

**New York  
Metropolitan  
Transportation  
Council**

The Metropolitan Planning Organization

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# *Transportation Models and Data Initiative*

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*Technical Memorandum  
Task 8.2  
Population Model  
September 14, 1999*

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**NEW YORK METROPOLITAN TRANSPORTATION COUNCIL**

**TRANSPORTATION MODELS  
AND DATA INITIATIVE**

**TECHNICAL MEMORANDUM No. 8.2  
POPULATION MODEL**

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# **TECHNICAL MEMORANDUM No. 8.2**

## **POPULATION MODEL**

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# **Technical Memorandum No. 8.2**

## **Population Model**

### **1.1 INTRODUCTION**

#### **Background**

This memorandum describes the Population Model developed as Task 8.2 of the Transportation Models and Data Initiative. This initiative represents a major effort undertaken by the New York Metropolitan Transportation Council (NYMTC) to forecast the transportation needs of the New York Metropolitan Region<sup>1</sup> through the year 2020. The Population Model is used to forecast population trends, to the subregional level, on a five-year interval basis between 1995 and 2020.

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 8.3).

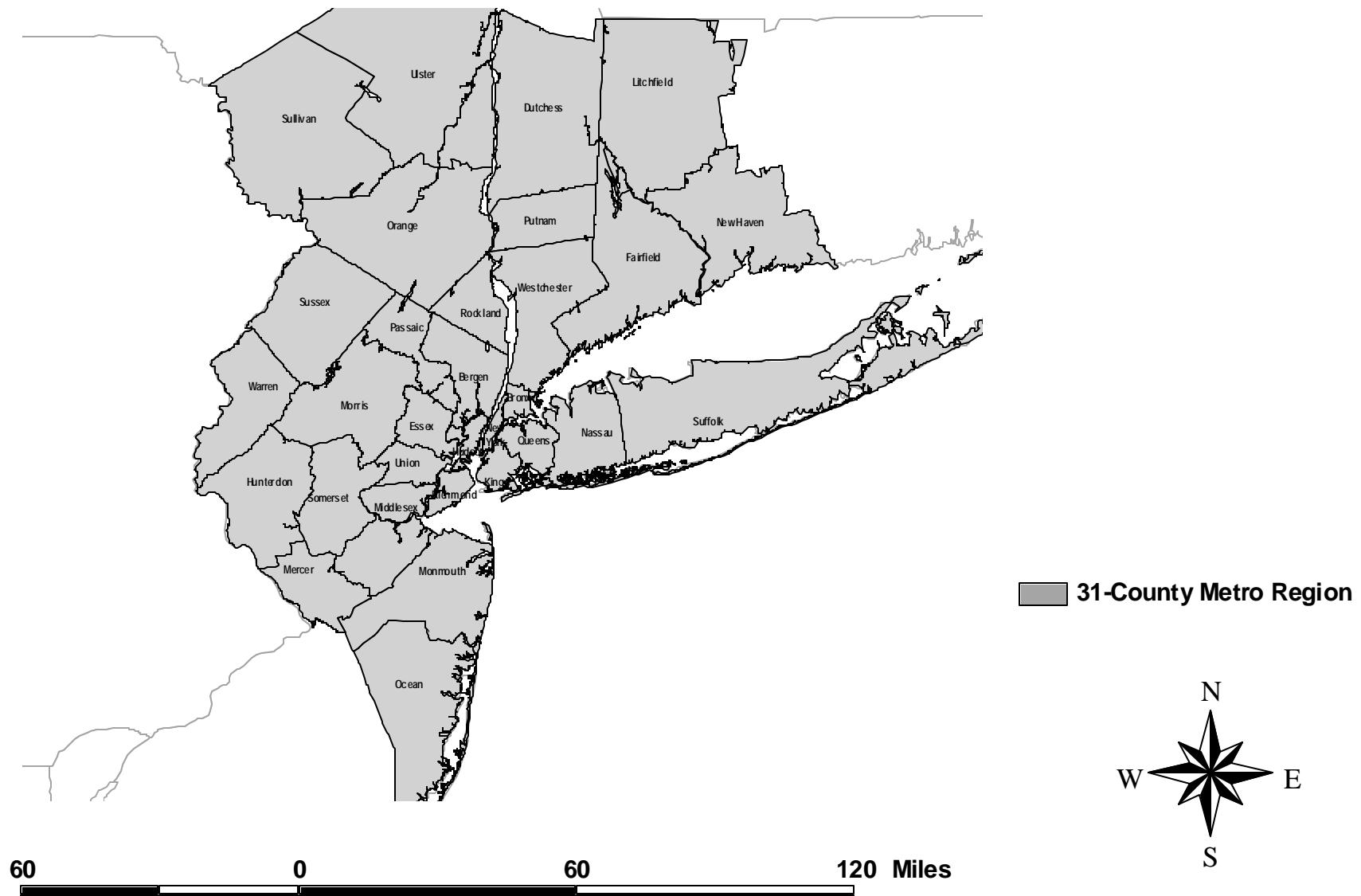
The Population Model is based on the cohort-survival technique, a standard population forecasting methodology. In this method, the population is broken into separate age/sex-specific cohorts. A separate projection is made for every cohort for each time interval, based on the cohort's population at the 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 separate outputs for each racial/ethnic group (non-Hispanic White, non-Hispanic Black,

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<sup>1</sup> 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



non-Hispanic Asian/Other, and Hispanic).<sup>2</sup> Each model includes an historical section, covering the years 1970 through 1994, and a forecast section, covering the years 1995 through 2020. All outputs are generated on a five-year interval basis. A separate forecasting routine disaggregates the subregional population forecasts to the county level.<sup>3</sup>

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 population change, and are constrained by the results of the employment and labor force forecasts, as described in Technical Memorandum 8.4. All model inputs are discussed in detail in section 1.2, below.

The Population Model is delivered to NYMTC in Microsoft Excel version 5.0 workbooks which 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.

## **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 8.2 work products. Population Modeling results and analysis are presented in a separate technical memorandum under Task 8.9.

## **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.
- Historical and forecasted survival rates by racial/ethnic group, sex and five-year age cohort.

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<sup>2</sup> See Technical Memorandum 7.3 for a further discussion of racial/ethnic groupings used for this study.

<sup>3</sup> 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.

- 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 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.

### **Survival Rates**

Tables 1 and 2 show forecasted and historical survival rates used as inputs to the population model baseline forecast. 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 forecasting 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 two future years (a short and long term projection). 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. All figures are derived from the Bureau's P-25 series of published reports, which presents the results of the Bureau's ongoing program of Population Estimates and Projections. As part of this program, the Bureau regularly prepares updated base-year and forecasted life tables. However, life tables are not prepared for all years. 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.

For the 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.<sup>4</sup> Rates for the Hispanic population were obtained from report P-25, No. 995, Projections of the Hispanic Population: 1983 to 2080.<sup>5</sup>

Forecasted survival rates 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 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). Life tables included in the file are by single-

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<sup>4</sup> US Government Printing Office, Washington, D.C., 1989, Appendix B.

<sup>5</sup> US Government Printing Office, Washington, D.C., 1986, Appendix B.

year-of-age for each racial/ethnic group, for the years 1992, 2000 and 2050.<sup>6</sup> (See Appendix 1.)

It should be noted that the Census Bureau forecasts were released as complete tables (i.e., by single year of age), not as abridged tables (i.e., by five-year age group). It was therefore necessary to calculate five-year survival rates based on the complete tables. 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 mortaility-related statistics for each age group, including 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:

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

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 three complete tables (1992, 2000 and 2050), 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 combatting 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.<sup>7</sup>

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<sup>6</sup> The data file was released on floppy diskette and contained vital rate input data not included in the printed report. Since the preparation of the population model, the above-referenced report and data file have been superseded. The new report is entitled *Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050* (Current Population Reports series P25-1130, February 1996). The corresponding data file was released at the Census Bureau's web site ([www.census.gov](http://www.census.gov)) and on floppy diskette (available from the Bureau's Population Division (301) 457-2422). It contains life tables for the years 1995, 2005, and 2050.

<sup>7</sup> 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 has subsequently fluctuated 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.<sup>8</sup>

In estimating future year survival rates, the Census 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.<sup>9</sup>

## Fertility Rates

Table 5 shows fertility rates used as inputs to both the historical and forecast sections of the population model. 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. Fertility rates are conventionally expressed as live births per thousand population within a particular group of women. 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.

## Data Sources

Historical rates were based on national-level figures and were obtained from the Census Bureau publications Current Population Reports, Series P-25, 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.

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<sup>8</sup> National Center for Health Statistics. Vital statistics of the United States, 1992, vol II, sec 6 life tables. Washington: Public Health Service. 1996.

<sup>9</sup> The preceding discussion is based on documentation contained on the above-referenced machine-readable file.

Forecasted fertility rates 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*.<sup>10</sup> This report includes high-, middle- and low-series fertility rates for the racial/ethnic and age groups used in this study. Rates are reported for every year from 1993 through 2005, and for every fifth year thereafter to 2050. All model inputs are based on middle-series figures. (See Table 4.)

The Census Bureau's middle series assumptions were adjusted downwards proportionately for Hispanics, Asians and Blacks from 2010 to 2020 because racial/ethnic minorities assume majority population status in the Region (unlike the nation) after 2010 and are expected to modify their reproductive practices more rapidly. (See Table 5.) This downward adjustment assumes a progressive stepping down of fertility by five-year interval, and is applied evenly across all age groups. (See section on Trends in Fertility Rates, below.)

Within the forecast section of the Population Model, births are estimated for each five-year time period as a whole, using the adjusted fertility 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). In the later years where no Census forecasts exist for the midpoint year, rates are interpolated from the preceding and following reported years.

### **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 rate<sup>11</sup> 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.<sup>12</sup>

Fertility rates have historically varied by a number of factors including racial group. Fertility rates for Blacks have been higher than for Whites, and have remained higher in recent years even as rates for both groups have 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.<sup>13</sup>

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<sup>10</sup> US Bureau of the Census, Current Population Report, P25-1104, US Government Printing Office, Washington, DC, 1993, Appendix A.

<sup>11</sup> The general fertility rate is defined as births per 1,000 women aged 15-44 years.

<sup>12</sup> Daugherty, Helen Ginn & Kenneth C. W. Kemmeyer, *An Introduction to Population*, New York: Guilford Press. 1995.

<sup>13</sup> US Bureau of the Census, *Statistical Abstracts of the United States: 1996* (116<sup>th</sup> edition.) Washington, DC, 1996, Table 92.

In projecting future fertility rates, the Census Bureau relies on several recent trends. First, the projections assume no race/ethnic fertility convergence. Second, since the end of Baby Boom, completed cohort fertility has remained about the same and the Bureau assumes 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 is assumed that this will continue. The Bureau assumes 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.).<sup>14</sup>

These assumptions are reflected in Table 4 by the fact that fertility rates for non-Hispanic Whites and Blacks are held constant from the base year 1993 onward, reflecting the assumed stability of recent fertility patterns. Declines for Hispanic and non-Hispanic Asian women reflect the assumed diminishing weight of foreign-born women within these groups.

As mentioned in the section on Data Sources, above, Census fertility rates for Black, Asian, and Hispanic women have been adjusted downward before input into the population model (see Table 5). In the New York Region, unlike the nation as a whole, these groups are expected to assume majority status within the forecast period. It is therefore assumed that their fertility rates will converge with those of the population as a whole more rapidly than at the national level.

## **Births**

The Population Model requires inputs of reported live births, by racial/ethnic group, for each five-year interval from 1970 through 1990, as well as estimates for the period 1990 through 1994 based on existing reported data for that period. As part of Task 7.3 historical births data were obtained from state Department of Health (DOH) sources for the years 1970 through 1990 for Connecticut, through 1991 for New Jersey, and through 1992 for New York. These data and sources are discussed in detail in that Technical Memorandum.

Births data specific to racial/ethnic groups is extremely limited for most of this period, and where reported for the most part do not include separate figures for Hispanics and Asians except for the most recent years. Therefore it was necessary within the Population Model to estimate the births for each racial/ethnic group by disaggregating the reported subregional birth totals for each period. 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 within the model 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. In some later periods (1985-89 for Connecticut and 1985-89 and 1990-94 for New York State) reliable historical birth figures were available for one or

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<sup>14</sup> Based on computer file documentation referenced in note 8, above.

more racial ethnic groups and were used as controls. Total births by racial/ethnic group were divided between male and female on a 51-49 basis.

## **Deaths**

The Population Model requires inputs of reported resident deaths, by racial/ethnic group, for each five-year interval from 1970 through 1990, as well as estimates for the period 1990 through 1994 based on existing reported data for that period. Historical resident deaths data were obtained from state Department of Health (DOH) sources as part of Task 7.3, for the years 1970 through 1990 for Connecticut, through 1991 for New Jersey, and through 1992 for New York. These data and sources are discussed in detail in that Technical Memorandum.

There were severe limits in the availability of death figures by racial/ethnic group, similar to those discussed above for births. Reported total deaths for each period were disaggregated within the model using the same methodology as that discussed above for births. The estimated racial/ethnic distribution of deaths was derived within the model for each period based on race/sex/age-specific survival rates and population figures.

## **Net Migration**

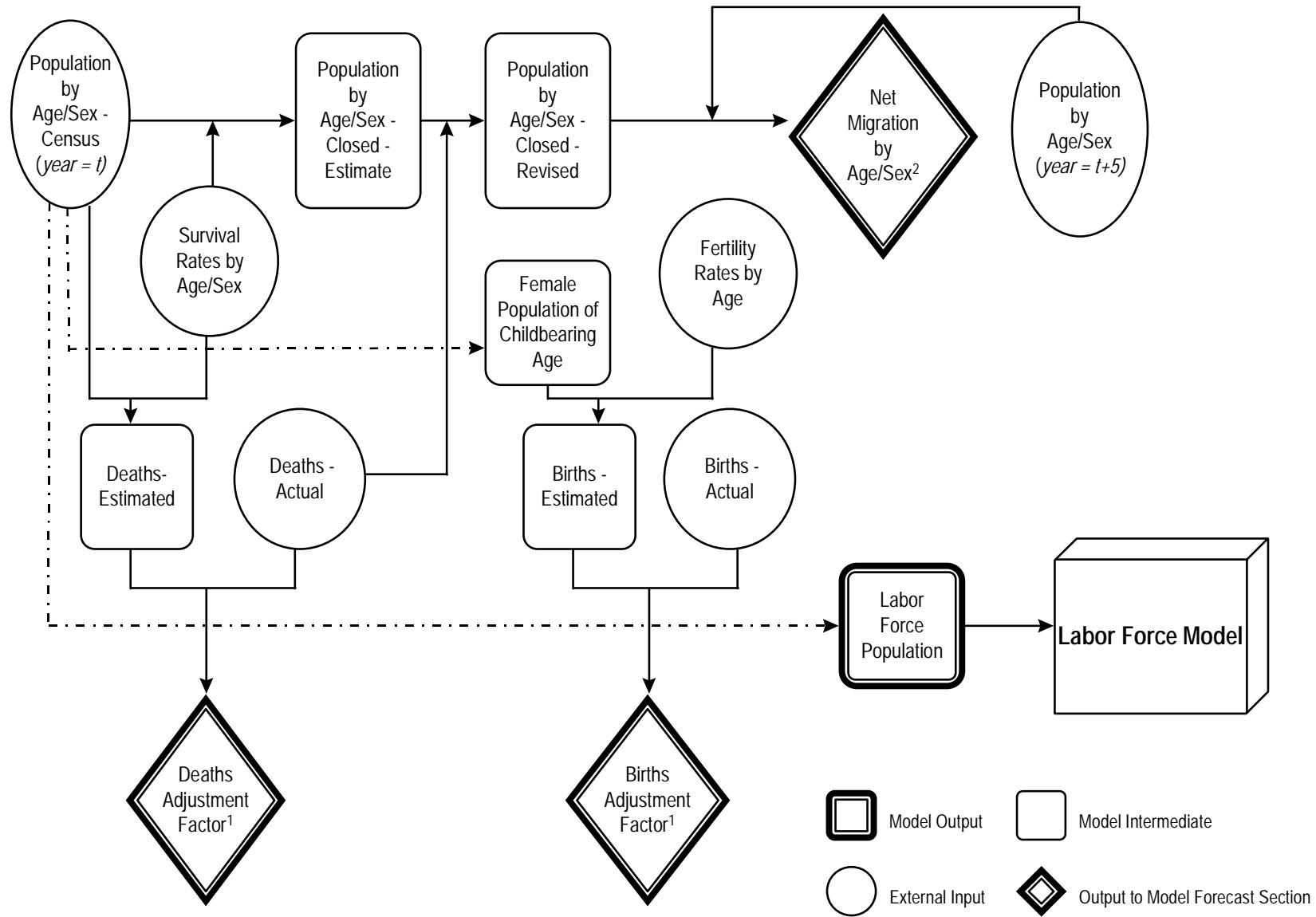
There are two components for forecasted net migration and one for historical net migration. Historical net migration is calculated within the model as the residual of the population at the end of the interval and natural increase over the interval, as discussed in section 1.3 on methodology, below. In the forecast section, 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 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.

For the period 1990 to 2000 for the New York City subregion, net migration forecasts were adopted from the New York City Department of City Planning publication "Population Projections for the Year 2000. Technical Report 1: New York City and Boroughs by Race and Hispanic Origin."

## **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

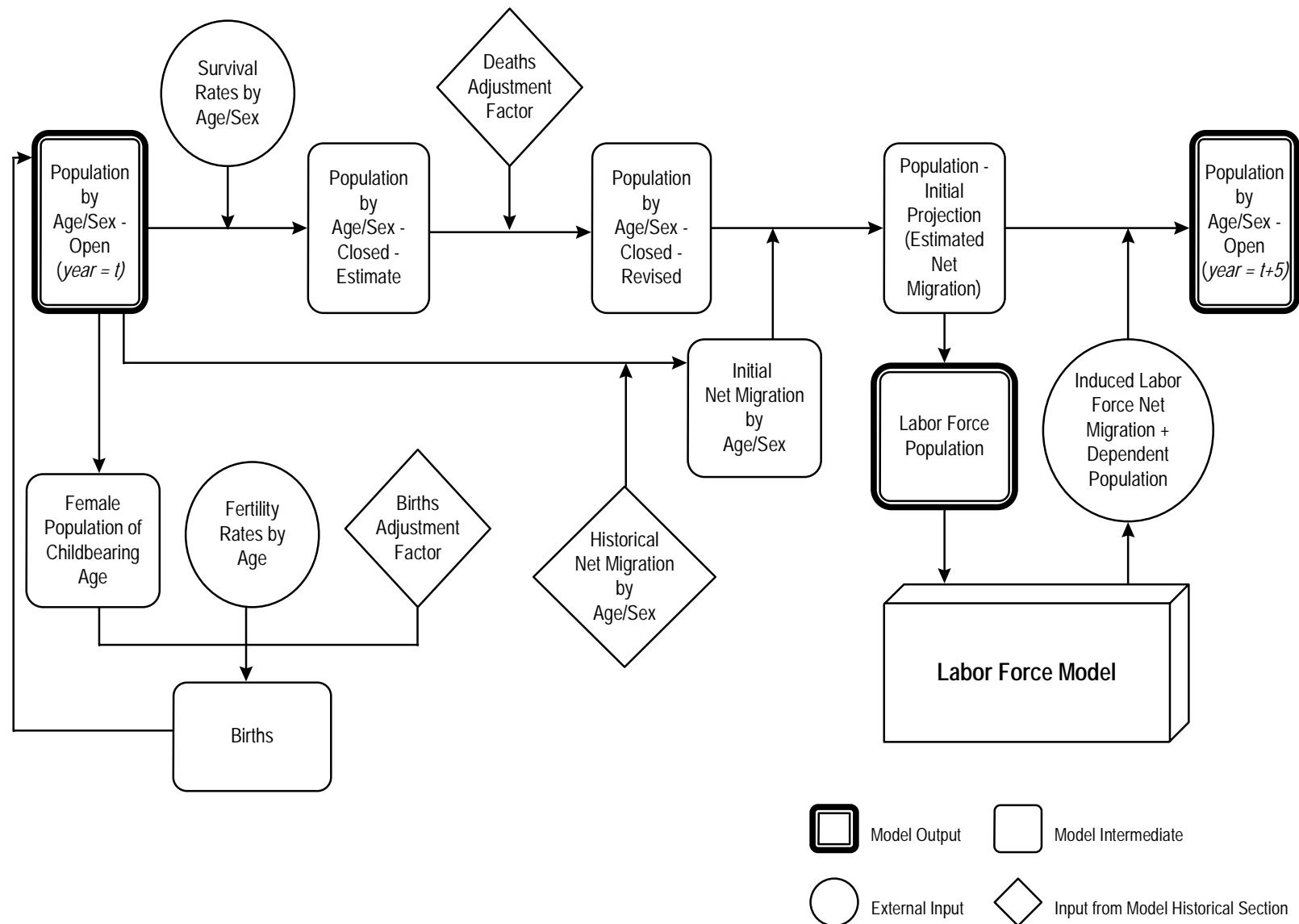
**Figure 1. Population Model - Historical Section**



<sup>1</sup>Output based on 1980 to 1995 time intervals only

<sup>2</sup>Output based on 1985 to 1990 time interval only

**Figure 2. Population Model - Forecast Section**



functionally divided into an historical and a forecast section. In the forecast section, base year 1990 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,<sup>15</sup> 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.

