	68,258	802,197	11.54
90	91	0.04028	66,986	2,698	65,636	733,939	10.96
91	92	0.04429	64,287	2,848	62,864	668,303	10.40
92	93	0.04865	61,440	2,989	59,945	605,440	9.85
93	94	0.05337	58,451	3,120	56,891	545,494	9.33
94	95	0.05849	55,331	3,236	53,713	488,604	8.83

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		Q(x)	l(x)	D(x)	L(x)	T(x)	E(x)
95	96	0.06401	52,095	3,335	50,428	434,891	8.35
96	97	0.06997	48,760	3,412	47,054	384,463	7.88
97	98	0.07640	45,348	3,464	43,616	337,409	7.44
98	99	0.08331	41,884	3,489	40,139	293,793	7.01
99	100	0.09073	38,395	3,483	36,653	253,654	6.61
100	101	0.09868	34,911	3,445	33,189	217,001	6.22
101	102	0.10720	31,466	3,373	29,780	183,812	5.84
102	103	0.11630	28,093	3,267	26,460	154,032	5.48
103	104	0.12600	24,826	3,128	23,262	127,573	5.14
104	105	0.13633	21,698	2,958	20,219	104,311	4.81
105	106	0.14731	18,740	2,761	17,360	84,092	4.49
106	107	0.15895	15,979	2,540	14,709	66,732	4.18
107	108	0.17127	13,439	2,302	12,289	52,023	3.87
108	109	0.18430	11,138	2,053	10,111	39,734	3.57
109	110	0.19803	9,085	1,799	8,186	29,623	3.26
110	111	0.21247	7,286	1,548	6,512	21,437	2.94
111	112	0.22764	5,738	1,306	5,085	14,925	2.60
112	113	0.24354	4,432	1,079	3,892	9,840	2.22
113	114	0.26016	3,352	872	2,916	5,948	1.77
114	115	0.27751	2,480	688	2,136	3,032	1.22
115	116	0.29557	1,792	530	896	896	0.50

Hispanic Origin Male

0	1	0.00151	100,000	151	99,868	8,863,069	88.63
1	2	0.00012	99,849	12	99,843	8,763,201	87.76
2	3	0.00008	99,837	8	99,833	8,663,358	86.77
3	4	0.00006	99,829	6	99,826	8,563,525	85.78
4	5	0.00005	99,824	5	99,821	8,463,698	84.79
5	6	0.00004	99,818	4	99,816	8,363,877	83.79
6	7	0.00004	99,814	4	99,812	8,264,061	82.79
7	8	0.00004	99,810	4	99,809	8,164,249	81.80
8	9	0.00003	99,807	3	99,805	8,064,440	80.80
9	10	0.00003	99,803	3	99,802	7,964,635	79.80
10	11	0.00003	99,800	3	99,799	7,864,833	78.81
11	12	0.00003	99,797	3	99,795	7,765,034	77.81
12	13	0.00004	99,794	4	99,792	7,665,239	76.81
13	14	0.00005	99,790	5	99,788	7,565,447	75.81
14	15	0.00009	99,785	9	99,780	7,465,659	74.82
15	16	0.00015	99,776	14	99,768	7,365,879	73.82
16	17	0.00028	99,761	28	99,747	7,266,111	72.84
17	18	0.00036	99,733	36	99,716	7,166,363	71.86
18	19	0.00042	99,698	42	99,677	7,066,648	70.88
19	20	0.00042	99,656	42	99,635	6,966,971	69.91
20	21	0.00042	99,614	42	99,593	6,867,335	68.94
21	22	0.00042	99,572	42	99,551	6,767,742	67.97
22	23	0.00043	99,530	43	99,509	6,668,191	67.00
23	24	0.00045	99,487	45	99,465	6,568,682	66.03
24	25	0.00043	99,442	43	99,421	6,469,217	65.05
25	26	0.00045	99,399	45	99,377	6,369,796	64.08

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
26	27	0.00044	99,355	43	99,333	6,270,419	63.11
27	28	0.00045	99,312	45	99,289	6,171,086	62.14
28	29	0.00047	99,266	47	99,243	6,071,797	61.17
29	30	0.00049	99,219	49	99,195	5,972,554	60.20
30	31	0.00050	99,170	50	99,145	5,873,359	59.22
31	32	0.00053	99,120	52	99,094	5,774,214	58.25
32	33	0.00054	99,068	54	99,041	5,675,120	57.29
33	34	0.00057	99,014	57	98,986	5,576,078	56.32
34	35	0.00060	98,957	60	98,928	5,477,093	55.35
35	36	0.00065	98,898	64	98,866	5,378,165	54.38
36	37	0.00066	98,834	65	98,801	5,279,299	53.42
37	38	0.00069	98,768	68	98,734	5,180,498	52.45
38	39	0.00073	98,700	72	98,664	5,081,764	51.49
39	40	0.00071	98,628	71	98,592	4,983,101	50.52
40	41	0.00079	98,557	77	98,518	4,884,508	49.56
41	42	0.00079	98,480	78	98,441	4,785,990	48.60
42	43	0.00085	98,402	84	98,360	4,687,549	47.64
43	44	0.00084	98,318	83	98,277	4,589,189	46.68
44	45	0.00095	98,235	93	98,189	4,490,912	45.72
45	46	0.00097	98,142	96	98,094	4,392,724	44.76
46	47	0.00104	98,047	102	97,996	4,294,629	43.80
47	48	0.00113	97,945	110	97,889	4,196,634	42.85
48	49	0.00131	97,834	128	97,770	4,098,744	41.89
49	50	0.00133	97,706	130	97,641	4,000,974	40.95
50	51	0.00147	97,576	143	97,505	3,903,333	40.00
51	52	0.00161	97,433	157	97,355	3,805,828	39.06
52	53	0.00172	97,276	167	97,193	3,708,473	38.12
53	54	0.00187	97,109	181	97,019	3,611,280	37.19
54	55	0.00212	96,928	205	96,825	3,514,261	36.26
55	56	0.00222	96,723	215	96,615	3,417,436	35.33
56	57	0.00252	96,508	243	96,387	3,320,821	34.41
57	58	0.00275	96,265	265	96,133	3,224,434	33.50
58	59	0.00310	96,000	297	95,852	3,128,301	32.59
59	60	0.00316	95,703	302	95,552	3,032,450	31.69
60	61	0.00358	95,401	341	95,230	2,936,898	30.78
61	62	0.00386	95,059	367	94,876	2,841,668	29.89
62	63	0.00423	94,692	400	94,492	2,746,793	29.01
63	64	0.00479	94,292	452	94,066	2,652,301	28.13
64	65	0.00556	93,840	522	93,579	2,558,235	27.26
65	66	0.00661	93,318	617	93,009	2,464,657	26.41
66	67	0.00750	92,701	695	92,353	2,371,648	25.58
67	68	0.00845	92,006	777	91,617	2,279,294	24.77
68	69	0.00882	91,228	804	90,826	2,187,677	23.98
69	70	0.00952	90,424	861	89,993	2,096,851	23.19
70	71	0.01051	89,563	941	89,092	2,006,858	22.41
71	72	0.01117	88,622	990	88,127	1,917,765	21.64
72	73	0.01241	87,632	1,088	87,088	1,829,638	20.88
73	74	0.01327	86,544	1,148	85,970	1,742,550	20.13
74	75	0.01461	85,396	1,248	84,772	1,656,580	19.40