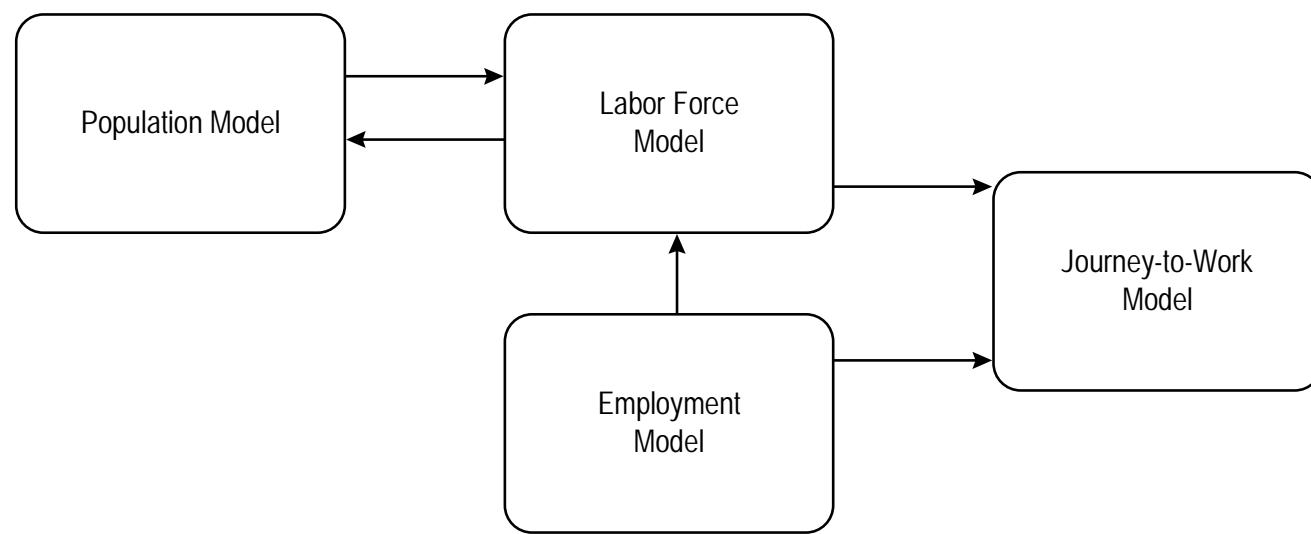
In the Population model the Cohort Survival method has been extended to account for net migration, which as discussed above is in turn assumed to respond to forecasted employment levels.

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 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

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<sup>15</sup> See section 1.2 for a discussion of vital rate inputs.

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



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 supply of "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 interpolations.

This method is used to produce forecasts, at five-year intervals, for the years 1995 through 2020.

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.

Figure 4. Sample Population Model Spreadsheet Layout

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
4		<b>Historical Section -----&gt;</b>													
5															
6	MALE WHITE NONH	1970	SURV	1975e	EST	ADJ	1975r	1970-75	1975e	SURV	1980e	EST	ADJ	1980r	1975-80
7	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR
8															
9	Births	74,003	0.988941						65724	0.988941					
10	Under 5	97,629	0.998076	73184	818	1018	72985	9743	82728	0.998076	64997	727	814	64910	2917
11	5 - 9	129,111	0.998766	97441	188	234	97396	7770	105166	0.998766	82569	159	178	82550	-1330
12	10 - 14	138,549	0.996427	128952	159	198	128913	-7347	121566	0.996427	105036	130	145	105020	-437
13	15 - 19	113,815	0.993202	138054	495	616	137934	-23319	114614	0.993202	121132	434	486	121080	-5666
14	20 - 24	66,643	0.992726	113041	774	962	112853	-33205	79648	0.992726	113835	779	873	113742	-21090
15	25 - 29	59,600	0.992840	66159	485	603	66040	3668	69709	0.992840	79068	579	649	78999	818
16	30 - 34	59,638	0.991914	59174	427	531	59070	11858	70927	0.991914	69210	499	559	69150	13067
17	35 - 39	69,631	0.989121	59155	482	600	59038	11689	70727	0.989121	70354	574	642	70285	1538
18	40 - 44	85,111	0.983169	68873	758	942	68689	4961	73650	0.983169	69958	769	862	69865	-7676
19	45 - 49	86,159	0.972103	83679	1433	1782	83330	-7413	75917	0.972103	72411	1240	1388	72262	-6587
20	50 - 54	73,113	0.953404	83755	2404	2989	83170	-8728	74441	0.953404	73799	2118	2372	73545	2225
21	55 - 59	56,753	0.926165	69706	3407	4237	68876	4046	64829	0.926165	70973	3469	3884	70557	2348
22	60 - 64	42,716	0.887075	52563	4190	5212	51542	-2384	49158	0.887075	60043	4787	5360	59469	-3869
23	65 - 69	29,306	0.831074	37892	4824	5999	36716	-2806	33911	0.831074	43607	5551	6216	42942	-4427
24	70 - 74	21,535	0.752518	24356	4951	6157	23149	614	23763	0.752518	28182	5728	6415	27496	-1505
25	75 - 79	14,098	0.656919	16206	5330	6629	14907	139	15046	0.656919	17882	5881	6586	17178	-1184
26	80 - 84	7,739	0.550193	9261	4837	6016	8082	558	8640	0.550193	9884	5162	5781	9265	276
27	85 & Over	4,397	0.430266	6150	5986	7445	4691	609	5300	0.430266	7034	6906	7733	6206	-4
28															
29	Total	1,155,544		1187601	41946	52169	1177378	-37638	1139740		1159972	45492	50943	1154521	-30586
30															
31	FEMALE WHITE NONH	1970	SURV	1975e	EST	ADJ	1975r	1970-75	1975e	SURV	1980e	EST	ADJ	1980r	1975-80
32	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR
33															
34	Births	71,100	0.991238						63146	0.991238					
35	Under 5	92,052	0.998521	70477	623	775	70326	7727	78052	0.998521	62593	553	620	62527	1525
36	5 - 9	122,452	0.999142	91916	136	169	91883	7640	99523	0.999142	77937	115	129	77923	-1329
37	10 - 14	133,051	0.998377	122347	105	131	122322	-6155	116167	0.998377	99438	85	96	99428	-146
38	15 - 19	111,862	0.997507	132835	216	269	132783	-21283	111500	0.997507	115978	189	211	115956	-4818
39	20 - 24	75,279	0.997461	111583	279	347	111515	-27904	83611	0.997461	111222	278	311	111189	-19245
40	25 - 29	69,832	0.997157	75088	191	238	75041	1359	76400	0.997157	83399	212	238	83374	-406
41	30 - 34	68,264	0.996159	69634	199	247	69585	9309	78894	0.996159	76183	217	243	76157	13367
42	35 - 39	76,857	0.994055	68002	262	326	67938	10174	78112	0.994055	78591	303	339	78555	813
43	40 - 44	90,278	0.990304	76400	457	568	76288	2994	79282	0.990304	77648	464	520	77592	-9305
44	45 - 49	87,590	0.983890	89402	875	1089	89189	-9563	79626	0.983890	78514	769	861	78421	-6760
45	50 - 54	71,829	0.973734	86179	1411	1755	85835	-9606	76229	0.973734	78343	1283	1436	78189	2440
46	55 - 59	55,914	0.958836	69943	1887	2347	69483	-4118	65365	0.958836	74227	2002	2242	73987	829
47	60 - 64	44,564	0.936974	53613	2302	2663	53052	-1834	51217	0.936974	62674	2691	3013	62352	-4482
48	65 - 69	36,819	0.905257	41756	2809	3493	41071	32	41103	0.905257	47989	3228	3615	47602	-2216
49	70 - 74	31,670	0.856425	33331	3488	4339	32481	1435	33916	0.856425	37208	3894	4361	36742	-581
50	75 - 79	22,466	0.780294	27123	4547	5655	26015	-725	25290	0.780294	29046	4869	5453	28463	-349
51	80 - 84	13,749	0.676511	17530	4936	6139	16327	641	16969	0.676511	19734	5556	6222	19068	1120
52	85 & Over	8,437	0.541456	13870	8316	10343	11843	327	12170	0.541456	18069	11070	12396	16742	-839
53															
54	Total	1,212,967		1251029	33039	41092	1242976	-39550	1203426		1228793	37780	42307	1224266	-30381
55															
56	POPULATION	2,368,512		2,438,630	74,985	93,260	2,420,354	(77,188)	2,343,166		2,388,765	83,271	93,249	2,378,787	(60,967)
57															
58															

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

Figure 4-1

Figure 4. Sample Population Model Spreadsheet Layout

	A	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
4															
5															
6	MALE WHITE NONH	1980	SURV	1985e	EST	ADJ	1985r	1980-85	1985e	SURV	1990e	EST	ADJ	1990r	1985-90
7	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR
8															
9	Births	65609	0.988941						71864	0.988941					
10	Under 5	67,827	0.998076	64884	726	783	64826	5388	70214	0.998076	71069	795	821	71043	1558
11	5 - 9	81,220	0.998766	67697	130	141	67686	6171	73857	0.998766	70079	135	140	70074	-3580
12	10 - 14	104,583	0.996427	81120	100	108	81112	5378	86490	0.996427	73766	91	94	73763	-5366
13	15 - 19	115,414	0.993202	104209	374	403	104180	-9615	94565	0.993202	86181	309	319	86171	-12455
14	20 - 24	92,652	0.992726	114629	785	847	114567	-28037	86531	0.992726	93922	643	664	93901	-13492
15	25 - 29	79,817	0.992840	91978	674	728	91924	-7971	83953	0.992840	85901	629	650	85880	2209
16	30 - 34	82,217	0.991914	79246	571	617	79200	7405	86606	0.991914	83352	601	621	83332	7662
17	35 - 39	71,823	0.989121	81552	665	718	81499	-3352	78147	0.989121	85905	700	723	85882	-1411
18	40 - 44	62,189	0.983169	71042	781	843	70980	980	71960	0.983169	77297	850	878	77269	4461
19	45 - 49	65,675	0.972103	61142	1047	1130	61059	5144	66204	0.972103	70748	1211	1251	70708	-3976
20	50 - 54	75,770	0.953404	63843	1832	1978	63697	2184	65881	0.953404	64357	1847	1908	64296	-8304
21	55 - 59	72,905	0.926165	72239	3531	3811	71959	7447	64512	0.926165	62811	3070	3171	62710	6591
22	60 - 64	55,600	0.887075	67522	5383	5811	67094	-10110	56985	0.887075	59749	4763	4920	59592	-1223
23	65 - 69	38,515	0.831074	49321	6279	6778	48822	-5025	43798	0.831074	50550	6435	6647	50337	-1257
24	70 - 74	25,991	0.752518	32009	6506	7023	31492	-1490	30002	0.752518	36399	7399	7643	36155	-2143
25	75 - 79	15,994	0.656919	19559	6432	6944	19047	-340	18707	0.656919	22577	7425	7670	22332	-912
26	80 - 84	9,541	0.550193	10507	5487	5923	10071	541	10612	0.550193	12289	6418	6630	12077	-395
27	85 & Over	6,202	0.430266	7918	7825	8447	7296	-648	6648	0.430266	8699	8560	8843	8416	-1323
28															
29	Total	1123935		1140416	49128	53033	1136512	-40844	1095668		1115650	51882	53594	1113938	-46538
30															
31	FEMALE WHITE NONH	1980	SURV	1985e	EST	ADJ	1985r	1980-85	1985e	SURV	1990e	EST	ADJ	1990r	1985-90
32	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	MIDPOINT	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR
33															
34	Births	63037	0.991238						69046	0.991238					
35	Under 5	64052	0.998521	62484	552	596	62440	3944	66384	0.998521	68441	605	625	68421	295
36	5 - 9	76594	0.999142	63957	95	102	63950	5705	69655	0.999142	66286	98	101	66283	-3568
37	10 - 14	99282	0.998377	76528	66	71	76523	5265	81788	0.998377	69595	60	62	69593	-5299
38	15 - 19	111138	0.997507	99121	161	174	99108	-8652	90456	0.997507	81655	133	137	81651	-11877
39	20 - 24	91944	0.997461	110861	277	299	110839	-26157	84682	0.997461	90230	226	233	90223	-12804
40	25 - 29	82968	0.997157	91711	233	252	91692	-7134	84558	0.997157	84466	215	222	84459	1689
41	30 - 34	89524	0.996159	82732	236	255	82713	7744	90457	0.996159	84318	240	248	84310	7080
42	35 - 39	79368	0.994055	89180	344	371	89153	-5987	83166	0.994055	90110	347	359	90098	-3135
43	40 - 44	68287	0.990304	78896	472	509	78859	-1190	77669	0.990304	82671	494	511	82655	4396
44	45 - 49	71661	0.983890	67625	662	715	67572	4582	72154	0.983890	76916	753	778	76891	-4244
45	50 - 54	80629	0.973734	70507	1154	1246	70415	447	70862	0.973734	70992	1162	1201	70953	-9858
46	55 - 59	74816	0.958836	78511	2118	2286	78343	-10452	67891	0.958836	69001	1861	1923	68939	-7973
47	60 - 64	57870	0.936974	71736	3080	3325	71491	-10894	60598	0.936974	65096	2795	2887	65004	-1679
48	65 - 69	45386	0.905257	54223	3647	3937	53933	-3123	50810	0.905257	56778	3819	3945	56652	-419
49	70 - 74	36161	0.856425	41086	4300	4642	40744	-1082	39662	0.856425	45996	4814	4973	45837	-2674
50	75 - 79	28114	0.780294	30969	5192	5604	30557	-196	30361	0.780294	33968	5694	5882	33780	-1173
51	80 - 84	20188	0.676511	21937	6177	6668	21446	195	21641	0.676511	23690	6670	6891	23470	-376
52	85 & Over	15903	0.541456	22268	13823	14922	21169	-2730	18439	0.541456	24624	15456	15966	24114	-3139
53															
54	Total	1193885		1214333	42589	45974	1210948	-49718	1161230		1184832	45443	46943	1183333	-54758
55															
56	POPULATION	2,317,820		2,354,749	91,717	99,007	2,347,459	(90,562)	2,256,898		2,300,482	97,325	100,537	2,297,270	(101,295)
57															
58															

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

Figure 4-2

Figure 4. Sample Population Model Spreadsheet Layout

	A	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
4	<b>Forecast Section -----&gt;</b>														
5			1992												
6	MALE WHITE NONH	1990	SURV	1995e	EST	ADJ	1995r	1990-95e	+1990-95	1990-95r	1995	SURV	2000e	EST	ADJ
7	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS
8															
9	Births	75122	0.99257								63053	0.99381			
10	Under 5	72601	0.99832	74564	558	554	74568	1635		1635	76203	0.99858	62662	390	404
11	5 - 9	66494	0.99891	72479	122	121	72480	-3703		-3703	68777	0.99907	76095	108	112
12	10 - 14	68397	0.99649	66421	73	72	66422	-4832		-4832	61590	0.99675	68713	64	66
13	15 - 19	73716	0.99348	68157	240	238	68159	-9851		-9851	58307	0.99369	61390	200	207
14	20 - 24	80409	0.99313	73235	481	478	73238	-10523	-161	-10685	62554	0.99305	57939	368	380
15	25 - 29	88089	0.99262	79856	553	549	79860	2054	-228	1826	81686	0.99146	62119	435	450
16	30 - 34	90994	0.99000	87439	650	646	87443	8040	-228	7812	95255	0.98769	80988	698	722
17	35 - 39	84471	0.98669	90084	910	904	90090	-1480	-227	-1708	88382	0.98520	94082	1173	1213
18	40 - 44	81730	0.98273	83347	1124	1117	83354	4813	-227	4585	87939	0.98282	87074	1308	1353
19	45 - 49	66732	0.97441	80319	1411	1402	80328	-4517	-170	-4688	75641	0.97646	86429	1511	1563
20	50 - 54	55924	0.95873	65024	1708	1696	65036	-8399	-170	-8570	56466	0.96272	73860	1781	1841
21	55 - 59	56119	0.93329	53681	2311	2295	53697	5644	-128	5772	47926	0.93879	54361	2105	2177
22	60 - 64	58369	0.89747	52375	3744	3718	52401	-1075	-128	-1203	51198	0.90639	44992	2934	3034
23	65 - 69	49080	0.84726	52384	5985	5943	52426	-1309		-1309	51116	0.86085	46406	4792	4956
24	70 - 74	34012	0.77186	41584	7496	7445	41635	-2468		-2468	39168	0.78733	44004	7113	7356
25	75 - 79	21420	0.66673	26252	7760	7706	26306	-1074		-1074	25232	0.67995	30838	8330	8614
26	80 - 84	11682	0.53474	14281	7139	7089	14331	-469		-469	13862	0.54848	17157	8076	8352
27	85 & Over	7093	0.42882	9288	9487	9421	9354	-1471		-1471	7884	0.44975	11149	10597	10959
28	Total	1067400		1090772	51750	51392	1091130	-40274	-1670	-41943	1049187		1060257	51982	53758
29															
30															
31	FEMALE WHITE NONH	1990	SURV	1995e	EST	ADJ	1995r	1990-95e	+1990-95	1990-95r	1995	SURV	2000e	EST	ADJ
32	POPULATION	CENSUS	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS
33															
34	Births	72177	0.99389								60580	0.99495			
35	Under 5	68716	0.99872	71736	441	438	71739	309		309	72048	0.99891	60274	306	317
36	5 - 9	62715	0.99928	68628	88	87	68629	-3694		-3694	64935	0.99937	71970	78	81
37	10 - 14	64294	0.99839	62670	45	45	62670	-4772		-4772	57898	0.99845	64894	41	43
38	15 - 19	69774	0.99762	64190	104	103	64191	-9337		-9337	54854	0.99776	57809	90	93
39	20 - 24	77419	0.99762	69608	166	165	69609	-9879	-154	-10032	59576	0.99777	54731	123	127
40	25 - 29	86148	0.99718	77235	184	183	77236	1544	-221	1323	78559	0.99724	59444	133	137
41	30 - 34	91390	0.99614	85905	243	241	85907	7214	-221	6993	92900	0.99628	78342	217	224
42	35 - 39	86963	0.99434	91037	353	350	91040	-3168	-230	-3398	87642	0.99482	92554	346	358
43	40 - 44	87051	0.99110	86471	492	489	86474	4599	-230	4369	90844	0.99195	87188	454	469
44	45 - 49	72647	0.98548	86276	775	769	86282	-4762	-184	-4947	81335	0.98649	90113	731	756
45	50 - 54	61095	0.97555	71592	1055	1047	71600	-9948	-184	-10132	61467	0.97672	80236	1099	1136
46	55 - 59	60966	0.95991	59602	1493	1483	59612	-6895	-141	-7036	52576	0.96121	60036	1431	1480
47	60 - 64	63325	0.93893	58522	2444	2427	58539	-1512	-141	-1653	56885	0.94060	50537	2039	2109
48	65 - 69	56233	0.90832	59458	3867	3840	59485	-440		-440	59044	0.91102	53506	3379	3494
49	70 - 74	43163	0.86009	51078	5155	5120	51113	-2982		-2982	48132	0.86472	53791	5254	5433
50	75 - 79	32607	0.78383	37124	6039	5997	37166	-1290		-1290	35876	0.79192	41620	6511	6734
51	80 - 84	23094	0.66701	25558	7049	7000	25607	-410		-410	25197	0.68069	28411	7465	7720
52	85 & Over	20975	0.57178	27397	16672	16557	27512	-3582		-3582	23931	0.59488	31387	17740	18347
53															
54	Total	1128575		1154087	46665	46342	1154409	-49002	-1708	-50710	1103699		1116842	47437	49058
55															
56	POPULATION	2,195,975		2,244,859	98,415	97,734	2,245,540	(89,276)	(3,377)	(92,654)	2,152,886		2,177,099	99,420	102,816
57															
58					15 YR:	1.034165									