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/in Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
75	76	0.01575	84,148	1,326	83,485	1,571,808	18.68
76	77	0.01765	82,823	1,462	82,092	1,488,322	17.97
77	78	0.01903	81,361	1,548	80,587	1,406,231	17.28
78	79	0.02089	79,813	1,667	78,979	1,325,644	16.61
79	80	0.02274	78,145	1,777	77,257	1,246,665	15.95
80	81	0.02514	76,368	1,920	75,409	1,169,408	15.31
81	82	0.02644	74,449	1,969	73,464	1,093,999	14.69
82	83	0.02874	72,480	2,083	71,439	1,020,535	14.08
83	84	0.03168	70,397	2,230	69,282	949,096	13.48
84	85	0.03400	68,167	2,317	67,008	879,814	12.91
85	86	0.03683	65,850	2,425	64,637	812,806	12.34
86	87	0.03987	63,424	2,529	62,160	748,169	11.80
87	88	0.04315	60,895	2,627	59,582	686,009	11.27
88	89	0.04666	58,268	2,719	56,909	626,427	10.75
89	90	0.05043	55,549	2,801	54,149	569,519	10.25
90	91	0.05447	52,748	2,873	51,311	515,370	9.77
91	92	0.05880	49,875	2,933	48,408	464,059	9.30
92	93	0.06343	46,942	2,978	45,453	415,650	8.85
93	94	0.06839	43,964	3,007	42,461	370,197	8.42
94	95	0.07369	40,958	3,018	39,448	327,736	8.00
95	96	0.07934	37,939	3,010	36,434	288,287	7.60
96	97	0.08538	34,929	2,982	33,438	251,853	7.21
97	98	0.09180	31,947	2,933	30,481	218,415	6.84
98	99	0.09865	29,014	2,862	27,583	187,934	6.48
99	100	0.10593	26,152	2,770	24,767	160,351	6.13
100	101	0.11367	23,382	2,658	22,053	135,584	5.80
101	102	0.12188	20,724	2,526	19,461	113,532	5.48
102	103	0.13059	18,198	2,377	17,010	94,071	5.17
103	104	0.13982	15,821	2,212	14,715	77,061	4.87
104	105	0.14959	13,609	2,036	12,591	62,346	4.58
105	106	0.15991	11,573	1,851	10,648	49,755	4.30
106	107	0.17080	9,723	1,661	8,892	39,106	4.02
107	108	0.18229	8,062	1,470	7,327	30,214	3.75
108	109	0.19438	6,593	1,281	5,952	22,887	3.47
109	110	0.20711	5,311	1,100	4,761	16,935	3.19
110	111	0.22047	4,211	928	3,747	12,174	2.89
111	112	0.23449	3,283	770	2,898	8,427	2.57
112	113	0.24918	2,513	626	2,200	5,529	2.20
113	114	0.26454	1,887	499	1,637	3,329	1.76
114	115	0.28059	1,388	389	1,193	1,692	1.22
115	116	0.28059	998	280	499	499	0.50