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

Figure 4-3

Figure 4. Sample Population Model Spreadsheet Layout

	A	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG
4																	
5																	
6	MALE WHITE NONH	2000r	1995-00e	+1995-00	1995-00r	2000	SURV	2005e	EST	ADJ	2005r	2000-05e	+2000-05	2000-05r	2005	SURV	2010e
7	POPULATION	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED
8																	
9	Births					53889	0.99468									46,597	0.99499
10	Under 5	62649	1374		1374	64023	0.99876	53602	287	297	53592	1175			1175	54,767	0.99883
11	5 - 9	76091	-3888		-3888	72203	0.99919	63943	79	82	63941	-3267			-3267	60,674	0.99925
12	10 - 14	68710	-4998		-4998	63712	0.99696	72145	59	61	72143	-5248			-5248	66,895	0.99710
13	15 - 19	61383	-8872		-8872	52511	0.99396	63518	194	200	63512	-9180			-9180	54,332	0.99432
14	20 - 24	57927	-8451	330	-8121	49806	0.99317	52194	317	328	52183	-7316	873		-6442	45,741	0.99360
15	25 - 29	62104	1420	506	1925	64030	0.99089	49466	340	352	49454	1533	1173		2706	52,160	0.99121
16	30 - 34	80964	7233	506	7739	88703	0.98644	63446	583	603	63426	6062	1173		7235	70,661	0.98678
17	35 - 39	94042	-1783	614	-1169	92873	0.98443	87500	1203	1244	87459	-1087	1785		698	88,157	0.98475
18	40 - 44	87029	4787	614	5401	92430	0.98301	91427	1446	1496	91377	5671	1785		7456	98,833	0.98336
19	45 - 49	86377	-5041	485	-4556	81821	0.97798	90860	1570	1624	90806	-4790	1518		-3272	87,535	0.97869
20	50 - 54	73799	-9724	485	-9240	64559	0.96588	80019	1802	1863	79958	-10011	1518		-8493	71,465	0.96779
21	55 - 59	54289	5835	308	5527	48762	0.94340	62357	2203	2278	62282	-6341	984		-5357	56,925	0.94667
22	60 - 64	44892	-1031	308	-723	44169	0.91349	46002	2760	2854	45908	-739	984		245	46,153	0.91784
23	65 - 69	46242	-1155		-1155	45087	0.87163	40348	3821	3952	40217	-1004			-1004	39,213	0.87819
24	70 - 74	43761	-2594		-2594	41167	0.80052	39299	5788	5986	39102	-2317			-2317	36,784	0.81029
25	75 - 79	30554	-1247		-1247	29306	0.69206	32955	8212	8492	32675	-1334			-1334	31,341	0.70251
26	80 - 84	16881	-552		-552	16328	0.56149	20282	9025	9333	19973	-654			-654	19,320	0.57341
27	85 & Over	10787	-1696		-1696	9091	0.46994	13440	11979	12368	13031	-2049			-2049	10,982	0.48901
28	Total	1058481	-42053	4154	-37899	1020582		1022804	51667	53433	1021038	-40895	11793		-29102	991,937	
29																	987087
30																	
31	FEMALE WHITE NONH	2000r	1995-00e	+1995-00	1995-00r	2000	SURV	2005e	EST	ADJ	2005r	2000-05e	+2000-05	2000-05r	2005	SURV	2010e
32	POPULATION	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED
33																	
34	Births					51776	0.99568								44,770	0.99593	
35	Under 5	60264	260		260	60523	0.99905	51552	224	231	51544	222			222	51,767	0.99911
36	5 - 9	71967	-3874		-3874	68093	0.99943	60466	57	59	60464	-3254			-3254	57,210	0.99947
37	10 - 14	64892	-4941		-4941	59951	0.99851	68055	39	40	68053	-5182			-5182	62,872	0.99857
38	15 - 19	57806	-8408		-8408	49397	0.99788	59862	89	92	59859	-8707			-8707	51,152	0.99798
39	20 - 24	54727	-7887	312	-7575	47152	0.99791	49293	105	108	49289	-6822	827		-5996	43,293	0.99803
40	25 - 29	59439	1018	484	1502	60941	0.99731	47053	99	102	47050	1189	1113		2302	49,351	0.99740
41	30 - 34	78335	6377	484	6861	85196	0.99641	60777	164	170	60772	5323	1113		6435	67,207	0.99654
42	35 - 39	92543	-3454	602	-2852	88691	0.99521	84890	306	316	84880	-2616	1719		-897	83,983	0.99544
43	40 - 44	87172	4404	602	5007	92179	0.99264	89261	430	445	89246	5126	1719		6845	96,091	0.99308
44	45 - 49	90088	-5165	513	-4652	85435	0.98740	91501	678	701	91478	-4724	1554		-3170	88,308	0.98815
45	50 - 54	80199	-11349	513	-10837	69362	0.97784	84359	1077	1113	84322	-11394	1554		-9840	74,482	0.97891
46	55 - 59	59987	-7080	340	-6740	53247	0.96250	67825	1537	1589	67773	-7615	1073		-6542	61,231	0.96378
47	60 - 64	50467	-1425	340	-1085	49381	0.94225	51250	1997	2065	51182	-1101	1073		-28	51,154	0.94388
48	65 - 69	53391	-395		-395	52996	0.91362	46530	2852	2949	46432	-344			-344	46,089	0.91605
49	70 - 74	53611	-3127		-3127	50484	0.86906	48418	4578	4734	48262	-2815			-2815	45,446	0.87297
50	75 - 79	41398	-1437		-1437	39961	0.79939	43874	6610	6836	43648	-1515			-1515	42,133	0.80592
51	80 - 84	28156	-451		-451	27705	0.69325	31944	8016	8290	31671	-507			-507	31,163	0.70414
52	85 & Over	30781	-4007		-4007	26774	0.61653	35713	18765	19406	35072	-4566			-4566	30,507	0.63601
53																	41346
54	Total	1115222	-50942	4190	-46753	1068469		1072623	47622	49249	1070996	-49302	11745		-37558	1,033,438	
55																	1030415
56	POPULATION	2,173,703	(92,995)	8,343	(84,652)	2,089,051		2,095,427	99,289	102,681	2,092,034	-90197	23537	-66659	2,025,375		2017502
57																	
58																	

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

Figure 4-4

Figure 4. Sample Population Model Spreadsheet Layout

	A	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR
4												
5												
6	MALE WHITE NONH	EST	ADJ	2010r	2005-10e	+2005-10	2005-10r	2010	SURV	2015e	EST	ADJ
7	POPULATION	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS
8												
9	Births							43,055	0.99530			
10	Under 5	234	242	46356	1017		1017	47,372	0.99891	42852	202	209
11	5 - 9	64	66	54701	-2795		-2795	51,906	0.99930	47321	52	54
12	10 - 14	46	47	60626	-4410		-4410	56,216	0.99724	51870	36	37
13	15 - 19	194	201	66694	-9640		-9640	57,054	0.99469	56061	155	161
14	20 - 24	308	319	54013	-6668	603	-6065	47,948	0.99402	56751	303	314
15	25 - 29	293	303	45438	2486	672	3158	48,596	0.99153	47661	287	297
16	30 - 34	458	474	51686	5896	672	6568	58,253	0.98713	48184	411	426
17	35 - 39	934	966	69696	556	1045	1601	71,297	0.98506	57504	750	775
18	40 - 44	1345	1391	86766	7080	1045	8125	94,891	0.98371	70232	1065	1101
19	45 - 49	1644	1701	97133	-3500	1084	-2416	94,717	0.97941	93345	1546	1598
20	50 - 54	1865	1929	85606	-9093	1084	-8009	77,597	0.96969	92766	1950	2017
21	55 - 59	2302	2381	69084	-5942	746	5196	63,888	0.94994	75245	2352	2432
22	60 - 64	3036	3140	53785	287	746	1033	54,818	0.92219	60690	3198	3307
23	65 - 69	3792	3922	42231	-1055		-1055	41,176	0.88475	50553	4266	4411
24	70 - 74	4776	4940	34273	-2031		-2031	32,242	0.82005	36431	4745	4907
25	75 - 79	6978	7217	29567	-1207		-1207	28,360	0.71297	26440	5802	6000
26	80 - 84	9324	9642	21699	-710		-710	20,989	0.58533	20220	8140	8419
27	85 & Over	13854	14327	15975	-2511		-2511	13,464	0.50808	19126	15327	15850
28												
29	Total	51447	53205	985329	-32241	7697	-24544	960,785		953253	50587	52316
30												
31	FEMALE WHITE NONH	EST	ADJ	2010r	2005-10e	+2005-10	2005-10r	2010	SURV	2015e	EST	ADJ
32	POPULATION	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS
33												
34	Births						41,366	0.99618				
35	Under 5	182	188	44582	192		192	44,774	0.99917	41209	158	163
36	5 - 9	46	48	51719	-2784		-2784	48,935	0.99951	44737	37	39
37	10 - 14	30	31	57178	-4354		-4354	52,825	0.99862	48911	24	25
38	15 - 19	90	93	62779	-9132		-9132	53,647	0.99809	52752	73	75
39	20 - 24	103	107	51045	-6209	571	-5638	45,407	0.99816	53544	103	106
40	25 - 29	85	88	43205	2114	635	2749	45,954	0.99750	45323	84	87
41	30 - 34	128	132	49219	5212	635	5847	55,066	0.99667	45839	115	119
42	35 - 39	232	240	66967	-707	995	288	67,254	0.99568	54883	183	190
43	40 - 44	383	396	83587	6411	995	7406	90,993	0.99352	66964	291	300
44	45 - 49	665	687	95404	-3306	1077	-2229	93,175	0.98891	90404	589	610
45	50 - 54	1046	1082	87226	-10178	1077	-9101	78,124	0.97998	92141	1034	1069
46	55 - 59	1571	1624	72858	-7033	794	-6239	66,620	0.96506	76561	1564	1617
47	60 - 64	2218	2293	58937	-32	794	762	59,700	0.94551	64292	2327	2407
48	65 - 69	2871	2969	48186	-357		-357	47,829	0.91849	56447	3253	3364
49	70 - 74	3869	4001	42088	-2455		-2455	39,633	0.87688	43930	3899	4032
50	75 - 79	5773	5970	39476	-1370		-1370	38,106	0.81244	34753	4879	5046
51	80 - 84	8177	8457	33676	-539		-539	33,137	0.71503	30959	7147	7391
52	85 & Over	20324	21018	40652	-5292		-5292	35,359	0.65549	46872	21625	22363
53												
54	Total	47793	49426	1028782	-39820	7575	-32245	996,537		990519	47384	49003
55												
56	POPULATION	99240	102,631	2014112	-72061	15271	-56790	1,957,322		1943772	97971	101,319
57												
58												

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

Figure 4-5

Figure 4. Sample Population Model Spreadsheet Layout

	A	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF
4															
5															
6	MALE WHITE NONH	2015r	2010-15e	+2010-15	2010-15r	2015	SURV	2020e	EST	ADJ	2020r	2015-20e	+2015-20	2015-20r	2020
7	POPULATION	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN
8															
9	Births						41,587	0.99561							0
10	Under 5	42846	940		940	43,785	0.99898	41404	182	189	41398	908		908	42,306
11	5 - 9	47319	-2418		-2418	44,901	0.99936	43740	45	46	43739	-2235		-2235	41,504
12	10 - 14	51869	-3773		-3773	48,096	0.99738	44872	29	30	44871	-3264		-3264	41,607
13	15 - 19	56055	-8102		-8102	47,953	0.99505	47970	126	131	47965	-6933		-6933	41,033
14	20 - 24	56741	-6371	-13	-6385	50,356	0.99444	47716	237	246	47708	-5368	432	-4936	42,772
15	25 - 29	47651	3312	-14	3298	50,949	0.99185	50076	280	289	50067	3465	564	4029	54,096
16	30 - 34	48170	6121	-14	6107	54,277	0.98748	50534	415	429	50520	6405	564	6969	57,489
17	35 - 39	57478	1321	-18	1303	58,781	0.98538	53598	680	703	53574	1214	603	1817	55,391
18	40 - 44	70196	6573	-18	6555	76,751	0.98406	57922	859	889	57892	5406	603	6009	63,901
19	45 - 49	93292	-2321	-23	-2344	90,948	0.98012	75527	1223	1265	75485	-1896	788	-1109	74,377
20	50 - 54	92700	-8673	-23	-8696	84,004	0.97159	89141	1808	1869	89079	-8356	788	-7569	81,510
21	55 - 59	75164	-5653	-17	-5670	69,494	0.95321	81617	2387	2468	81535	-6151	729	5422	76,113
22	60 - 64	60581	1164	-17	1147	61,727	0.92654	66242	3251	3362	66131	1252	729	1980	68,112
23	65 - 69	50407	-1259		-1259	49,148	0.89132	57193	4535	4690	57038	-1424		-1424	55,613
24	70 - 74	36269	-2150		-2150	34,119	0.82982	43807	5342	5524	43624	-2585		-2585	41,039
25	75 - 79	26242	-1071		-1071	25,171	0.72342	28313	5807	6005	28114	-1148		-1148	26,967
26	80 - 84	19942	-653		-653	19,289	0.59725	18209	6962	7200	17971	-588		-588	17,383
27	85 & Over	18602	-2924		-2924	15,678	0.52716	19785	15182	15701	19267	-3029		-3029	16,238
28															
29	Total	951524	-25938	-159	-26097	925,428		917666	49348	51034	915980	-24329	5799	-18530	897,450
30															
31	FEMALE WHITE NONH	2015r	2010-15e	+2010-15	2010-15r	2015	SURV	2020e	EST	ADJ	2020r	2015-20e	+2015-20	2015-20r	2020
32	POPULATION	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN	RATE	CLOSED	DEATHS	DEATHS	CLOSED	NET MIGR	NET MIGR	NET MIGR	OPEN
33															
34	Births					39,956	0.99644								0
35	Under 5	41203	178		178	41,381	0.99922	39814	142	147	39809	172		172	39,980
36	5 - 9	44735	-2408		-2408	42,328	0.99954	41349	32	33	41348	-2225		-2225	39,122
37	10 - 14	48910	-3724		-3724	45,186	0.99868	42308	19	20	42308	-3221		-3221	39,086
38	15 - 19	52749	-7673		-7673	45,076	0.99819	45126	60	62	45124	-6564		-6564	38,561
39	20 - 24	53541	-5914	-13	-5927	47,614	0.99828	44995	82	84	44992	-4980	409	-4572	40,420
40	25 - 29	45320	2883	-13	2870	48,191	0.99759	47532	82	85	47529	3010	533	3543	51,072
41	30 - 34	45835	5445	-13	5432	51,267	0.99680	48075	116	120	48071	5697	533	6229	54,300
42	35 - 39	54876	236	-17	219	55,095	0.99592	51103	164	170	51098	204	567	770	51,868
43	40 - 44	66954	5932	-17	5915	72,869	0.99396	54870	225	233	54862	4847	567	5414	60,276
44	45 - 49	90384	-2111	-23	-2134	88,249	0.98966	72429	440	455	72414	-1710	760	-950	71,464
45	50 - 54	92106	-9610	-23	-9633	82,473	0.98105	87337	912	944	87306	-9131	760	-8371	78,935
46	55 - 59	76507	-6551	-18	-6569	69,938	0.96634	80910	1563	1616	80857	-6942	726	-6216	74,641
47	60 - 64	64213	830	-18	812	65,025	0.94715	67584	2354	2434	67504	854	726	1580	69,084
48	65 - 69	56336	-417		-417	55,919	0.92092	61588	3437	3554	61471	-455		-455	61,016
49	70 - 74	43797	-2555		-2555	41,242	0.88079	51497	4422	4573	51346	-2995		-2995	48,351
50	75 - 79	34586	-1201		-1201	33,386	0.81897	36326	4916	5084	36158	-1255		-1255	34,903
51	80 - 84	30715	-492		-492	30,223	0.72592	27342	6044	6250	27135	-435		-435	26,701
52	85 & Over	46133	-6006		-6006	40,127	0.67497	49024	21326	22054	48296	-6287		-6287	42,008
53															
54	Total	988901	-33157	-154	-33311	955,589		949209	46336	47919	947626	-31418	5580	-25838	921,788
55															
56	POPULATION	1940425	-59095	-313	-59408	1,881,017		1866875	95684	98,953	1863606	-55747	11379	-44368	1,819,238
57															
58															

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

Figure 4-6

Figure 4. Sample Population Model Spreadsheet Layout

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
60	LONG ISLAND WHITE NONHISPANIC BIRTHS PROJECTION/ACTUALS, 1970 TO 2020C														
61				1970-75						1978					
62	FEMALE	1970	BIRTH	1970-75						1975	BIRTH	1975-80			
63	POPULATION	CENSUS	RATE	BIRTHS						CLOSED	RATE	BIRTHS			
64															
65	10 - 14	133,051	0.80	532					116,167	0.80	465				
66	15 - 19	111,862	32.78	183,34					111,500	38.49	21,458				
67	20 - 24	75,279	108.18	40,718					83,611	107.05	44,753				
68	25 - 29	69,832	122.44	42,751					76,400	116.10	44,350				
69	30 - 34	68,264	63.78	21,770					78,894	64.32	25,372				
70	35 - 39	76,857	25.22	9,692					78,112	23.17	9,049				
71	40 - 44	90,278	6.00	2,708					79,282	4.82	1,911				
72	45 - 49	87,590	0.10	44					79,626	0.10	40	10 YR:			
73															
74	Total	713,013		136,549					703,593		147,398	283,948			
75															
76	Actual			145,103							128,870	273,973			
77	Adj Factor			1.062642							0.874298	0.964872			

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

Figure 4-7

Figure 4. Sample Population Model Spreadsheet Layout

	A	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC
60	LONG ISLAND WHITE N		1983							1988					
61															
62	FEMALE	1980	BIRTH	1980-85					1985	BIRTH	1985-90				
63	POPULATION	CENSUS	RATE	BIRTHS					CLOSED	RATE	BIRTHS				
64															
65	10 - 14	99282	0.80	397					81788	0.50	204				
66	15 - 19	111138	44.20	24561					90456	41.70	18,860				
67	20 - 24	91944	105.92	48694					84682	102.10	43,230				
68	25 - 29	82968	109.76	45533					84558	110.70	46,803				
69	30 - 34	89524	64.86	29033					90457	70.60	31,931				
70	35 - 39	79368	21.12	8381					83166	23.90	9,938				
71	40 - 44	68287	3.64	1243					77669	4.30	1,670				
72	45 - 49	71661	0.10	36					72154	0.10	36	10 YR:			
73															
74	Total	694172		157878					664929		152,673	310550			
75															
76	Actual			128646							140,910	269556			
77	Adj Factor			0.814847							0.922954	0.867994			

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

Figure 4-8

Figure 4. Sample Population Model Spreadsheet Layout

	A	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ
60	LONG ISLAND WHITE N														
61				1993									1998		
62	FEMALE	1990	BIRTH	1990-95								1995	BIRTH	1995-00	
63	POPULATION	OPEN	RATE	BIRTHS								OPEN	RATE	BIRTHS	
64															
65	10 - 14	64294	0.50	161							57898	0.50	145		
66	15 - 19	69774	42.50	14827							54854	42.50	11656		
67	20 - 24	77419	99.20	38400							59576	99.20	29550		
68	25 - 29	86148	113.40	48846							78559	113.40	44543		
69	30 - 34	91390	78.30	35779							92900	78.30	36370		
70	35 - 39	86963	29.70	12914							87642	29.70	13015		
71	40 - 44	87051	4.70	2046							90844	4.70	2135		
72	45 - 49	72647	0.20	73	15 YR:						81335	0.20	81		
73															
74	Total	635686		153045	463595						603609		137496		
75															
76	Actual			147299	416855								123633		
77	Adj Factor			0.962456	0.899178								0.899178		

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

Figure 4-9

Figure 4. Sample Population Model Spreadsheet Layout

	A	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG
60	LONG ISLAND WHITE N																
61							2003									2008	
62	FEMALE					2000	BIRTH	2000-05								BIRTH	2005-10
63	POPULATION					OPEN	RATE	BIRTHS								OPEN	BIRTHS
64																	
65	10 - 14					59951	0.50	150							62872	0.50	157
66	15 - 19					49397	42.50	10497							51152	42.50	10870
67	20 - 24					47152	99.20	23387							43293	99.20	21473
68	25 - 29					60941	113.40	34554							49351	113.40	27982
69	30 - 34					85196	78.30	33354							67207	78.30	26312
70	35 - 39					89691	29.70	13319							83983	29.70	12471
71	40 - 44					92179	4.70	2166							96091	4.70	2258
72	45 - 49					85435	0.20	85							88308	0.20	88
73																	
74	Total					569942		117512							542257		101612
75																	
76	Actual							105665									91367
77	Adj Factor							0.899178									0.899178

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

Figure 4-10

Figure 4. Sample Population Model Spreadsheet Layout

	A	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR
60	LONG ISLAND WHITE N											
61									2013			
62	FEMALE							2010	BIRTH	2010-15		
63	POPULATION							OPEN	RATE	BIRTHS		
64												
65	10 - 14							52825	0.50	132		
66	15 - 19							53647	42.50	11400		
67	20 - 24							45407	99.20	22522		
68	25 - 29							45954	113.40	26056		
69	30 - 34							55066	78.30	21558		
70	35 - 39							67254	29.70	9987		
71	40 - 44							90993	4.70	2138		
72	45 - 49							93175	0.20	93		
73												
74	Total							504321		93887		
75												
76	Actual									84421		
77	Adj Factor									0.899178		

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

Figure 4-11

Figure 4. Sample Population Model Spreadsheet Layout

	A	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF
60	LONG ISLAND WHITE N							2018							
61							2015	BIRTH	2015-20						
62	FEMALE						OPEN	RATE	BIRTHS						
63	POPULATION														
64															
65	10 - 14					45186	0.50	113							
66	15 - 19					45076	42.50	9579							
67	20 - 24					47614	99.20	23616							
68	25 - 29					48191	113.40	27324							
69	30 - 34					51267	78.30	20071							
70	35 - 39					55095	29.70	8182							
71	40 - 44					72869	4.70	1712							
72	45 - 49					88249	0.20	88							
73															
74	Total					453548		90686							
75															
76	Actual							81543							
77	Adj Factor							0.899178							

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

Figure 4-12

## 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 1985 to 1990 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.<sup>16</sup>

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<sup>16</sup> 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

### **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 account for inaccuracies in 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 for the mid-point of each interval.<sup>17</sup> 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.

### **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

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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.

<sup>17</sup> All data inputs are discussed in section 1.2, above.

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 input as the youngest age cohort 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:

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

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:

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

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 Closed
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 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.

The first component of net migration (net migration unrelated to labor force demands) for Hispanics, Asian, and Blacks was adjusted downwards from 2010 to 2020 because of the expected growth in the importance of these groups within the New York Region's labor market and the consequent shift in migration emphasis to work-related causes. The decrease was assumed to be progressive from the year 2010 onward and distributed evenly by age group.

## **1.4 DISAGGREGATION OF SUBREGIONAL FORECASTS TO COUNTY LEVEL**

Total population (without racial/ethnic, gender or age breakdowns) was forecasted for each of the Region's thirty-one counties under the baseline scenario. County-level forecasts were made by disaggregating subregional figures for each forecast year, based on separate projections for each county. Unlike the subregional forecasts, county-level projections were not produced using a component method (i.e., through estimation of births, deaths, and net migration). Rather, they were developed using SPSS software to determine linear, cubic and quadratic equations best fitting historical trends in total population for each county, based on annual population data from the period 1970 through 1994.<sup>18</sup> In this method, historical total population is plotted by year and SPSS software is then used to determine the equation type that best fits the historical data points. Projected population is the dependent variable, and the independent variables are expressions of past population growth as a function of time. 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. To address this limitation, some projections were modified, in consultation with local planning agencies, based on local population forecasts. Proposed model enhancements may further 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 version 5.0 workbooks which combine the Population and Labor Force Models. Within each

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<sup>18</sup> See Technical Memorandum 7.3 for historical population figures.

workbook, racial/ethnic submodels are included on separate worksheets. Because of their numerous points of interaction, the Population and Labor Force submodels for each group appear on the same worksheet. 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 tables and appendix presented in this report are also delivered in Microsoft Excel workbooks. Figures are delivered as Microsoft Word files, with the exception of Figure 4, which is in Excel format.

Summary and analysis of Population Model results are included in Technical Memorandum 8.9.

**Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group, 1992 to 2050**

[Values for 1992, 2000, 2050 calculated from complete life table (Appx. 1), other years interpolated. All figures are for US as a whole.]

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
-----	------	------	------	------	------	------	------	------	------	------	------	------	------

**White Males**

Births	0.99257	0.99331	0.99381	0.99455	0.99468	0.99486	0.99499	0.99518	0.99530	0.99549	0.99561	0.99580	0.99768
Under 5	0.99832	0.99847	0.99858	0.99873	0.99876	0.99880	0.99883	0.99888	0.99891	0.99895	0.99898	0.99902	0.99947
5 to 9	0.99891	0.99901	0.99907	0.99917	0.99919	0.99922	0.99925	0.99928	0.99930	0.99934	0.99936	0.99939	0.99973
10 to 14	0.99649	0.99665	0.99675	0.99690	0.99696	0.99704	0.99710	0.99718	0.99724	0.99732	0.99738	0.99746	0.99829
15 to 19	0.99348	0.99360	0.99369	0.99382	0.99396	0.99418	0.99432	0.99454	0.99469	0.99490	0.99505	0.99527	0.99744
20 to 24	0.99313	0.99308	0.99305	0.99300	0.99317	0.99343	0.99360	0.99385	0.99402	0.99427	0.99444	0.99470	0.99725
25 to 29	0.99262	0.99192	0.99146	0.99076	0.99089	0.99108	0.99121	0.99140	0.99153	0.99173	0.99185	0.99205	0.99398
30 to 34	0.99000	0.98861	0.98769	0.98630	0.98644	0.98665	0.98678	0.98699	0.98713	0.98734	0.98748	0.98769	0.98977
35 to 39	0.98669	0.98579	0.98520	0.98430	0.98443	0.98462	0.98475	0.98494	0.98506	0.98526	0.98538	0.98557	0.98748
40 to 44	0.98273	0.98278	0.98282	0.98287	0.98301	0.98322	0.98336	0.98357	0.98371	0.98392	0.98406	0.98427	0.98637
45 to 49	0.97441	0.97564	0.97646	0.97769	0.97798	0.97841	0.97869	0.97912	0.97941	0.97984	0.98012	0.98055	0.98484
50 to 54	0.95873	0.96113	0.96272	0.96512	0.96588	0.96702	0.96779	0.96893	0.96969	0.97083	0.97159	0.97273	0.98415
55 to 59	0.93329	0.93659	0.93879	0.94209	0.94340	0.94536	0.94667	0.94863	0.94994	0.95191	0.95321	0.95518	0.97481
60 to 64	0.89747	0.90282	0.90639	0.91175	0.91349	0.91610	0.91784	0.92045	0.92219	0.92480	0.92654	0.92915	0.95524
65 to 69	0.84726	0.85542	0.86085	0.86900	0.87163	0.87557	0.87819	0.88213	0.88475	0.88869	0.89132	0.89525	0.93463
70 to 74	0.77186	0.78114	0.78733	0.79662	0.80052	0.80638	0.81029	0.81615	0.82005	0.82591	0.82982	0.83568	0.89427
75 to 80	0.66673	0.67466	0.67995	0.68787	0.69206	0.69833	0.70251	0.70878	0.71297	0.71924	0.72342	0.72969	0.79242
80 to 84	0.53474	0.54298	0.54848	0.55672	0.56149	0.56864	0.57341	0.58056	0.58533	0.59248	0.59725	0.60440	0.67594
85+	0.42882	0.44138	0.44975	0.46231	0.46994	0.48138	0.48901	0.50046	0.50808	0.51953	0.52716	0.53860	0.65304

**White Females**

Births	0.99389	0.99452	0.99495	0.99558	0.99568	0.99583	0.99593	0.99608	0.99618	0.99634	0.99644	0.99659	0.99810
Under 5	0.99872	0.99883	0.99891	0.99903	0.99905	0.99909	0.99911	0.99914	0.99917	0.99920	0.99922	0.99926	0.99961
5 to 9	0.99928	0.99933	0.99937	0.99942	0.99943	0.99945	0.99947	0.99949	0.99951	0.99953	0.99954	0.99957	0.99979
10 to 14	0.99839	0.99843	0.99845	0.99849	0.99851	0.99854	0.99857	0.99860	0.99862	0.99865	0.99868	0.99871	0.99903
15 to 19	0.99762	0.99770	0.99776	0.99784	0.99788	0.99794	0.99798	0.99804	0.99809	0.99815	0.99819	0.99825	0.99887
20 to 24	0.99762	0.99771	0.99777	0.99786	0.99791	0.99798	0.99803	0.99811	0.99816	0.99823	0.99828	0.99836	0.99910
25 to 29	0.99718	0.99722	0.99724	0.99727	0.99731	0.99737	0.99740	0.99746	0.99750	0.99756	0.99759	0.99765	0.99822
30 to 34	0.99614	0.99622	0.99628	0.99636	0.99641	0.99649	0.99654	0.99662	0.99667	0.99675	0.99680	0.99687	0.99764
35 to 39	0.99434	0.99463	0.99482	0.99511	0.99521	0.99535	0.99544	0.99559	0.99568	0.99582	0.99592	0.99606	0.99748
40 to 44	0.99110	0.99161	0.99195	0.99247	0.99264	0.99291	0.99308	0.99335	0.99352	0.99379	0.99396	0.99423	0.99687
45 to 49	0.98548	0.98609	0.98649	0.98710	0.98740	0.98785	0.98815	0.98860	0.98891	0.98936	0.98966	0.99011	0.99464
50 to 54	0.97555	0.97625	0.97672	0.97742	0.97784	0.97849	0.97891	0.97956	0.97998	0.98063	0.98105	0.98170	0.98811
55 to 59	0.95991	0.96069	0.96121	0.96199	0.96250	0.96327	0.96378	0.96455	0.96506	0.96583	0.96634	0.96711	0.97480
60 to 64	0.93893	0.93993	0.94060	0.94160	0.94225	0.94323	0.94388	0.94486	0.94551	0.94649	0.94715	0.94812	0.95791
65 to 69	0.90832	0.90994	0.91102	0.91265	0.91362	0.91508	0.91605	0.91751	0.91849	0.91995	0.92092	0.92238	0.93699
70 to 74	0.86009	0.86287	0.86472	0.86750	0.86906	0.87141	0.87297	0.87532	0.87688	0.87923	0.88079	0.88314	0.90660
75 to 80	0.78383	0.78869	0.79192	0.79678	0.79939	0.80331	0.80592	0.80983	0.81244	0.81636	0.81897	0.82289	0.86204
80 to 84	0.66701	0.67522	0.68069	0.68890	0.69325	0.69979	0.70414	0.71068	0.71503	0.72157	0.72592	0.73245	0.79779
85+	0.57178	0.58564	0.59488	0.60874	0.61653	0.62822	0.63601	0.64770	0.65549	0.66718	0.67497	0.68666	0.80354

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

See memo text for methodology.

Table 1-1

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group, 1992 to 2050

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
-----	------	------	------	------	------	------	------	------	------	------	------	------	------

**Black Males**

Births	0.98158	0.98251	0.98314	0.98407	0.98444	0.98500	0.98537	0.98593	0.98630	0.98686	0.98723	0.98779	0.99336
Under 5	0.99699	0.99709	0.99716	0.99726	0.99733	0.99743	0.99750	0.99761	0.99768	0.99778	0.99785	0.99796	0.99900
5 to 9	0.99857	0.99862	0.99865	0.99870	0.99873	0.99876	0.99879	0.99883	0.99885	0.99889	0.99892	0.99896	0.99934
10 to 14	0.99345	0.99274	0.99226	0.99154	0.99164	0.99180	0.99190	0.99206	0.99217	0.99232	0.99243	0.99259	0.99416
15 to 19	0.98544	0.98354	0.98227	0.98038	0.98060	0.98093	0.98115	0.98149	0.98171	0.98204	0.98226	0.98260	0.98593
20 to 24	0.98378	0.98208	0.98095	0.97925	0.97942	0.97969	0.97987	0.98014	0.98032	0.98059	0.98077	0.98104	0.98372
25 to 29	0.98248	0.97987	0.97813	0.97552	0.97580	0.97622	0.97649	0.97691	0.97719	0.97761	0.97789	0.97831	0.98249
30 to 34	0.97601	0.97152	0.96852	0.96403	0.96451	0.96524	0.96572	0.96644	0.96692	0.96764	0.96812	0.96884	0.97606
35 to 39	0.96881	0.96469	0.96195	0.95783	0.95826	0.95890	0.95932	0.95996	0.96038	0.96102	0.96145	0.96209	0.96846
40 to 44	0.95997	0.95688	0.95483	0.95174	0.95221	0.95291	0.95337	0.95407	0.95454	0.95523	0.95570	0.95640	0.96338
45 to 49	0.94635	0.94576	0.94537	0.94478	0.94539	0.94629	0.94689	0.94779	0.94840	0.94930	0.94990	0.95080	0.95983
50 to 54	0.92225	0.92440	0.92583	0.92798	0.92913	0.93085	0.93199	0.93371	0.93485	0.93657	0.93771	0.93943	0.95660
55 to 59	0.88723	0.89023	0.89224	0.89524	0.89697	0.89957	0.90130	0.90389	0.90562	0.90822	0.90995	0.91255	0.93850
60 to 64	0.84081	0.84417	0.84641	0.84977	0.85141	0.85386	0.85549	0.85794	0.85958	0.86203	0.86366	0.86611	0.89063
65 to 69	0.78478	0.78886	0.79158	0.79566	0.79792	0.80131	0.80356	0.80695	0.80921	0.81260	0.81486	0.81825	0.85213
70 to 74	0.71862	0.72175	0.72383	0.72695	0.72910	0.73232	0.73447	0.73770	0.73985	0.74307	0.74522	0.74845	0.78071
75 to 80	0.63821	0.63640	0.63519	0.63338	0.63414	0.63528	0.63604	0.63717	0.63793	0.63907	0.63983	0.64097	0.65235
80 to 84	0.56164	0.56599	0.56889	0.57324	0.57331	0.57342	0.57350	0.57361	0.57368	0.57380	0.57387	0.57398	0.57509
85+	0.53172	0.55464	0.56992	0.59283	0.59428	0.59646	0.59792	0.60010	0.60155	0.60373	0.60518	0.60736	0.62916

**Black Females**

Births	0.98439	0.98524	0.98580	0.98665	0.98698	0.98746	0.98779	0.98828	0.98860	0.98909	0.98942	0.98991	0.99479
Under 5	0.99754	0.99762	0.99768	0.99775	0.99781	0.99790	0.99796	0.99805	0.99811	0.99820	0.99826	0.99835	0.99924
5 to 9	0.99869	0.99870	0.99871	0.99873	0.99875	0.99879	0.99882	0.99886	0.99888	0.99892	0.99895	0.99899	0.99938
10 to 14	0.99783	0.99787	0.99789	0.99793	0.99793	0.99795	0.99796	0.99797	0.99798	0.99799	0.99800	0.99801	0.99814
15 to 19	0.99625	0.99614	0.99607	0.99597	0.99601	0.99606	0.99610	0.99616	0.99619	0.99625	0.99628	0.99634	0.99689
20 to 24	0.99485	0.99460	0.99444	0.99419	0.99424	0.99431	0.99435	0.99442	0.99447	0.99454	0.99458	0.99465	0.99534
25 to 29	0.99282	0.99207	0.99156	0.99081	0.99089	0.99101	0.99109	0.99121	0.99128	0.99140	0.99148	0.99160	0.99280
30 to 34	0.98910	0.98791	0.98712	0.98594	0.98606	0.98624	0.98636	0.98654	0.98667	0.98685	0.98697	0.98715	0.98896
35 to 39	0.98460	0.98406	0.98370	0.98317	0.98328	0.98345	0.98356	0.98373	0.98384	0.98401	0.98412	0.98429	0.98596
40 to 44	0.97910	0.97933	0.97949	0.97973	0.97992	0.98022	0.98041	0.98071	0.98091	0.98120	0.98140	0.98170	0.98465
45 to 49	0.96948	0.97043	0.97107	0.97202	0.97250	0.97320	0.97368	0.97439	0.97486	0.97557	0.97604	0.97675	0.98383
50 to 54	0.95427	0.95568	0.95662	0.95802	0.95871	0.95973	0.96041	0.96143	0.96211	0.96313	0.96382	0.96484	0.97506
55 to 59	0.93105	0.93185	0.93238	0.93318	0.93388	0.93494	0.93565	0.93670	0.93741	0.93847	0.93917	0.94023	0.95082
60 to 64	0.89805	0.89775	0.89755	0.89726	0.89758	0.89807	0.89839	0.89888	0.89921	0.89969	0.90002	0.90051	0.90539
65 to 69	0.86365	0.86497	0.86585	0.86716	0.86735	0.86764	0.86783	0.86811	0.86830	0.86859	0.86878	0.86906	0.87190
70 to 74	0.81886	0.82244	0.82483	0.82842	0.82967	0.83155	0.83281	0.83469	0.83594	0.83782	0.83908	0.84096	0.85977
75 to 80	0.75373	0.75431	0.75470	0.75528	0.75626	0.75774	0.75872	0.76020	0.76118	0.76266	0.76364	0.76512	0.77987
80 to 84	0.67785	0.68158	0.68407	0.68780	0.68820	0.68880	0.68920	0.68979	0.69019	0.69079	0.69119	0.69178	0.69775
85+	0.65436	0.66977	0.68004	0.69546	0.69921	0.70485	0.70860	0.71424	0.71799	0.72363	0.72739	0.73302	0.78936

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

See memo text for methodology.

Table 1-2

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group, 1992 to 2050

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
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Asian Males

Births	0.99483	0.99535	0.99569	0.99621	0.99628	0.99637	0.99644	0.99654	0.99660	0.99670	0.99677	0.99687	0.99785
Under 5	0.99866	0.99880	0.99888	0.99902	0.99903	0.99906	0.99908	0.99910	0.99912	0.99914	0.99916	0.99919	0.99944
5 to 9	0.99940	0.99946	0.99950	0.99956	0.99956	0.99957	0.99958	0.99959	0.99960	0.99961	0.99961	0.99963	0.99973
10 to 14	0.99789	0.99798	0.99803	0.99812	0.99814	0.99817	0.99819	0.99822	0.99824	0.99828	0.99830	0.99833	0.99865
15 to 19	0.99643	0.99661	0.99674	0.99692	0.99697	0.99705	0.99710	0.99717	0.99722	0.99730	0.99735	0.99742	0.99818
20 to 24	0.99601	0.99622	0.99636	0.99656	0.99662	0.99670	0.99675	0.99683	0.99688	0.99696	0.99702	0.99710	0.99790
25 to 29	0.99496	0.99494	0.99492	0.99489	0.99492	0.99496	0.99499	0.99503	0.99506	0.99510	0.99513	0.99518	0.99560
30 to 34	0.99311	0.99282	0.99263	0.99234	0.99237	0.99241	0.99244	0.99249	0.99251	0.99256	0.99259	0.99263	0.99306
35 to 39	0.99196	0.99186	0.99180	0.99170	0.99171	0.99171	0.99172	0.99173	0.99173	0.99174	0.99175	0.99175	0.99183
40 to 44	0.98981	0.99025	0.99054	0.99098	0.99098	0.99099	0.99099	0.99100	0.99100	0.99100	0.99101	0.99101	0.99106
45 to 49	0.98332	0.98441	0.98513	0.98622	0.98637	0.98660	0.98675	0.98697	0.98713	0.98735	0.98750	0.98773	0.99000
50 to 54	0.97649	0.97799	0.97899	0.98049	0.98073	0.98111	0.98136	0.98173	0.98198	0.98235	0.98260	0.98298	0.98671
55 to 59	0.96096	0.96302	0.96439	0.96645	0.96690	0.96756	0.96801	0.96868	0.96912	0.96979	0.97024	0.97090	0.97758
60 to 64	0.93829	0.94170	0.94397	0.94737	0.94808	0.94914	0.94984	0.95090	0.95161	0.95267	0.95337	0.95443	0.96501
65 to 69	0.90319	0.90861	0.91223	0.91765	0.91877	0.92044	0.92156	0.92323	0.92435	0.92602	0.92714	0.92881	0.94556
70 to 74	0.84694	0.85355	0.85796	0.86457	0.86636	0.86904	0.87083	0.87351	0.87530	0.87799	0.87977	0.88246	0.90929
75 to 80	0.78876	0.79435	0.79808	0.80366	0.80551	0.80828	0.81012	0.81289	0.81474	0.81751	0.81935	0.82212	0.84980
80 to 84	0.70632	0.71246	0.71655	0.72268	0.72481	0.72799	0.73011	0.73329	0.73541	0.73859	0.74071	0.74389	0.77570
85+	0.67852	0.68935	0.69657	0.70740	0.71119	0.71688	0.72067	0.72636	0.73015	0.73584	0.73963	0.74532	0.80221

Asian Females

Births	0.99666	0.99701	0.99724	0.99759	0.99763	0.99769	0.99773	0.99779	0.99783	0.99790	0.99794	0.99800	0.99861
Under 5	0.99873	0.99885	0.99893	0.99905	0.99907	0.99910	0.99911	0.99914	0.99915	0.99918	0.99920	0.99922	0.99948
5 to 9	0.99925	0.99931	0.99934	0.99940	0.99941	0.99942	0.99943	0.99945	0.99946	0.99947	0.99948	0.99950	0.99965
10 to 14	0.99900	0.99903	0.99905	0.99908	0.99909	0.99910	0.99911	0.99913	0.99914	0.99915	0.99916	0.99918	0.99933
15 to 19	0.99891	0.99896	0.99899	0.99904	0.99905	0.99907	0.99909	0.99911	0.99912	0.99914	0.99915	0.99917	0.99937
20 to 24	0.99894	0.99899	0.99903	0.99909	0.99910	0.99913	0.99914	0.99917	0.99918	0.99921	0.99922	0.99925	0.99949
25 to 29	0.99822	0.99827	0.99830	0.99835	0.99836	0.99838	0.99839	0.99841	0.99842	0.99844	0.99845	0.99847	0.99865
30 to 34	0.99650	0.99663	0.99671	0.99684	0.99687	0.99692	0.99694	0.99699	0.99701	0.99706	0.99709	0.99713	0.99756
35 to 39	0.99457	0.99488	0.99509	0.99540	0.99546	0.99555	0.99560	0.99569	0.99574	0.99583	0.99589	0.99597	0.99682
40 to 44	0.99327	0.99368	0.99394	0.99435	0.99442	0.99454	0.99462	0.99473	0.99481	0.99493	0.99501	0.99512	0.99628
45 to 49	0.99149	0.99193	0.99221	0.99265	0.99276	0.99293	0.99304	0.99321	0.99333	0.99349	0.99361	0.99378	0.99547
50 to 54	0.98195	0.98260	0.98304	0.98369	0.98389	0.98419	0.98439	0.98469	0.98489	0.98519	0.98539	0.98569	0.98869
55 to 59	0.97269	0.97339	0.97385	0.97455	0.97477	0.97511	0.97534	0.97568	0.97591	0.97625	0.97647	0.97681	0.98021
60 to 64	0.96418	0.96488	0.96536	0.96606	0.96631	0.96667	0.96691	0.96727	0.96751	0.96787	0.96811	0.96847	0.97207
65 to 69	0.94749	0.94855	0.94926	0.95031	0.95067	0.95121	0.95157	0.95211	0.95246	0.95300	0.95336	0.95390	0.95928
70 to 74	0.91530	0.91715	0.91838	0.92023	0.92085	0.92178	0.92240	0.92333	0.92395	0.92488	0.92550	0.92643	0.93574
75 to 80	0.86913	0.87232	0.87444	0.87762	0.87868	0.88026	0.88132	0.88290	0.88395	0.88554	0.88659	0.88818	0.90401
80 to 84	0.80186	0.80731	0.81095	0.81641	0.81820	0.82088	0.82267	0.82536	0.82715	0.82983	0.83162	0.83430	0.86114
85+	0.80114	0.81173	0.81879	0.82939	0.83294	0.83827	0.84183	0.84716	0.85072	0.85605	0.85961	0.86494	0.91827

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

See memo text for methodology.