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$

Hispanic Origin Female

0	1	0.00133	100,000	133	99,884	9,286,133	92.86
1	2	0.00011	99,867	11	99,862	9,186,249	91.98
2	3	0.00006	99,856	6	99,853	9,086,388	90.99
3	4	0.00005	99,850	5	99,847	8,986,534	90.00
4	5	0.00004	99,845	4	99,843	8,886,687	89.00
5	6	0.00003	99,841	3	99,840	8,786,844	88.01
6	7	0.00003	99,838	3	99,836	8,687,004	87.01
7	8	0.00003	99,835	3	99,833	8,587,168	86.01
8	9	0.00002	99,832	2	99,831	8,487,335	85.02
9	10	0.00003	99,830	3	99,828	8,387,504	84.02
10	11	0.00003	99,827	3	99,826	8,287,676	83.02
11	12	0.00002	99,824	2	99,823	8,187,850	82.02
12	13	0.00003	99,822	3	99,821	8,088,027	81.02
13	14	0.00004	99,819	4	99,817	7,988,206	80.03
14	15	0.00005	99,815	5	99,813	7,888,389	79.03
15	16	0.00008	99,810	8	99,806	7,788,577	78.03
16	17	0.00012	99,802	12	99,796	7,688,771	77.04
17	18	0.00012	99,790	12	99,784	7,588,975	76.05
18	19	0.00013	99,778	13	99,771	7,489,191	75.06
19	20	0.00012	99,765	12	99,759	7,389,420	74.07
20	21	0.00012	99,753	12	99,747	7,289,661	73.08
21	22	0.00014	99,741	14	99,734	7,189,914	72.09
22	23	0.00013	99,727	13	99,721	7,090,180	71.10
23	24	0.00014	99,714	14	99,707	6,990,459	70.11
24	25	0.00014	99,700	14	99,693	6,890,752	69.11
25	26	0.00015	99,686	15	99,679	6,791,059	68.12
26	27	0.00015	99,671	15	99,664	6,691,380	67.13
27	28	0.00016	99,657	16	99,649	6,591,716	66.14
28	29	0.00016	99,640	16	99,633	6,492,067	65.15
29	30	0.00017	99,625	17	99,616	6,392,435	64.17
30	31	0.00019	99,608	19	99,599	6,292,819	63.18
31	32	0.00019	99,589	19	99,579	6,193,220	62.19
32	33	0.00020	99,570	19	99,560	6,093,640	61.20
33	34	0.00022	99,550	22	99,539	5,994,080	60.21
34	35	0.00024	99,528	24	99,516	5,894,541	59.22
35	36	0.00024	99,504	24	99,492	5,795,025	58.24
36	37	0.00028	99,480	28	99,466	5,695,532	57.25
37	38	0.00027	99,452	27	99,439	5,596,066	56.27
38	39	0.00029	99,425	29	99,411	5,496,627	55.28
39	40	0.00031	99,396	30	99,381	5,397,217	54.30
40	41	0.00035	99,366	35	99,348	5,297,836	53.32
41	42	0.00038	99,331	38	99,312	5,198,488	52.34
42	43	0.00041	99,293	41	99,272	5,099,176	51.35
43	44	0.00042	99,252	42	99,231	4,999,904	50.38
44	45	0.00050	99,210	49	99,185	4,900,673	49.40
45	46	0.00055	99,160	54	99,133	4,801,488	48.42
46	47	0.00060	99,106	60	99,076	4,702,355	47.45
47	48	0.00063	99,046	62	99,015	4,603,279	46.48