Table 1-3

Table 1. Survival Rates by Racial/Ethnic Group, Sex & Five-Year Age Group, 1992 to 2050

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
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Hispanic Males

Births	0.9911	0.9920	0.9926	0.9934	0.9936	0.9937	0.9938	0.9940	0.9941	0.9943	0.9944	0.9946	0.9963
Under 5	0.9981	0.9982	0.9982	0.9984	0.9984	0.9984	0.9985	0.9985	0.9986	0.9986	0.9986	0.9987	0.9992
5 to 9	0.9991	0.9991	0.9992	0.9992	0.9992	0.9992	0.9993	0.9993	0.9993	0.9993	0.9994	0.9994	0.9997
10 to 14	0.9957	0.9959	0.9961	0.9963	0.9963	0.9964	0.9965	0.9966	0.9966	0.9967	0.9967	0.9968	0.9976
15 to 19	0.9917	0.9916	0.9915	0.9914	0.9916	0.9919	0.9921	0.9923	0.9925	0.9928	0.9930	0.9933	0.9961
20 to 24	0.9904	0.9899	0.9895	0.9890	0.9892	0.9896	0.9898	0.9902	0.9904	0.9908	0.9910	0.9914	0.9949
25 to 29	0.9888	0.9870	0.9859	0.9841	0.9844	0.9847	0.9850	0.9853	0.9856	0.9859	0.9862	0.9866	0.9902
30 to 34	0.9864	0.9834	0.9814	0.9783	0.9787	0.9791	0.9794	0.9799	0.9802	0.9807	0.9810	0.9815	0.9861
35 to 39	0.9828	0.9804	0.9788	0.9764	0.9767	0.9772	0.9775	0.9779	0.9782	0.9786	0.9789	0.9794	0.9839
40 to 44	0.9805	0.9790	0.9780	0.9765	0.9767	0.9770	0.9772	0.9775	0.9777	0.9780	0.9783	0.9786	0.9818
45 to 49	0.9737	0.9738	0.9739	0.9741	0.9743	0.9746	0.9748	0.9751	0.9753	0.9756	0.9758	0.9761	0.9793
50 to 54	0.9633	0.9648	0.9658	0.9673	0.9677	0.9683	0.9687	0.9692	0.9696	0.9702	0.9706	0.9712	0.9770
55 to 59	0.9461	0.9480	0.9493	0.9513	0.9520	0.9531	0.9538	0.9549	0.9556	0.9567	0.9574	0.9585	0.9693
60 to 64	0.9211	0.9246	0.9269	0.9303	0.9313	0.9328	0.9338	0.9353	0.9363	0.9378	0.9387	0.9402	0.9551
65 to 69	0.8864	0.8918	0.8955	0.9010	0.9024	0.9045	0.9059	0.9079	0.9093	0.9114	0.9128	0.9149	0.9357
70 to 74	0.8315	0.8380	0.8423	0.8488	0.8509	0.8540	0.8560	0.8591	0.8612	0.8642	0.8663	0.8694	0.9002
75 to 80	0.7528	0.7584	0.7621	0.7677	0.7698	0.7731	0.7753	0.7785	0.7807	0.7839	0.7861	0.7894	0.8219
80 to 84	0.6558	0.6621	0.6664	0.6727	0.6752	0.6789	0.6814	0.6851	0.6876	0.6914	0.6938	0.6976	0.7349
85+	0.6152	0.6261	0.6333	0.6442	0.6484	0.6546	0.6588	0.6650	0.6691	0.6754	0.6795	0.6858	0.7482

Hispanic Females

Births	0.99281	0.99355	0.99404	0.99477	0.99486	0.99499	0.99508	0.99522	0.99531	0.99544	0.99553	0.99566	0.99700
Under 5	0.99852	0.99861	0.99866	0.99875	0.99878	0.99881	0.99884	0.99888	0.99890	0.99894	0.99897	0.99900	0.99939
5 to 9	0.99927	0.99930	0.99932	0.99934	0.99936	0.99938	0.99939	0.99941	0.99943	0.99945	0.99946	0.99948	0.99969
10 to 14	0.99850	0.99853	0.99855	0.99858	0.99860	0.99862	0.99863	0.99865	0.99866	0.99869	0.99870	0.99872	0.99893
15 to 19	0.99790	0.99809	0.99822	0.99841	0.99843	0.99845	0.99847	0.99849	0.99850	0.99853	0.99854	0.99856	0.99879
20 to 24	0.99763	0.99774	0.99781	0.99793	0.99796	0.99801	0.99805	0.99810	0.99814	0.99819	0.99822	0.99827	0.99880
25 to 29	0.99685	0.99654	0.99633	0.99602	0.99608	0.99617	0.99624	0.99633	0.99639	0.99649	0.99655	0.99664	0.99757
30 to 34	0.99604	0.99565	0.99538	0.99499	0.99506	0.99517	0.99524	0.99535	0.99542	0.99553	0.99560	0.99571	0.99679
35 to 39	0.99443	0.99430	0.99422	0.99409	0.99419	0.99433	0.99443	0.99457	0.99467	0.99482	0.99491	0.99506	0.99652
40 to 44	0.99189	0.99196	0.99201	0.99208	0.99224	0.99247	0.99262	0.99285	0.99301	0.99324	0.99339	0.99362	0.99593
45 to 49	0.98720	0.98759	0.98785	0.98825	0.98845	0.98876	0.98897	0.98927	0.98948	0.98979	0.98999	0.99030	0.99339
50 to 54	0.98044	0.98112	0.98157	0.98225	0.98248	0.98282	0.98305	0.98340	0.98363	0.98397	0.98420	0.98455	0.98800
55 to 59	0.96999	0.97064	0.97108	0.97172	0.97198	0.97235	0.97260	0.97298	0.97323	0.97361	0.97386	0.97423	0.97800
60 to 64	0.95277	0.95362	0.95419	0.95505	0.95537	0.95586	0.95618	0.95667	0.95700	0.95749	0.95781	0.95830	0.96318
65 to 69	0.92690	0.92828	0.92920	0.93058	0.93109	0.93186	0.93237	0.93314	0.93366	0.93443	0.93494	0.93571	0.94340
70 to 74	0.89383	0.89604	0.89751	0.89971	0.90050	0.90168	0.90247	0.90365	0.90444	0.90562	0.90641	0.90759	0.91940
75 to 80	0.84015	0.84391	0.84642	0.85018	0.85146	0.85339	0.85467	0.85659	0.85788	0.85980	0.86108	0.86301	0.88225
80 to 84	0.74919	0.75581	0.76022	0.76683	0.76905	0.77239	0.77461	0.77794	0.78017	0.78350	0.78572	0.78906	0.82240
85+	0.70746	0.71965	0.72777	0.73996	0.74417	0.75049	0.75470	0.76102	0.76523	0.77155	0.77576	0.78208	0.84525

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

See memo text for methodology.

**Table 2. Historical Survival Rate Inputs by Racial/Ethnic Group, Sex & Five-Year Age Group**

[All figures are at national level. Figures represent average of 1986 to 1991 time period, except Hispanic figures, which represent 1985 to 1990 period.]

Age	White	Black	Asian/ Other	Hispanic
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**Male**

Births	0.98894	0.98034	0.98981	0.98775
Under 5	0.99808	0.99706	0.99809	0.99740
5 to 9	0.99877	0.99822	0.99882	0.99892
10 to 14	0.99643	0.99648	0.99707	0.99501
15 to 19	0.99320	0.99257	0.99388	0.98928
20 to 24	0.99273	0.98928	0.99331	0.98860
25 to 29	0.99284	0.98617	0.99328	0.98962
30 to 34	0.99191	0.98192	0.99225	0.98872
35 to 39	0.98912	0.97625	0.99031	0.98647
40 to 44	0.98317	0.96658	0.98478	0.98147
45 to 49	0.97210	0.95122	0.97554	0.97123
50 to 54	0.95340	0.92686	0.95811	0.95795
55 to 59	0.92617	0.88849	0.93474	0.93794
60 to 64	0.88708	0.84189	0.89688	0.90270
65 to 69	0.83107	0.77992	0.84539	0.85246
70 to 74	0.75252	0.70933	0.77445	0.78471
75 to 80	0.65692	0.63296	0.68605	0.69106
80 to 84	0.55019	0.55301	0.58873	0.51986
85+	0.43027	0.48793	0.50033	0.51986

**Female**

Births	0.99124	0.98341	0.99219	0.99004
Under 5	0.99852	0.99762	0.99853	0.99823
5 to 9	0.99914	0.99881	0.99914	0.99900
10 to 14	0.99838	0.99833	0.99847	0.99833
15 to 19	0.99751	0.99711	0.99774	0.99743
20 to 24	0.99746	0.99573	0.99760	0.99718
25 to 29	0.99716	0.99403	0.99728	0.99678
30 to 34	0.99616	0.99162	0.99643	0.99553
35 to 39	0.99406	0.98720	0.99475	0.99353
40 to 44	0.99030	0.98042	0.99091	0.99069
45 to 49	0.98389	0.97062	0.98522	0.98477
50 to 54	0.97373	0.95446	0.97641	0.97660
55 to 59	0.95884	0.93117	0.96335	0.96351
60 to 64	0.93697	0.90305	0.94312	0.94326
65 to 69	0.90526	0.86204	0.91497	0.91259
70 to 74	0.85643	0.81142	0.86865	0.86247
75 to 80	0.78029	0.74762	0.80086	0.79037
80 to 84	0.67651	0.67101	0.71155	0.60622
85+	0.54146	0.59152	0.60918	0.60622

Source: US Census Bureau, Population Division.

See memo text for full citations.

Table 2-1

**Table 3. Projected Life Expectancy<sup>a</sup> by Age, Sex and Racial/Ethnic Group, 1992 to 2050**

[Values for 1992, 2000, 2050 from complete life table (Appx. 1), other years interpolated. All figures are for US as a whole.]

**White Males**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	73.32	73.73	74.01	74.42	74.69	75.10	75.37	75.78	76.05	76.46	76.74	77.14	81.23
5	68.98	69.33	69.57	69.92	70.18	70.57	70.83	71.23	71.49	71.88	72.14	72.53	76.45
10	64.06	64.41	64.64	64.98	65.24	65.63	65.89	66.28	66.54	66.93	67.19	67.58	71.48
15	59.15	59.49	59.72	60.06	60.32	60.71	60.96	61.35	61.61	62.00	62.25	62.64	66.51
20	54.47	54.80	55.02	55.35	55.60	55.98	56.24	56.62	56.87	57.25	57.51	57.89	61.69
25	49.83	50.16	50.38	50.71	50.95	51.32	51.57	51.93	52.18	52.54	52.79	53.15	56.82
30	45.16	45.50	45.73	46.07	46.31	46.67	46.90	47.26	47.50	47.86	48.10	48.45	52.03
35	40.52	40.92	41.18	41.58	41.81	42.17	42.40	42.75	42.99	43.34	43.58	43.93	47.45
40	35.97	36.43	36.73	37.19	37.42	37.77	38.00	38.35	38.58	38.93	39.16	39.51	42.98
45	31.47	31.95	32.27	32.75	32.98	33.33	33.56	33.90	34.13	34.48	34.71	35.06	38.52
50	27.07	27.54	27.86	28.33	28.56	28.90	29.13	29.47	29.70	30.04	30.27	30.61	34.04
55	22.88	23.32	23.61	24.04	24.26	24.59	24.81	25.14	25.36	25.69	25.91	26.24	29.55
60	18.99	19.38	19.65	20.04	20.24	20.54	20.74	21.04	21.24	21.53	21.73	22.03	25.02
65	15.48	15.83	16.06	16.40	16.58	16.84	17.02	17.28	17.46	17.73	17.90	18.17	20.82
70	12.31	12.58	12.77	13.04	13.19	13.42	13.58	13.81	13.96	14.19	14.35	14.58	16.88
75	9.53	9.72	9.85	10.04	10.16	10.35	10.47	10.65	10.77	10.96	11.08	11.26	13.10
80	7.23	7.37	7.46	7.59	7.68	7.82	7.91	8.04	8.13	8.27	8.36	8.49	9.84
85	5.39	5.51	5.59	5.71	5.79	5.90	5.98	6.09	6.17	6.29	6.36	6.48	7.63

**White Females**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	79.80	80.17	80.41	80.78	81.00	81.33	81.56	81.89	82.11	82.44	82.66	83.00	86.32
5	75.40	75.71	75.91	76.22	76.43	76.75	76.96	77.28	77.49	77.81	78.02	78.34	81.52
10	70.46	70.76	70.96	71.26	71.47	71.79	72.00	72.31	72.52	72.84	73.05	73.37	76.53
15	65.52	65.82	66.02	66.32	66.53	66.84	67.05	67.37	67.58	67.89	68.10	68.42	71.56
20	60.66	60.96	61.16	61.46	61.67	61.98	62.19	62.50	62.71	63.02	63.23	63.54	66.66
25	55.80	56.09	56.28	56.57	56.78	57.08	57.29	57.60	57.80	58.11	58.32	58.63	61.71
30	50.93	51.22	51.41	51.70	51.90	52.21	52.41	52.72	52.92	53.22	53.43	53.73	56.78
35	46.09	46.38	46.57	46.86	47.06	47.36	47.57	47.87	48.07	48.37	48.57	48.88	51.90
40	41.29	41.57	41.76	42.04	42.24	42.54	42.74	43.04	43.24	43.53	43.73	44.03	47.02
45	36.56	36.83	37.00	37.27	37.46	37.76	37.95	38.24	38.44	38.73	38.93	39.22	42.14
50	31.94	32.19	32.36	32.61	32.80	33.08	33.27	33.55	33.73	34.01	34.20	34.48	37.29
55	27.49	27.73	27.88	28.12	28.30	28.56	28.74	29.01	29.19	29.45	29.63	29.90	32.56
60	23.30	23.52	23.67	23.89	24.06	24.31	24.48	24.73	24.90	25.15	25.31	25.57	28.08
65	19.38	19.59	19.74	19.95	20.11	20.35	20.51	20.75	20.91	21.16	21.32	21.56	23.97
70	15.72	15.93	16.06	16.27	16.42	16.66	16.81	17.04	17.19	17.43	17.58	17.81	20.12
75	12.38	12.58	12.71	12.91	13.06	13.28	13.42	13.64	13.79	14.01	14.15	14.37	16.57
80	9.42	9.60	9.73	9.91	10.05	10.25	10.39	10.60	10.74	10.94	11.08	11.29	13.35
85	6.94	7.11	7.22	7.38	7.51	7.69	7.82	8.01	8.13	8.32	8.44	8.63	10.51

<sup>a</sup>Average years of life remaining at specified age.

**Table 3. Projected Life Expectancy<sup>a</sup> by Age, Sex and Racial/Ethnic Group, 1992 to 2050**

**Black Males**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	65.92	65.53	65.27	64.88	65.11	65.45	65.68	66.02	66.24	66.58	66.81	67.15	70.56
5	62.34	61.88	61.57	61.10	61.30	61.60	61.80	62.10	62.30	62.60	62.80	63.10	66.10
10	57.45	56.98	56.66	56.19	56.39	56.69	56.88	57.18	57.38	57.68	57.87	58.17	61.14
15	52.57	52.10	51.79	51.32	51.52	51.81	52.01	52.30	52.50	52.80	52.99	53.29	56.24
20	48.14	47.74	47.47	47.07	47.26	47.54	47.73	48.02	48.21	48.49	48.68	48.96	51.80
25	43.91	43.60	43.39	43.08	43.26	43.54	43.72	43.99	44.17	44.45	44.63	44.90	47.63
30	39.57	39.32	39.15	38.89	39.07	39.34	39.52	39.78	39.96	40.23	40.41	40.68	43.36
35	35.34	35.23	35.16	35.05	35.22	35.47	35.63	35.88	36.05	36.30	36.46	36.71	39.20
40	31.28	31.33	31.36	31.41	31.56	31.79	31.95	32.18	32.33	32.56	32.72	32.95	35.25
45	27.31	27.47	27.58	27.74	27.89	28.11	28.26	28.48	28.62	28.84	28.99	29.21	31.42
50	23.50	23.74	23.90	24.14	24.28	24.48	24.62	24.83	24.96	25.17	25.31	25.51	27.57
55	19.91	20.13	20.28	20.50	20.63	20.82	20.94	21.13	21.26	21.45	21.58	21.77	23.67
60	16.72	16.91	17.03	17.22	17.32	17.47	17.57	17.72	17.82	17.97	18.07	18.22	19.72
65	13.89	14.04	14.15	14.30	14.38	14.49	14.57	14.68	14.76	14.88	14.95	15.07	16.22
70	11.52	11.64	11.73	11.85	11.91	12.00	12.06	12.16	12.22	12.31	12.37	12.46	13.38
75	9.45	9.54	9.61	9.70	9.73	9.78	9.81	9.86	9.89	9.94	9.97	10.02	10.50
80	7.79	7.91	7.98	8.10	8.12	8.16	8.19	8.22	8.25	8.28	8.31	8.34	8.71
85	6.46	6.72	6.89	7.15	7.18	7.24	7.27	7.32	7.36	7.41	7.44	7.49	8.01

**Black Females**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	74.36	74.51	74.61	74.76	74.93	75.18	75.35	75.60	75.77	76.02	76.19	76.44	78.96
5	70.72	70.80	70.86	70.94	71.08	71.29	71.43	71.64	71.78	71.99	72.13	72.34	74.43
10	65.82	65.90	65.95	66.03	66.17	66.37	66.51	66.72	66.86	67.06	67.20	67.41	69.47
15	60.91	60.99	61.04	61.12	61.26	61.46	61.60	61.80	61.94	62.14	62.28	62.48	64.53
20	56.08	56.16	56.21	56.29	56.43	56.63	56.77	56.97	57.11	57.31	57.45	57.65	59.70
25	51.32	51.41	51.47	51.56	51.69	51.90	52.03	52.23	52.36	52.57	52.70	52.90	54.91
30	46.61	46.72	46.79	46.90	47.03	47.23	47.36	47.56	47.70	47.90	48.03	48.23	50.22
35	42.00	42.16	42.27	42.43	42.56	42.75	42.88	43.07	43.20	43.39	43.52	43.71	45.63
40	37.53	37.73	37.87	38.07	38.20	38.38	38.51	38.70	38.82	39.01	39.14	39.33	41.21
45	33.16	33.37	33.51	33.72	33.84	34.03	34.15	34.33	34.45	34.64	34.76	34.94	36.78
50	28.93	29.13	29.26	29.46	29.58	29.75	29.86	30.04	30.15	30.32	30.44	30.61	32.34
55	24.95	25.12	25.23	25.40	25.50	25.65	25.75	25.89	25.99	26.14	26.24	26.39	27.87
60	21.26	21.41	21.50	21.65	21.74	21.86	21.95	22.08	22.16	22.29	22.37	22.50	23.78
65	17.98	18.13	18.23	18.38	18.46	18.57	18.65	18.76	18.84	18.96	19.03	19.15	20.30
70	15.09	15.27	15.39	15.57	15.66	15.79	15.87	16.00	16.09	16.22	16.30	16.43	17.73
75	12.38	12.53	12.64	12.79	12.88	13.02	13.11	13.24	13.33	13.47	13.56	13.69	15.04
80	10.04	10.19	10.28	10.43	10.51	10.63	10.71	10.83	10.91	11.03	11.11	11.23	12.42
85	8.03	8.26	8.41	8.63	8.74	8.90	9.01	9.18	9.29	9.45	9.56	9.72	11.36

**Table 3. Projected Life Expectancy<sup>a</sup> by Age, Sex and Racial/Ethnic Group, 1992 to 2050**

**Asian Males**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	79.88	80.45	80.83	81.40	81.57	81.82	81.98	82.23	82.40	82.65	82.81	83.06	85.56
5	75.41	75.93	76.28	76.80	76.96	77.20	77.36	77.60	77.76	78.00	78.16	78.40	80.80
10	70.46	70.98	71.32	71.84	72.00	72.24	72.40	72.64	72.80	73.03	73.19	73.43	75.82
15	65.52	66.03	66.38	66.89	67.05	67.29	67.45	67.68	67.84	68.08	68.24	68.48	70.86
20	60.73	61.24	61.57	62.08	62.24	62.47	62.63	62.86	63.02	63.26	63.41	63.65	66.00
25	55.94	56.44	56.77	57.26	57.41	57.64	57.80	58.03	58.18	58.41	58.57	58.80	61.10
30	51.18	51.67	51.99	52.48	52.63	52.86	53.01	53.24	53.39	53.62	53.77	54.00	56.28
35	46.46	46.96	47.30	47.80	47.95	48.18	48.33	48.56	48.71	48.94	49.09	49.32	51.59
40	41.81	42.33	42.68	43.20	43.35	43.58	43.73	43.96	44.11	44.33	44.49	44.71	46.98
45	37.14	37.66	38.00	38.52	38.67	38.90	39.06	39.29	39.44	39.67	39.82	40.05	42.35
50	32.59	33.09	33.42	33.91	34.06	34.29	34.44	34.67	34.83	35.06	35.21	35.44	37.73
55	28.22	28.68	28.99	29.45	29.60	29.82	29.96	30.18	30.33	30.55	30.70	30.92	33.12
60	23.95	24.38	24.66	25.09	25.23	25.45	25.59	25.80	25.94	26.16	26.30	26.51	28.64
65	20.10	20.49	20.75	21.14	21.27	21.47	21.60	21.79	21.92	22.12	22.25	22.44	24.40
70	16.50	16.83	17.04	17.37	17.49	17.67	17.79	17.97	18.09	18.27	18.39	18.57	20.37
75	13.46	13.71	13.87	14.12	14.22	14.38	14.48	14.63	14.74	14.89	14.99	15.15	16.69
80	10.91	11.11	11.24	11.43	11.51	11.64	11.72	11.85	11.93	12.06	12.14	12.27	13.53
85	8.62	8.80	8.92	9.10	9.18	9.30	9.37	9.49	9.57	9.69	9.77	9.88	11.06

**Asian Females**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	85.98	86.40	86.67	87.09	87.24	87.47	87.62	87.85	88.01	88.24	88.39	88.62	90.91
5	81.39	81.77	82.02	82.40	82.55	82.77	82.92	83.14	83.29	83.51	83.66	83.88	86.10
10	76.45	76.82	77.07	77.44	77.59	77.81	77.96	78.18	78.32	78.54	78.69	78.91	81.12
15	71.51	71.88	72.13	72.50	72.65	72.87	73.01	73.23	73.38	73.60	73.74	73.96	76.16
20	66.59	66.96	67.20	67.57	67.72	67.94	68.08	68.30	68.45	68.67	68.81	69.03	71.22
25	61.66	62.02	62.27	62.63	62.77	62.99	63.14	63.35	63.50	63.72	63.86	64.08	66.25
30	56.73	57.09	57.33	57.69	57.83	58.05	58.20	58.41	58.56	58.77	58.92	59.13	61.30
35	51.87	52.23	52.46	52.82	52.96	53.18	53.32	53.54	53.68	53.90	54.04	54.26	56.41
40	47.09	47.44	47.67	48.02	48.16	48.38	48.52	48.73	48.87	49.09	49.23	49.44	51.57
45	42.37	42.70	42.93	43.26	43.40	43.61	43.75	43.96	44.10	44.30	44.44	44.65	46.74
50	37.66	37.98	38.19	38.51	38.65	38.85	38.99	39.19	39.33	39.53	39.67	39.87	41.91
55	33.05	33.36	33.56	33.87	34.00	34.20	34.33	34.53	34.66	34.85	34.99	35.18	37.15
60	28.82	29.11	29.30	29.59	29.72	29.91	30.03	30.22	30.35	30.54	30.66	30.85	32.74
65	24.62	24.90	25.09	25.37	25.49	25.68	25.80	25.98	26.11	26.29	26.41	26.60	28.44
70	20.62	20.89	21.08	21.35	21.47	21.65	21.77	21.95	22.07	22.25	22.37	22.55	24.35
75	16.86	17.12	17.29	17.55	17.67	17.84	17.96	18.13	18.25	18.43	18.54	18.72	20.47
80	13.58	13.82	13.99	14.23	14.34	14.51	14.62	14.79	14.90	15.07	15.19	15.35	17.04
85	10.63	10.86	11.01	11.24	11.35	11.51	11.61	11.77	11.88	12.04	12.14	12.30	13.89

**Table 3. Projected Life Expectancy<sup>a</sup> by Age, Sex and Racial/Ethnic Group, 1992 to 2050**

**Hispanic Males**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	75.13	75.20	75.24	75.31	75.54	75.88	76.11	76.45	76.68	77.02	77.24	77.59	81.00
5	70.96	70.95	70.94	70.93	71.15	71.47	71.69	72.02	72.23	72.56	72.78	73.10	76.36
10	66.03	66.02	66.01	66.00	66.22	66.54	66.76	67.08	67.30	67.62	67.84	68.16	71.40
15	61.12	61.11	61.10	61.08	61.29	61.62	61.83	62.15	62.37	62.69	62.90	63.22	66.44
20	56.55	56.52	56.49	56.46	56.67	56.98	57.19	57.51	57.72	58.03	58.24	58.56	61.70
25	52.03	52.03	52.02	52.02	52.22	52.51	52.71	53.00	53.20	53.49	53.69	53.98	56.92
30	47.55	47.58	47.60	47.63	47.82	48.10	48.29	48.57	48.75	49.03	49.22	49.50	52.31
35	43.11	43.27	43.37	43.53	43.71	43.97	44.15	44.41	44.59	44.85	45.03	45.29	47.93
40	38.73	39.02	39.21	39.50	39.66	39.91	40.08	40.32	40.49	40.74	40.90	41.15	43.62
45	34.43	34.79	35.04	35.40	35.56	35.79	35.95	36.19	36.35	36.58	36.74	36.98	39.34
50	30.10	30.51	30.79	31.20	31.35	31.59	31.74	31.97	32.13	32.36	32.52	32.75	35.07
55	26.03	26.41	26.67	27.05	27.20	27.43	27.58	27.80	27.95	28.18	28.33	28.55	30.80
60	22.05	22.41	22.66	23.02	23.16	23.37	23.51	23.72	23.86	24.07	24.21	24.42	26.52
65	18.45	18.78	19.00	19.33	19.45	19.64	19.77	19.95	20.08	20.27	20.39	20.58	22.45
70	15.06	15.33	15.52	15.79	15.90	16.07	16.18	16.35	16.46	16.62	16.74	16.90	18.57
75	12.08	12.28	12.42	12.62	12.71	12.85	12.94	13.08	13.17	13.31	13.40	13.54	14.92
80	9.50	9.65	9.76	9.91	9.98	10.09	10.16	10.27	10.35	10.46	10.53	10.64	11.73
85	7.46	7.60	7.70	7.84	7.91	8.00	8.07	8.17	8.23	8.33	8.40	8.50	9.48

**Hispanic Females**

Age	1992	1995	1997	2000	2002	2005	2007	2010	2012	2015	2017	2020	2050
0	82.61	82.94	83.15	83.48	83.63	83.87	84.02	84.25	84.41	84.64	84.80	85.03	87.35
5	78.33	78.59	78.77	79.03	79.18	79.39	79.54	79.76	79.90	80.12	80.27	80.49	82.67
10	73.39	73.65	73.83	74.09	74.23	74.45	74.59	74.81	74.95	75.17	75.31	75.53	77.69
15	68.46	68.72	68.89	69.14	69.28	69.50	69.64	69.86	70.00	70.22	70.36	70.58	72.73
20	63.59	63.85	64.02	64.27	64.41	64.63	64.77	64.98	65.13	65.34	65.48	65.70	67.84
25	58.72	58.96	59.11	59.35	59.49	59.70	59.85	60.06	60.20	60.41	60.55	60.77	62.89
30	53.88	54.12	54.29	54.53	54.67	54.88	55.02	55.22	55.36	55.57	55.71	55.92	58.00
35	49.06	49.33	49.50	49.77	49.91	50.11	50.25	50.45	50.59	50.79	50.93	51.13	53.17
40	44.27	44.55	44.74	45.02	45.15	45.35	45.48	45.68	45.81	46.01	46.15	46.34	48.33
45	39.55	39.84	40.03	40.31	40.44	40.63	40.76	40.95	41.08	41.27	41.39	41.59	43.50
50	34.92	35.20	35.39	35.67	35.79	35.97	36.09	36.28	36.40	36.58	36.70	36.88	38.70
55	30.45	30.71	30.89	31.15	31.26	31.44	31.55	31.72	31.84	32.01	32.13	32.30	34.02
60	26.12	26.37	26.54	26.79	26.90	27.06	27.17	27.34	27.45	27.61	27.72	27.89	29.53
65	22.03	22.27	22.44	22.68	22.79	22.95	23.05	23.21	23.32	23.48	23.58	23.74	25.33
70	18.24	18.47	18.63	18.86	18.96	19.12	19.22	19.37	19.47	19.63	19.73	19.88	21.41
75	14.77	14.99	15.14	15.36	15.46	15.60	15.70	15.85	15.94	16.09	16.19	16.33	17.79
80	11.53	11.74	11.88	12.09	12.18	12.32	12.41	12.55	12.64	12.78	12.87	13.01	14.39
85	8.77	8.96	9.08	9.27	9.35	9.48	9.57	9.69	9.78	9.90	9.99	10.11	11.38

**Table 4. Unadjusted Age-Specific & Total Fertility Rates for Female Population Age 10 to 49, Historical and Forecasted, 1973 to 2018**

[All figures for US as a whole. Adopted from US Census Bureau Middle Series. NB. Fertility rates for non-Hispanic White and Black women are assumed to remain constant across the forecast period. See memo text for a discussion of Census Bureau fertility assumptions.]

**Non-Hispanic White**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	0.80	0.80	0.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50
15 - 19	32.78	38.49	44.20	41.70	42.50	42.50	42.50	42.50	42.50	42.50
20 - 24	108.18	107.05	105.92	102.10	99.20	99.20	99.20	99.20	99.20	99.20
25 - 29	122.44	116.10	109.76	110.70	113.40	113.40	113.40	113.40	113.40	113.40
30 - 34	63.78	64.32	64.86	70.60	78.30	78.30	78.30	78.30	78.30	78.30
35 - 39	25.22	23.17	21.12	23.90	29.70	29.70	29.70	29.70	29.70	29.70
40 - 44	6.00	4.82	3.64	4.30	4.70	4.70	4.70	4.70	4.70	4.70
45 - 49	0.10	0.10	0.10	0.10	0.20	0.20	0.20	0.20	0.20	0.20
Total Fertility Rate	1796.50	1774.25	1752.00	1769.50	1842.50	1842.50	1842.50	1842.50	1842.50	1842.50

**Non-Hispanic Black**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	3.86	3.86	3.86	3.20	5.00	5.00	5.00	5.00	5.00	5.00
15 - 19	102.28	100.35	98.42	92.80	115.10	115.10	115.10	115.10	115.10	115.10
20 - 24	149.82	143.78	137.74	132.80	160.20	160.20	160.20	160.20	160.20	160.20
25 - 29	109.90	106.38	102.86	103.60	111.20	111.20	111.20	111.20	111.20	111.20
30 - 34	62.08	62.15	62.22	66.30	66.60	66.60	66.60	66.60	66.60	66.60
35 - 39	29.80	27.89	25.98	29.00	27.50	27.50	27.50	27.50	27.50	27.50
40 - 44	8.10	6.94	5.78	6.60	5.20	5.20	5.20	5.20	5.20	5.20
45 - 49	0.38	0.38	0.38	0.20	0.30	0.30	0.30	0.30	0.30	0.30
Total Fertility Rate	2331.10	2258.65	2186.20	2172.50	2455.50	2455.50	2455.50	2455.50	2455.50	2455.50

**Non-Hispanic Asian/Other**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	1.16	1.16	1.16	0.72	0.70	0.70	0.70	0.67	0.63	0.60
15 - 19	32.78	29.49	26.20	24.72	28.60	27.10	27.40	25.27	23.58	22.10
20 - 24	108.18	101.17	94.16	90.77	93.30	94.00	91.10	85.79	79.74	74.21
25 - 29	122.44	132.94	143.43	144.66	161.60	159.70	157.80	147.35	137.52	127.84
30 - 34	63.78	83.78	103.77	112.96	136.90	135.50	134.10	124.93	116.82	108.72
35 - 39	25.22	33.19	41.16	46.58	62.50	61.70	60.50	56.53	52.74	49.30
40 - 44	6.00	7.94	9.88	11.67	12.90	12.80	12.50	11.69	10.80	10.03
45 - 49	0.70	0.70	0.70	0.70	1.30	1.30	1.30	1.14	1.08	1.02
Total Fertility Rate	1801.28	1951.79	2102.30	2163.85	2489.00	2464.00	2427.00	2266.70	2114.55	1969.03

**Hispanic**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	2.60	2.60	2.60	2.40	2.30	2.30	2.20	2.19	2.07	1.87
15 - 19	102.28	96.44	90.60	86.90	99.60	97.80	96.70	90.82	85.41	79.39
20 - 24	149.82	159.06	168.30	165.10	180.50	178.80	176.20	164.92	154.08	143.48
25 - 29	109.90	128.40	146.90	151.70	149.80	148.60	146.70	137.37	128.43	119.51
30 - 34	62.08	76.94	91.80	102.20	95.80	94.30	93.00	87.21	81.63	76.08
35 - 39	29.80	35.80	41.80	43.40	43.10	42.50	41.40	38.76	36.36	33.92
40 - 44	8.10	9.55	11.00	10.60	9.20	9.10	8.90	8.17	7.56	7.14
45 - 49	0.60	0.60	0.60	0.50	0.60	0.50	0.50	0.48	0.45	0.43
Total Fertility Rate	2325.90	2546.95	2768.00	2814.00	2904.50	2869.50	2828.00	2649.55	2479.95	2309.03

Source: US Census Bureau, Population Division.

See memo text for full citation.

**Table 5. Adjusted Age-Specific & Total Fertility Rates for Female Population Age 10 to 49, Historical and Forecasted, 1973 to 2018**

[Non-Hispanic Black, Non-Hispanic Asian/Other, and Hispanic figures for years 2008 through 2018 adjusted to reflect anticipated divergence of New York Region from national fertility characteristics. See memo text for methodological discussion.]

**Non-Hispanic White**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	0.80	0.80	0.80	0.50	0.50	0.50	0.50	0.50	0.50	0.50
15 - 19	32.78	38.49	44.20	41.70	42.50	42.50	42.50	42.50	42.50	42.50
20 - 24	108.18	107.05	105.92	102.10	99.20	99.20	99.20	99.20	99.20	99.20
25 - 29	122.44	116.10	109.76	110.70	113.40	113.40	113.40	113.40	113.40	113.40
30 - 34	63.78	64.32	64.86	70.60	78.30	78.30	78.30	78.30	78.30	78.30
35 - 39	25.22	23.17	21.12	23.90	29.70	29.70	29.70	29.70	29.70	29.70
40 - 44	6.00	4.82	3.64	4.30	4.70	4.70	4.70	4.70	4.70	4.70
45 - 49	0.10	0.10	0.10	0.10	0.20	0.20	0.20	0.20	0.20	0.20
Total Fertility Rate	1796.50	1774.25	1752.00	1769.50	1842.50	1842.50	1842.50	1842.50	1842.50	1842.50

**Non-Hispanic Black**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	3.86	3.86	3.86	3.20	5.00	5.00	5.00	4.75	4.63	4.50
15 - 19	102.28	100.35	98.42	92.80	115.10	115.10	115.10	109.35	106.47	103.59
20 - 24	149.82	143.78	137.74	132.80	160.20	160.20	160.20	152.19	148.19	144.18
25 - 29	109.90	106.38	102.86	103.60	111.20	111.20	111.20	105.64	102.86	100.08
30 - 34	62.08	62.15	62.22	66.30	66.60	66.60	66.60	63.27	61.61	59.94
35 - 39	29.80	27.89	25.98	29.00	27.50	27.50	27.50	26.13	25.44	24.75
40 - 44	8.10	6.94	5.78	6.60	5.20	5.20	5.20	4.94	4.81	4.68
45 - 49	0.38	0.38	0.38	0.20	0.30	0.30	0.30	0.29	0.28	0.27
Total Fertility Rate	2331.10	2258.65	2186.20	2172.50	2455.50	2455.50	2455.50	2332.73	2271.34	2209.95

**Non-Hispanic Asian/Other**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	1.16	1.16	1.16	0.72	0.70	0.70	0.70	0.67	0.65	0.63
15 - 19	32.78	29.49	26.20	24.72	28.60	27.10	27.40	25.27	24.24	23.40
20 - 24	108.18	101.17	94.16	90.77	93.30	94.00	91.10	85.79	81.96	78.57
25 - 29	122.44	132.94	143.43	144.66	161.60	159.70	157.80	147.35	141.34	135.36
30 - 34	63.78	83.78	103.77	112.96	136.90	135.50	134.10	124.93	120.07	115.11
35 - 39	25.22	33.19	41.16	46.58	62.50	61.70	60.50	56.53	54.21	52.20
40 - 44	6.00	7.94	9.88	11.67	12.90	12.80	12.50	11.69	11.10	10.62
45 - 49	0.70	0.70	0.70	0.70	1.30	1.30	1.30	1.14	1.11	1.08
Total Fertility Rate	1801.28	1951.79	2102.30	2163.85	2489.00	2464.00	2427.00	2266.70	2173.29	2084.85

**Hispanic**

	1973	1978	1983	1988	1993	1998	2003	2008	2013	2018
<b>Ages:</b>										
10 - 14	2.60	2.60	2.60	2.40	2.30	2.30	2.20	2.19	2.13	1.98
15 - 19	102.28	96.44	90.60	86.90	99.60	97.80	96.70	90.82	87.78	84.06
20 - 24	149.82	159.06	168.30	165.10	180.50	178.80	176.20	164.92	158.36	151.92
25 - 29	109.90	128.40	146.90	151.70	149.80	148.60	146.70	137.37	132.00	126.54
30 - 34	62.08	76.94	91.80	102.20	95.80	94.30	93.00	87.21	83.90	80.55
35 - 39	29.80	35.80	41.80	43.40	43.10	42.50	41.40	38.76	37.37	35.91
40 - 44	8.10	9.55	11.00	10.60	9.20	9.10	8.90	8.17	7.77	7.56
45 - 49	0.60	0.60	0.60	0.50	0.60	0.50	0.50	0.48	0.46	0.45
Total Fertility Rate	2325.90	2546.95	2768.00	2814.00	2904.50	2869.50	2828.00	2649.55	2548.84	2444.85

Table 6. Births by Racial/Ethnic Group, 1985 to 1995: New York State and Connecticut

New York State

	<i>White</i>	<i>Black</i>	<i>Asian/Other</i>	<i>Hispanic</i>	<i>N/A</i>	<i>Total</i>
<i>New York City</i>						
1985-89	167,678	192,172	36,241	186,219	31,795	614,105
1990-94 <sup>a</sup>	161,030	201,850	49,723	218,427	36,237	667,267
<i>Long Island</i>						
1985-89	134,795	16,494	3,086	12,864	9,984	177,223
1990-94 <sup>a</sup>	144,170	19,073	4,510	20,083	7,470	195,307
<i>Mid-Hudson</i>						
1985-89	97,902	16,962	3,384	11,092	12,692	142,032
1990-94 <sup>a</sup>	111,958	19,137	4,610	16,863	4,862	157,430