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$l(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
48	49	0.00075	98,984	74	98,947	4,504,264	45.50
49	50	0.00079	98,909	78	98,870	4,405,317	44.54
50	51	0.00087	98,831	86	98,788	4,306,447	43.57
51	52	0.00096	98,745	94	98,698	4,207,659	42.61
52	53	0.00104	98,651	103	98,599	4,108,961	41.65
53	54	0.00119	98,548	117	98,489	4,010,362	40.69
54	55	0.00123	98,430	122	98,369	3,911,873	39.74
55	56	0.00143	98,308	141	98,238	3,813,504	38.79
56	57	0.00157	98,168	154	98,091	3,715,266	37.85
57	58	0.00165	98,014	162	97,933	3,617,175	36.90
58	59	0.00179	97,852	175	97,764	3,519,242	35.97
59	60	0.00193	97,677	189	97,582	3,421,478	35.03
60	61	0.00219	97,488	213	97,382	3,323,896	34.10
61	62	0.00233	97,275	227	97,161	3,226,514	33.17
62	63	0.00268	97,048	260	96,918	3,129,353	32.25
63	64	0.00286	96,788	277	96,650	3,032,435	31.33
64	65	0.00344	96,511	332	96,345	2,935,785	30.42
65	66	0.00416	96,179	400	95,979	2,839,440	29.52
66	67	0.00473	95,779	453	95,552	2,743,461	28.64
67	68	0.00519	95,326	495	95,078	2,647,908	27.78
68	69	0.00550	94,831	521	94,570	2,552,830	26.92
69	70	0.00603	94,310	569	94,025	2,458,259	26.07
70	71	0.00678	93,741	636	93,423	2,364,234	25.22
71	72	0.00709	93,105	660	92,775	2,270,811	24.39
72	73	0.00764	92,445	706	92,092	2,178,035	23.56
73	74	0.00813	91,739	746	91,366	2,085,943	22.74
74	75	0.00916	90,994	833	90,577	1,994,577	21.92
75	76	0.00978	90,160	882	89,719	1,904,000	21.12
76	77	0.01092	89,278	975	88,791	1,814,280	20.32
77	78	0.01174	88,303	1,037	87,785	1,725,490	19.54
78	79	0.01295	87,266	1,130	86,701	1,637,705	18.77
79	80	0.01443	86,136	1,243	85,514	1,551,004	18.01
80	81	0.01659	84,893	1,408	84,189	1,465,489	17.26
81	82	0.01727	83,485	1,442	82,764	1,381,301	16.55
82	83	0.01942	82,043	1,594	81,246	1,298,537	15.83
83	84	0.02145	80,449	1,725	79,587	1,217,291	15.13
84	85	0.02346	78,724	1,847	77,800	1,137,704	14.45
85	86	0.02594	76,877	1,995	75,879	1,059,904	13.79
86	87	0.02865	74,882	2,146	73,809	984,025	13.14
87	88	0.03161	72,736	2,299	71,587	910,216	12.51
88	89	0.03483	70,437	2,453	69,210	838,629	11.91
89	90	0.03834	67,984	2,606	66,680	769,419	11.32
90	91	0.04215	65,377	2,755	64,000	702,738	10.75
91	92	0.04628	62,622	2,898	61,173	638,739	10.20
92	93	0.05075	59,724	3,031	58,208	577,566	9.67
93	94	0.05560	56,693	3,152	55,117	519,358	9.16
94	95	0.06083	53,541	3,257	51,912	464,241	8.67
95	96	0.06646	50,284	3,342	48,613	412,329	8.20
96	97	0.07254	46,942	3,405	45,239	363,716	7.75

Source: US Census Bureau, Population Division, 1993 Middle Series
Vital Rate Inputs (see memo text for full citation)

Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2100

Age at Beginning of Interval	Age at End of Interval	Proportion of Persons Dying During Interval	Persons Alive at Beginning of Interval	Persons Dying Within Interval	Person-Yrs Lived W/In Interval	Total Person-Yrs Lived After Beginning of Age Interval	Life Expectancy: Years of Life Remaining at Interval Start
		$Q(x)$	$I(x)$	$D(x)$	$L(x)$	$T(x)$	$E(x)$
97	98	0.07906	43,537	3,442	41,816	318,477	7.32
98	99	0.08607	40,095	3,451	38,369	276,661	6.90
99	100	0.09357	36,644	3,429	34,930	238,291	6.50
100	101	0.10159	33,215	3,374	31,528	203,362	6.12
101	102	0.11016	29,841	3,287	28,197	171,834	5.76
102	103	0.11929	26,553	3,168	24,970	143,637	5.41
103	104	0.12901	23,386	3,017	21,877	118,667	5.07
104	105	0.13932	20,369	2,838	18,950	96,790	4.75
105	106	0.15025	17,531	2,634	16,214	77,840	4.44
106	107	0.16181	14,897	2,411	13,692	61,626	4.14
107	108	0.17402	12,486	2,173	11,400	47,934	3.84
108	109	0.18688	10,314	1,927	9,350	36,534	3.54
109	110	0.20041	8,386	1,681	7,546	27,184	3.24
110	111	0.21460	6,705	1,439	5,986	19,638	2.93
111	112	0.22947	5,266	1,208	4,662	13,653	2.59
112	113	0.24500	4,058	994	3,561	8,990	2.22
113	114	0.26120	3,064	800	2,664	5,429	1.77
114	115	0.27806	2,263	629	1,949	2,766	1.22
115	116	0.29557	1,634	483	817	817	0.50