Connecticut

	<i>White</i>	<i>Non-White</i>	<i>Total</i>
1985-89 <sup>b</sup>	103,773	20,074	123,846

<sup>a</sup>Five-year total imputed from 1990-1992 data

<sup>b</sup>Five-year total imputed from 1985-1988 data

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

	White	Black	Asian/Other	Hispanic
<i>New York City</i>				
Births	0.8007	0.9837	0.8525	0.8573
Deaths	1.0971	1.0976	1.0970	1.1129
<i>Long Island</i>				
Births	0.8992	0.9322	0.9221	0.9138
Deaths	1.0342	1.0309	1.0284	1.0294
<i>Mid-Hudson</i>				
Births	0.9427	0.9394	0.9469	0.9443
Deaths	1.0195	0.8393	0.9227	0.9452
<i>New Jersey</i>				
Births	0.8918	0.8939	0.9080	0.8998
Deaths	1.0505	1.0482	1.0456	1.0475
<i>Connecticut</i>				
Births	0.9117	0.9939	1.0054	0.9223
Deaths	0.9880	1.0187	1.0278	0.9828

Table 8. Summary of Net Migration Rates by Sex and Racial/Ethnic Group, 1990 to 2020

	1990-1995				1995-2000				2000-2005				2005-2010			
Male	White	Black	Asian/Other	Hispanic												
New York City	(0.0856)	(0.0512)	0.1638	0.0053	(0.0894)	(0.0268)	0.1582	0.0088	(0.0805)	(0.0237)	0.1041	0.0140	(0.0714)	(0.0217)	0.0691	0.0147
Long Island	(0.0393)	0.0123	0.3432	0.1563	(0.0361)	0.0193	0.3460	0.1543	(0.0285)	0.0309	0.3616	0.1612	(0.0247)	0.0363	0.3512	0.1426
Mid-Hudson	(0.0433)	0.0218	0.2554	0.1849	(0.0440)	0.0326	0.2762	0.1929	(0.0451)	0.0448	0.3026	0.1925	(0.0584)	0.0404	0.2856	0.1682
New Jersey	(0.0219)	(0.0273)	0.3517	0.1083	(0.0255)	(0.0370)	0.3373	0.1021	(0.0295)	(0.0463)	0.3254	0.0823	(0.0334)	(0.0529)	0.2914	0.0694
Connecticut	(0.0422)	(0.0030)	0.2865	0.1475	(0.0342)	0.0271	0.3322	0.1753	(0.0326)	0.0560	0.3736	0.2005	(0.0483)	0.0654	0.3614	0.1877
Female	1990-1995				1995-2000				2000-2005				2005-2010			
Female	White	Black	Asian/Other	Hispanic												
New York City	(0.0925)	(0.0368)	0.1444	(0.0053)	(0.0949)	(0.0139)	0.1446	(0.0009)	(0.0864)	(0.0105)	0.0960	0.0060	(0.0785)	(0.0087)	0.0654	0.0078
Long Island	(0.0449)	0.0136	0.3175	0.1183	(0.0424)	0.0167	0.3207	0.1178	(0.0352)	0.0275	0.3375	0.1278	(0.0312)	0.0336	0.3283	0.1135
Mid-Hudson	(0.0489)	0.0073	0.2389	0.1366	(0.0502)	0.0173	0.2580	0.1467	(0.0514)	0.0298	0.2810	0.1517	(0.0637)	0.0279	0.2646	0.1344
New Jersey	(0.0273)	(0.0345)	0.3447	0.0764	(0.0317)	(0.0454)	0.3305	0.0699	(0.0362)	(0.0539)	0.3195	0.0587	(0.0402)	(0.0589)	0.2873	0.0514
Connecticut	(0.0452)	(0.0021)	0.2528	0.1288	(0.0382)	0.0273	0.2967	0.1565	(0.0370)	0.0558	0.3370	0.1832	(0.0521)	0.0650	0.3270	0.1734
Total	1990-1995				1995-2000				2000-2005				2005-2010			
Total	White	Black	Asian/Other	Hispanic												
New York City	(0.0892)	(0.0433)	0.1542	(0.0002)	(0.0923)	(0.0197)	0.1516	0.0038	(0.0836)	(0.0165)	0.1001	0.0099	(0.0751)	(0.0145)	0.0673	0.0112
Long Island	(0.0422)	0.0130	0.3302	0.1375	(0.0393)	0.0179	0.3333	0.1365	(0.0319)	0.0291	0.3497	0.1452	(0.0280)	0.0349	0.3400	0.1288
Mid-Hudson	(0.0462)	0.0143	0.2471	0.1620	(0.0472)	0.0247	0.2671	0.1713	(0.0483)	0.0372	0.2918	0.1739	(0.0611)	0.0341	0.2753	0.1529
New Jersey	(0.0247)	(0.0311)	0.3482	0.0923	(0.0287)	(0.0414)	0.3339	0.0862	(0.0329)	(0.0503)	0.3225	0.0708	(0.0369)	(0.0561)	0.2893	0.0607
Connecticut	(0.0437)	(0.0025)	0.2698	0.1381	(0.0363)	0.0272	0.3148	0.1659	(0.0349)	0.0559	0.3558	0.1919	(0.0502)	0.0652	0.3449	0.1806

Table 8. Summary of Net Migration Rates by Sex and Racial/Ethnic Group, 1990 to 2020

	2010-2015				2015-2020			
Male	White	Black	Asian/Other	Hispanic	White	Black	Asian/Other	Hispanic
New York City	(0.0615)	(0.0193)	0.0287	0.0162	(0.0505)	(0.0139)	(0.0121)	0.0162
Long Island	(0.0272)	0.0308	0.3089	0.1262	(0.0200)	0.0323	0.2632	0.1262
Mid-Hudson	(0.0720)	0.0341	0.2443	0.1422	(0.0780)	0.0325	0.2027	0.1422
New Jersey	(0.0357)	(0.0562)	0.2438	0.0520	(0.0431)	(0.0624)	0.1852	0.0520
Connecticut	(0.0626)	0.0690	0.3272	0.1617	(0.0762)	0.0632	0.2750	0.1617

	2010-2015				2015-2020			
Female	White	Black	Asian/Other	Hispanic	White	Black	Asian/Other	Hispanic
New York City	(0.0706)	(0.0069)	0.0266	0.0100	(0.0617)	(0.0031)	(0.0156)	0.0100
Long Island	(0.0334)	0.0287	0.2881	0.1033	(0.0270)	0.0295	0.2460	0.1033
Mid-Hudson	(0.0763)	0.0233	0.2255	0.1165	(0.0820)	0.0226	0.1893	0.1165
New Jersey	(0.0424)	(0.0602)	0.2417	0.0411	(0.0490)	(0.0652)	0.1836	0.0411
Connecticut	(0.0656)	0.0680	0.2966	0.1504	(0.0779)	0.0618	0.2485	0.1504

	2010-2015				2015-2020			
Total	White	Black	Asian/Other	Hispanic	White	Black	Asian/Other	Hispanic
New York City	(0.0662)	(0.0125)	0.0277	0.0131	(0.0562)	(0.0080)	(0.0138)	0.0131
Long Island	(0.0304)	0.0297	0.2987	0.1154	(0.0236)	0.0308	0.2548	0.1154
Mid-Hudson	(0.0742)	0.0287	0.2351	0.1306	(0.0800)	0.0276	0.1962	0.1306
New Jersey	(0.0391)	(0.0583)	0.2428	0.0468	(0.0461)	(0.0639)	0.1844	0.0468
Connecticut	(0.0641)	0.0685	0.3127	0.1562	(0.0771)	0.0625	0.2625	0.1562

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: New York City

*Male*

White							Black						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	
Under 5	(0.2278)	(0.1803)	(0.1819)	(0.1913)	(0.2074)	(0.2164)	(0.1755)	(0.1234)	(0.1202)	(0.1136)	(0.1111)	(0.0988)	
5 - 9	(0.2014)	(0.1850)	(0.1532)	(0.1545)	(0.1625)	(0.1762)	(0.0466)	(0.0092)	(0.0084)	(0.0078)	(0.0072)	(0.0069)	
10 - 14	(0.1274)	(0.1316)	(0.1262)	(0.1045)	(0.1054)	(0.1108)	0.0219	0.0595	0.0587	0.0511	0.0462	0.0418	
15 - 19	(0.0640)	(0.0636)	(0.0697)	(0.0668)	(0.0553)	(0.0558)	(0.0309)	0.0030	0.0031	0.0029	0.0025	0.0022	
20 - 24	0.0769	0.0792	0.1053	0.1255	0.1312	0.1225	(0.1195)	(0.1122)	(0.1184)	(0.1142)	(0.1024)	(0.0792)	
25 - 29	0.0935	0.0836	0.1041	0.1289	0.1513	0.1614	0.0904	0.0965	0.1103	0.1187	0.1154	0.1079	
30 - 34	(0.0986)	(0.0918)	(0.0731)	(0.0685)	(0.0647)	(0.0495)	(0.0115)	0.0063	0.0111	0.0128	0.0144	0.0183	
35 - 39	(0.1527)	(0.1481)	(0.1201)	(0.1015)	(0.0977)	(0.0924)	(0.0370)	(0.0205)	(0.0131)	(0.0098)	(0.0087)	(0.0046)	
40 - 44	(0.0675)	(0.0662)	(0.0481)	(0.0349)	(0.0231)	(0.0086)	(0.0925)	(0.0804)	(0.0734)	(0.0638)	(0.0510)	(0.0450)	
45 - 49	(0.1860)	(0.1846)	(0.1525)	(0.1333)	(0.1108)	(0.0876)	(0.0950)	(0.0789)	(0.0727)	(0.0683)	(0.0580)	(0.0423)	
50 - 54	(0.1720)	(0.2083)	(0.1828)	(0.1532)	(0.1324)	(0.1053)	(0.0996)	(0.0878)	(0.0812)	(0.0755)	(0.0691)	(0.0538)	
55 - 59	(0.1610)	(0.1959)	(0.2096)	(0.1918)	(0.1617)	(0.1349)	(0.1382)	(0.1300)	(0.1242)	(0.1180)	(0.1079)	(0.0935)	
60 - 64	(0.0689)	(0.0751)	(0.0712)	(0.0670)	(0.0503)	(0.0263)	(0.0677)	(0.0590)	(0.0554)	(0.0509)	(0.0464)	(0.0366)	
65 - 69	(0.0435)	(0.0295)	(0.0301)	(0.0363)	(0.0422)	(0.0415)	0.0569	0.0868	0.0904	0.0923	0.0861	0.0795	
70 - 74	(0.1411)	(0.1327)	(0.1143)	(0.1161)	(0.1401)	(0.1629)	(0.0996)	(0.0583)	(0.0514)	(0.0508)	(0.0502)	(0.0450)	
75 - 79	0.0001	0.0081	0.0080	0.0069	0.0070	0.0085	0.0068	0.0438	0.0420	0.0351	0.0340	0.0329	
80 - 84	(0.0328)	(0.0234)	(0.0239)	(0.0237)	(0.0203)	(0.0206)	(0.0577)	(0.0203)	(0.0207)	(0.0189)	(0.0154)	(0.0144)	
85 & Over	(0.1070)	(0.1021)	(0.1007)	(0.1013)	(0.1010)	(0.0927)	(0.0529)	(0.0152)	(0.0149)	(0.0139)	(0.0125)	(0.0105)	
Total	(0.0856)	(0.0894)	(0.0805)	(0.0714)	(0.0615)	(0.0505)	(0.0512)	(0.0268)	(0.0237)	(0.0217)	(0.0193)	(0.0139)	

*Female*

White							Black						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	
Under 5	(0.2541)	(0.2023)	(0.2041)	(0.2146)	(0.2327)	(0.2428)	(0.1572)	(0.1067)	(0.1039)	(0.0982)	(0.0961)	(0.0856)	
5 - 9	(0.2063)	(0.1903)	(0.1578)	(0.1591)	(0.1674)	(0.1815)	(0.0524)	(0.0151)	(0.0138)	(0.0128)	(0.0118)	(0.0113)	
10 - 14	(0.1220)	(0.1251)	(0.1203)	(0.0998)	(0.1006)	(0.1058)	0.0505	0.0891	0.0885	0.0770	0.0697	0.0631	
15 - 19	(0.0463)	(0.0439)	(0.0479)	(0.0461)	(0.0382)	(0.0385)	(0.0126)	0.0232	0.0240	0.0227	0.0192	0.0168	
20 - 24	0.1136	0.1191	0.1509	0.1738	0.1775	0.1605	(0.0243)	(0.0099)	(0.0041)	(0.0024)	(0.0010)	0.0034	
25 - 29	0.0464	0.0402	0.0573	0.0759	0.0936	0.1068	0.0758	0.0861	0.1005	0.1066	0.1031	0.0969	
30 - 34	(0.1421)	(0.1310)	(0.1097)	(0.1079)	(0.1095)	(0.0968)	(0.0058)	0.0126	0.0170	0.0191	0.0206	0.0238	
35 - 39	(0.1665)	(0.1634)	(0.1334)	(0.1136)	(0.1106)	(0.1070)	(0.0387)	(0.0221)	(0.0143)	(0.0111)	(0.0102)	(0.0058)	
40 - 44	(0.0362)	(0.0376)	(0.0219)	(0.0111)	(0.0011)	0.0145	(0.0902)	(0.0780)	(0.0707)	(0.0604)	(0.0499)	(0.0444)	
45 - 49	(0.1448)	(0.1430)	(0.1157)	(0.0997)	(0.0798)	(0.0588)	(0.0737)	(0.0554)	(0.0495)	(0.0455)	(0.0377)	(0.0271)	
50 - 54	(0.1790)	(0.2151)	(0.1874)	(0.1588)	(0.1394)	(0.1114)	(0.0992)	(0.0876)	(0.0785)	(0.0733)	(0.0662)	(0.0506)	
55 - 59	(0.1791)	(0.2232)	(0.2402)	(0.2191)	(0.1879)	(0.1614)	(0.1523)	(0.1483)	(0.1425)	(0.1314)	(0.1208)	(0.1035)	
60 - 64	(0.0797)	(0.0868)	(0.0883)	(0.0867)	(0.0689)	(0.0440)	(0.0334)	(0.0208)	(0.0150)	(0.0126)	(0.0102)	(0.0043)	
65 - 69	(0.0284)	(0.0161)	(0.0166)	(0.0207)	(0.0240)	(0.0233)	0.0536	0.0841	0.0861	0.0891	0.0832	0.0745	
70 - 74	(0.1360)	(0.1258)	(0.1068)	(0.1106)	(0.1377)	(0.1597)	(0.0783)	(0.0388)	(0.0343)	(0.0777)	(0.0334)	(0.0301)	
75 - 79	(0.0281)	(0.0202)	(0.0199)	(0.0169)	(0.0175)	(0.0218)	0.0259	0.0622	0.0602	0.0504	0.0479	0.0470	
80 - 84	(0.0877)	(0.0740)	(0.0745)	(0.0732)	(0.0621)	(0.0643)	(0.0692)	(0.0307)	(0.0302)	(0.0278)	(0.0226)	(0.0208)	
85 & Over	(0.1934)	(0.1785)	(0.1704)	(0.1672)	(0.1645)	(0.1529)	(0.1141)	(0.0719)	(0.0696)	(0.0640)	(0.0574)	(0.0482)	
Total	(0.0925)	(0.0949)	(0.0864)	(0.0785)	(0.0706)	(0.0617)	(0.0368)	(0.0139)	(0.0105)	(0.0087)	(0.0069)	(0.0031)	
Grand Total	(0.0892)	(0.0923)	(0.0836)	(0.0751)	(0.0662)	(0.0562)	(0.0433)	(0.0197)	(0.0165)	(0.0145)	(0.0125)	(0.0080)	

Source: Population Model (Urbanomics)

Table 9-1

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: New York City

*Male*

		Asian/Other					
Age		1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5		0.1602	0.2248	0.1966	0.1710	0.1674	0.1595
5 - 9		0.1100	0.2380	0.1782	0.1480	0.1251	0.1188
10 - 14		0.2811	0.4033	0.4725	0.3361	0.2738	0.2275
15 - 19		0.4500	0.5425	0.5684	0.6327	0.4407	0.3523
20 - 24		0.2979	0.2598	0.1446	0.0064	(0.1645)	(0.2379)
25 - 29		0.4520	0.3663	0.2931	0.1890	0.0904	(0.0054)
30 - 34		0.2485	0.1873	0.0624	(0.0583)	(0.1942)	(0.3620)
35 - 39		(0.0088)	(0.0587)	(0.1638)	(0.2392)	(0.3362)	(0.4024)
40 - 44		(0.0565)	(0.1445)	(0.2920)	(0.4041)	(0.4678)	(0.6000)
45 - 49		(0.1714)	(0.2192)	(0.3165)	(0.4070)	(0.4556)	(0.4487)
50 - 54		(0.0152)	(0.1048)	(0.2399)	(0.3459)	(0.4530)	(0.5084)
55 - 59		(0.0282)	(0.0679)	(0.1725)	(0.2558)	(0.3066)	(0.3575)
60 - 64		(0.0837)	(0.1900)	(0.3223)	(0.4549)	(0.5442)	(0.5747)
65 - 69		0.2884	0.3313	0.3034	0.2438	0.2136	0.1820
70 - 74		0.0698	0.1785	0.1409	0.1220	0.0948	0.0799
75 - 79		0.0819	0.1926	0.1951	0.1456	0.1228	0.0928
80 - 84		0.0272	0.1342	0.1389	0.1331	0.0965	0.0790
85 & Over		(0.0280)	0.0814	0.0786	0.0746	0.0693	0.0550
Total		0.1638	0.1582	0.1041	0.0691	0.0287	(0.0121)

Hispanic

		Hispanic					
Age		1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5		(0.0522)	(0.0217)	(0.0223)	(0.0208)	(0.0206)	(0.0186)
5 - 9		(0.0667)	(0.0537)	(0.0429)	(0.0418)	(0.0379)	(0.0366)
10 - 14		0.0345	0.0552	0.0607	0.0460	0.0439	0.0390
15 - 19		0.0649	0.0871	0.0892	0.0932	0.0689	0.0641
20 - 24		0.1053	0.1069	0.1201	0.1177	0.1211	0.0912
25 - 29		0.1697	0.1496	0.1614	0.1640	0.1560	0.1596
30 - 34		0.0253	0.0207	0.0248	0.0260	0.0265	0.0292
35 - 39		(0.0411)	(0.0438)	(0.0359)	(0.0292)	(0.0270)	(0.0212)
40 - 44		(0.0624)	(0.0694)	(0.0624)	(0.0558)	(0.0451)	(0.0373)
45 - 49		(0.1068)	(0.1091)	(0.1020)	(0.0972)	(0.0858)	(0.0650)
50 - 54		(0.0841)	(0.0943)	(0.0869)	(0.0802)	(0.0741)	(0.0595)
55 - 59		(0.0811)	(0.0824)	(0.0782)	(0.0735)	(0.0664)	(0.0565)
60 - 64		(0.0875)	(0.0942)	(0.0864)	(0.0822)	(0.0752)	(0.0616)
65 - 69		(0.0819)	(0.0535)	(0.0520)	(0.0498)	(0.0473)	(0.0430)
70 - 74		(0.1319)	(0.1135)	(0.1012)	(0.0931)	(0.0866)	(0.0798)
75 - 79		0.0954	0.1159	0.1162	0.0979	0.0885	0.0811
80 - 84		(0.0028)	0.0171	0.0170	0.0162	0.0132	0.0116
85 & Over		0.2119	0.2130	0.1995	0.1830	0.1670	0.1420
Total		0.0053	0.0088	0.0128	0.0140	0.0147	0.0162

*Female*

		Asian/Other					
Age		1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5		0.0936	0.1761	0.1540	0.1340	0.1309	0.1244
5 - 9		0.0941	0.2211	0.1656	0.1376	0.1165	0.1107
10 - 14		0.2973	0.4165	0.4961	0.3530	0.2879	0.2401
15 - 19		0.4701	0.5576	0.5777	0.6537	0.4555	0.3646
20 - 24		0.3337	0.3002	0.1879	0.0552	(0.1041)	(0.1929)
25 - 29		0.3941	0.3284	0.2517	0.1468	0.0470	(0.0520)
30 - 34		0.1478	0.0870	(0.0370)	(0.1759)	(0.3232)	(0.5039)
35 - 39		(0.0975)	(0.1516)	(0.2603)	(0.3384)	(0.4433)	(0.5051)
40 - 44		0.0267	(0.0417)	(0.1688)	(0.2769)	(0.3600)	(0.4867)
45 - 49		(0.1910)	(0.2305)	(0.3206)	(0.4091)	(0.4584)	(0.4648)
50 - 54		(0.0224)	(0.1161)	(0.2431)	(0.3364)	(0.4360)	(0.4908)
55 - 59		(0.0020)	(0.0535)	(0.1672)	(0.2520)	(0.3037)	(0.3594)
60 - 64		0.0522	(0.0227)	(0.1518)	(0.2755)	(0.3514)	(0.3859)
65 - 69		0.2095	0.2733	0.2371	0.2000	0.1768	0.1441
70 - 74		0.0589	0.1681	0.1354	0.1115	0.0911	0.0777
75 - 79		0.1665	0.2710	0.2777	0.2123	0.1708	0.1364
80 - 84		(0.0836)	0.0281	0.0276	0.0268	0.0198	0.0153
85 & Over		(0.2538)	(0.1385)	(0.1332)	(0.1228)	(0.1131)	(0.0908)
Total		0.1444	0.1446	0.0960	0.0654	0.0266	(0.0156)
Grand Total		0.1542	0.1516	0.1001	0.0673	0.0277	(0.0138)

		Hispanic					
Age		1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5		(0.0462)	(0.0169)	(0.0174)	(0.0162)	(0.0161)	(0.0145)
5 - 9		(0.0661)	(0.0528)	(0.0421)	(0.0411)	(0.0373)	(0.0359)
10 - 14		0.0401	0.0609	0.0668	0.0506	0.0483	0.0430
15 - 19		0.0392	0.0608	0.0622	0.0648	0.0479	0.0444
20 - 24		0.0981	0.1033	0.1173	0.1149	0.1179	0.0890
25 - 29		0.1083	0.1001	0.1140	0.1170	0.1113	0.1146
30 - 34		0.0099	0.0079	0.0135	0.0153	0.0162	0.0198
35 - 39		(0.0524)	(0.0538)	(0.0444)	(0.0382)	(0.0368)	(0.0307)
40 - 44		(0.0463)	(0.0502)	(0.0427)	(0.0368)	(0.0308)	(0.0251)
45 - 49		(0.1134)	(0.1150)	(0.1053)	(0.0980)	(0.0841)	(0.0666)
50 - 54		(0.0991)	(0.1111)	(0.1034)	(0.0936)	(0.0847)	(0.0672)
55 - 59		(0.0740)	(0.0764)	(0.0731)	(0.0682)	(0.0601)	(0.0496)
60 - 64		(0.0411)	(0.0447)	(0.0377)	(0.0355)	(0.0317)	(0.0227)
65 - 69		(0.0046)	0.0156	0.0148	0.0143	0.0139	0.0126
70 - 74		(0.0777)	(0.0589)	(0.0531)	(0.0478)	(0.0449)	(0.0421)
75 - 79		0.1205	0.1352	0.1364	0.1167	0.1032	0.0953
80 - 84		(0.0246)	(0.0032)	(0.0030)	(0.0029)	(0.0024)	(0.0020)
85 & Over		0.0145	0.0333	0.0309	0.0276	0.0249	0.0211
Total		(0.0053)	(0.0009)	0.0040	0.0060	0.0078	0.0100
Grand Total		(0.0002)	0.0038	0.0083	0.0099	0.0112	0.0131

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: Long Island

*Male*

White							Black						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	
Under 5	0.0225	0.0180	0.0184	0.0186	0.0198	0.0207	(0.0967)	(0.0775)	(0.0780)	(0.0723)	(0.0688)	(0.0579)	
5 - 9	(0.0557)	(0.0565)	(0.0452)	(0.0461)	(0.0466)	(0.0498)	0.0797	0.0882	0.0707	0.0676	0.0598	0.0545	
10 - 14	(0.0706)	(0.0812)	(0.0824)	(0.0659)	(0.0671)	(0.0679)	0.0219	0.0241	0.0267	0.0203	0.0183	0.0152	
15 - 19	(0.1336)	(0.1522)	(0.1748)	(0.1774)	(0.1420)	(0.1446)	(0.0049)	(0.0055)	(0.0061)	(0.0064)	(0.0046)	(0.0039)	
20 - 24	(0.1329)	(0.1298)	(0.1293)	(0.1326)	(0.1332)	(0.0980)	(0.1033)	(0.0928)	(0.0857)	(0.0747)	(0.0736)	(0.0400)	
25 - 29	0.0207	0.0236	0.0423	0.0605	0.0679	0.0791	0.1052	0.0888	0.1028	0.1226	0.1207	0.1250	
30 - 34	0.0858	0.0812	0.0816	0.0929	0.1048	0.1284	0.0584	0.0613	0.0643	0.0696	0.0702	0.0768	
35 - 39	(0.0202)	(0.0132)	0.0075	0.0182	0.0183	0.0309	0.0793	0.0928	0.1070	0.0926	0.0799	0.0865	
40 - 44	0.0561	0.0614	0.0807	0.0822	0.0691	0.0783	0.0558	0.0691	0.0999	0.1026	0.0729	0.0681	
45 - 49	(0.0702)	(0.0602)	(0.0400)	(0.0276)	(0.0247)	(0.0122)	0.0841	0.0878	0.1163	0.1342	0.1127	0.0854	
50 - 54	(0.1531)	(0.1636)	(0.1315)	(0.1121)	(0.1121)	(0.0901)	0.0033	0.0104	0.0318	0.0498	0.0481	0.0494	
55 - 59	(0.1028)	(0.1153)	(0.1099)	(0.0913)	(0.0888)	(0.0780)	(0.0527)	(0.0468)	(0.0253)	(0.0111)	(0.0112)	0.0007	
60 - 64	(0.0206)	(0.0141)	0.0055	0.0224	0.0209	0.0321	(0.0204)	(0.0125)	0.0117	0.0253	0.0219	0.0346	
65 - 69	(0.0267)	(0.0226)	(0.0223)	(0.0269)	(0.0306)	(0.0290)	(0.0172)	(0.0164)	(0.0170)	(0.0167)	(0.0142)	(0.0117)	
70 - 74	(0.0726)	(0.0662)	(0.0563)	(0.0552)	(0.0667)	(0.0758)	(0.0780)	(0.0770)	(0.0738)	(0.0729)	(0.0677)	(0.0540)	
75 - 79	(0.0501)	(0.0494)	(0.0455)	(0.0385)	(0.0378)	(0.0456)	(0.0909)	(0.0903)	(0.0904)	(0.0824)	(0.0771)	(0.0675)	
80 - 84	(0.0401)	(0.0398)	(0.0400)	(0.0367)	(0.0311)	(0.0305)	(0.1463)	(0.1469)	(0.1496)	(0.1430)	(0.1231)	(0.1082)	
85 & Over	(0.2073)	(0.2151)	(0.2253)	(0.2287)	(0.2172)	(0.1932)	(0.0255)	(0.0241)	(0.0240)	(0.0226)	(0.0203)	(0.0170)	
Total	(0.0393)	(0.0361)	(0.0285)	(0.0247)	(0.0272)	(0.0200)	0.0123	0.0193	0.0309	0.0363	0.0308	0.0323	

*Female*

White							Black						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	
Under 5	0.0045	0.0036	0.0037	0.0037	0.0040	0.0041	(0.0776)	(0.0622)	(0.0626)	(0.0580)	(0.0553)	(0.0466)	
5 - 9	(0.0589)	(0.0597)	(0.0478)	(0.0487)	(0.0492)	(0.0526)	0.0427	0.0475	0.0381	0.0364	0.0322	0.0292	
10 - 14	(0.0742)	(0.0853)	(0.0864)	(0.0692)	(0.0705)	(0.0713)	0.0473	0.0523	0.0582	0.0444	0.0402	0.0335	
15 - 19	(0.1338)	(0.1533)	(0.1763)	(0.1785)	(0.1430)	(0.1456)	0.0193	0.0211	0.0234	0.0247	0.0178	0.0152	
20 - 24	(0.1296)	(0.1271)	(0.1272)	(0.1302)	(0.1305)	(0.0960)	(0.0472)	(0.0406)	(0.0256)	(0.0129)	(0.0130)	0.0008	
25 - 29	0.0154	0.0191	0.0378	0.0557	0.0625	0.0735	0.1180	0.1022	0.1191	0.1358	0.1333	0.1374	
30 - 34	0.0765	0.0739	0.0755	0.0870	0.0986	0.1215	0.0623	0.0648	0.0689	0.0758	0.0737	0.0795	
35 - 39	(0.0391)	(0.0325)	(0.0100)	0.0034	0.0033	0.0140	0.0325	0.0440	0.0612	0.0595	0.0526	0.0585	
40 - 44	0.0502	0.0551	0.0743	0.0771	0.0650	0.0743	0.0219	0.0305	0.0587	0.0655	0.0478	0.0491	
45 - 49	(0.0681)	(0.0572)	(0.0371)	(0.0252)	(0.0229)	(0.0108)	0.1036	0.1002	0.1239	0.1472	0.1237	0.0956	
50 - 54	(0.1658)	(0.1763)	(0.1419)	(0.1222)	(0.1233)	(0.1015)	(0.0709)	(0.0582)	(0.0321)	(0.0164)	(0.0169)	(0.0021)	
55 - 59	(0.1154)	(0.1282)	(0.1229)	(0.1019)	(0.0986)	(0.0889)	(0.0911)	(0.0891)	(0.0639)	(0.0431)	(0.0409)	(0.0281)	
60 - 64	(0.0261)	(0.0191)	(0.0006)	0.0149	0.0136	0.0243	(0.0534)	(0.0468)	(0.0236)	(0.0055)	(0.0048)	0.0086	
65 - 69	(0.0078)	(0.0067)	(0.0065)	(0.0077)	(0.0087)	(0.0081)	0.0448	0.0433	0.0455	0.0466	0.0394	0.0307	
70 - 74	(0.0691)	(0.0650)	(0.0558)	(0.0540)	(0.0645)	(0.0726)	(0.0900)	(0.0876)	(0.0851)	(0.0777)	(0.0818)	(0.0647)	
75 - 79	(0.0396)	(0.0401)	(0.0379)	(0.0325)	(0.0315)	(0.0376)	0.0110	0.0110	0.0107	0.0099	0.0094	0.0086	
80 - 84	(0.0178)	(0.0179)	(0.0183)	(0.0173)	(0.0148)	(0.0144)	(0.0689)	(0.0677)	(0.0683)	(0.0637)	(0.0554)	(0.0493)	
85 & Over	(0.1708)	(0.1674)	(0.1705)	(0.1735)	(0.1698)	(0.1567)	(0.1541)	(0.1434)	(0.1396)	(0.1304)	(0.1152)	(0.0953)	
Total	(0.0449)	(0.0424)	(0.0352)	(0.0312)	(0.0334)	(0.0270)	0.0136	0.0167	0.0275	0.0336	0.0287	0.0295	
Grand Total	(0.0422)	(0.0393)	(0.0319)	(0.0280)	(0.0304)	(0.0236)	0.0130	0.0179	0.0291	0.0349	0.0297	0.0308	

Source: Population Model (Urbanomics)

Table 9-3

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: Long Island

*Male*

Asian/Other						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	0.3607	0.2867	0.3020	0.2710	0.2393	0.2001
5 - 9	0.4458	0.5482	0.4358	0.4359	0.3727	0.3144
10 - 14	0.3386	0.3559	0.4377	0.3305	0.3122	0.2504
15 - 19	0.3681	0.3530	0.3711	0.4335	0.3103	0.2771
20 - 24	0.3318	0.3157	0.3248	0.3348	0.3651	0.2585
25 - 29	0.3596	0.3557	0.3567	0.3400	0.3150	0.3400
30 - 34	0.5365	0.5712	0.5752	0.5222	0.4508	0.4126
35 - 39	0.4234	0.4622	0.5126	0.4867	0.4044	0.3410
40 - 44	0.4776	0.4710	0.5310	0.5467	0.4738	0.3847
45 - 49	0.1165	0.1220	0.1420	0.1607	0.1493	0.1319
50 - 54	0.2418	0.2413	0.2635	0.2604	0.2508	0.2385
55 - 59	(0.0563)	(0.0439)	(0.0193)	(0.0029)	(0.0028)	0.0097
60 - 64	0.0490	0.0656	0.0944	0.1066	0.0934	0.0930
65 - 69	0.2323	0.2313	0.2511	0.2238	0.1953	0.1636
70 - 74	0.1588	0.1602	0.1596	0.1639	0.1381	0.1133
75 - 79	0.1492	0.1442	0.1459	0.1375	0.1337	0.1062
80 - 84	0.2981	0.2858	0.2783	0.2664	0.2388	0.2212
85 & Over	(0.0785)	(0.0732)	(0.0705)	(0.0647)	(0.0573)	(0.0477)
Total	0.3432	0.3460	0.3616	0.3512	0.3089	0.2632

Hispanic						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	(0.1144)	(0.0948)	(0.0954)	(0.0862)	(0.0795)	(0.0668)
5 - 9	0.0637	0.0719	0.0595	0.0569	0.0490	0.0433
10 - 14	0.1549	0.1691	0.1908	0.1501	0.1366	0.1121
15 - 19	0.2360	0.2406	0.2625	0.2814	0.2105	0.1824
20 - 24	0.3248	0.3111	0.3360	0.3567	0.3589	0.2663
25 - 29	0.3882	0.3276	0.3284	0.3304	0.3181	0.3143
30 - 34	0.2367	0.2396	0.2188	0.2086	0.1891	0.1819
35 - 39	0.1538	0.1732	0.1929	0.1662	0.1400	0.1302
40 - 44	0.1299	0.1459	0.1873	0.1917	0.1427	0.1243
45 - 49	0.0428	0.0496	0.0739	0.0912	0.0797	0.0665
50 - 54	0.0200	0.0296	0.0569	0.0766	0.0738	0.0760
55 - 59	0.0176	0.0243	0.0457	0.0571	0.0537	0.0610
60 - 64	(0.0028)	0.0068	0.0342	0.0514	0.0454	0.0569
65 - 69	(0.1052)	(0.0971)	(0.0958)	(0.0910)	(0.0837)	(0.0697)
70 - 74	(0.1597)	(0.1692)	(0.1566)	(0.1461)	(0.1312)	(0.1135)
75 - 79	0.1551	0.1606	0.1709	0.1496	0.1338	0.1161
80 - 84	0.1524	0.1476	0.1542	0.1554	0.1289	0.1088
85 & Over	0.1704	0.1441	0.1354	0.1273	0.1173	0.0968
Total	0.1563	0.1543	0.1630	0.1612	0.1426	0.1262

*Female*

Asian/Other						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	0.3375	0.2684	0.2827	0.2537	0.2239	0.1870
5 - 9	0.4160	0.5395	0.4291	0.4293	0.3672	0.3098
10 - 14	0.3465	0.3456	0.4483	0.3387	0.3201	0.2572
15 - 19	0.3028	0.2869	0.2863	0.3527	0.2518	0.2237
20 - 24	0.2779	0.2725	0.2806	0.2766	0.3184	0.2269
25 - 29	0.4557	0.4586	0.4637	0.4321	0.3820	0.4358
30 - 34	0.5605	0.5945	0.6103	0.5671	0.4829	0.4184
35 - 39	0.3553	0.3954	0.4399	0.4287	0.3644	0.3021
40 - 44	0.3835	0.3694	0.4285	0.4432	0.3921	0.3273
45 - 49	0.0794	0.0786	0.0958	0.1143	0.1060	0.0987
50 - 54	0.0551	0.0656	0.0871	0.0964	0.0936	0.0989
55 - 59	(0.0123)	(0.0042)	0.0208	0.0333	0.0278	0.0380
60 - 64	0.1958	0.2160	0.2562	0.2604	0.2104	0.1848
65 - 69	0.3158	0.3125	0.3293	0.3289	0.2960	0.2274
70 - 74	0.0768	0.0735	0.0728	0.0729	0.0684	0.0572
75 - 79	0.1840	0.1883	0.1806	0.1699	0.1617	0.1443
80 - 84	(0.3413)	(0.3118)	(0.3204)	(0.2914)	(0.2553)	(0.2223)
85 & Over	(0.3571)	(0.3597)	(0.3442)	(0.3247)	(0.2844)	(0.2355)
Total	0.3175	0.3207	0.3375	0.3283	0.2881	0.2460
Grand Total	0.3302	0.3333	0.3497	0.3400	0.2987	0.2548

Hispanic						
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	(0.1074)	(0.0890)	(0.0896)	(0.0809)	(0.0747)	(0.0628)
5 - 9	0.0633	0.0697	0.0578	0.0553	0.0476	0.0420
10 - 14	0.1484	0.1660	0.1828	0.1439	0.1310	0.1074
15 - 19	0.1491	0.1540	0.1723	0.1802	0.1345	0.1156
20 - 24	0.2161	0.2174	0.2439	0.2693	0.2643	0.1984
25 - 29	0.3659	0.3167	0.3298	0.3355	0.3323	0.3230
30 - 34	0.2156	0.2153	0.2018	0.2001	0.1834	0.1816
35 - 39	0.0943	0.1119	0.1307	0.1192	0.1039	0.1003
40 - 44	0.1539	0.1651	0.2088	0.2064	0.1575	0.1409
45 - 49	(0.0109)	(0.0033)	0.0172	0.0327	0.0278	0.0301
50 - 54	(0.0316)	(0.0232)	0.0038	0.0220	0.0213	0.0310
55 - 59	0.0151	0.0221	0.0440	0.0533	0.0486	0.0573
60 - 64	0.0087	0.0175	0.0443	0.0608	0.0513	0.0591
65 - 69	0.0432	0.0419	0.0405	0.0389	0.0363	0.0291
70 - 74	(0.0268)	(0.0276)	(0.0268)	(0.0246)	(0.0224)	(0.0196)
75 - 79	0.1887	0.1906	0.1969	0.1816	0.1592	0.1389
80 - 84	0.0086	0.0079	0.0081	0.0079	0.0069	0.0056
85 & Over	(0.0672)	(0.0613)	(0.0572)	(0.0529)	(0.0476)	(0.0397)
Total	0.1183	0.1178	0.1277	0.1278	0.1135	0.1033
Grand Total	0.1375	0.1365	0.1460	0.1452	0.1288	0.1154

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: Mid-Hudson

*Male*

Age	White						Black					
	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	0.0680	0.0540	0.0553	0.0568	0.0604	0.0620	(0.0132)	(0.0106)	(0.0111)	(0.0105)	(0.0099)	(0.0082)
5 - 9	(0.0170)	(0.0165)	(0.0131)	(0.0134)	(0.0138)	(0.0147)	0.0426	0.0437	0.0353	0.0350	0.0315	0.0280
10 - 14	(0.0762)	(0.0852)	(0.0829)	(0.0658)	(0.0674)	(0.0693)	0.1098	0.1192	0.1223	0.0938	0.0884	0.0757
15 - 19	(0.1063)	(0.1247)	(0.1394)	(0.1357)	(0.1076)	(0.1104)	0.0014	0.0015	0.0016	0.0016	0.0012	0.0010
20 - 24	(0.1458)	(0.1509)	(0.1697)	(0.2058)	(0.2255)	(0.1960)	(0.0517)	(0.0348)	(0.0126)	(0.0106)	(0.0121)	(0.0040)
25 - 29	0.0030	0.0052	0.0122	(0.0025)	(0.0252)	(0.0416)	0.1694	0.1656	0.1973	0.2075	0.1984	0.1812
30 - 34	0.0985	0.0898	0.0837	0.0756	0.0684	0.0597	0.1137	0.1223	0.1265	0.1276	0.1234	0.1170
35 - 39	(0.0458)	(0.0424)	(0.0312)	(0.0419)	(0.0632)	(0.0891)	0.0112	0.0325	0.0542	0.0465	0.0416	0.0430
40 - 44	0.0191	0.0215	0.0278	0.0119	(0.0044)	(0.0171)	(0.0001)	0.0252	0.0547	0.0492	0.0366	0.0369
45 - 49	(0.1000)	(0.0916)	(0.0830)	(0.0968)	(0.1043)	(0.1039)	(0.0438)	(0.0232)	0.0023	0.0042	0.0014	0.0054
50 - 54	(0.1768)	(0.1930)	(0.1736)	(0.1872)	(0.2071)	(0.1987)	(0.0020)	0.0229	0.0536	0.0539	0.0465	0.0407
55 - 59	(0.1134)	(0.1256)	(0.1328)	(0.1407)	(0.1565)	(0.1695)	(0.1093)	(0.0929)	(0.0687)	(0.0638)	(0.0598)	(0.0460)
60 - 64	(0.0465)	(0.0427)	(0.0405)	(0.0644)	(0.0838)	(0.0982)	(0.0852)	(0.0653)	(0.0340)	(0.0296)	(0.0296)	(0.0190)
65 - 69	(0.0445)	(0.0389)	(0.0381)	(0.0434)	(0.0472)	(0.0436)	0.0140	0.0132	0.0144	0.0144	0.0129	0.0111
70 - 74	(0.1187)	(0.1193)	(0.1049)	(0.1022)	(0.1162)	(0.1267)	(0.1656)	(0.1642)	(0.1541)	(0.1599)	(0.1498)	(0.1251)
75 - 79	(0.0164)	(0.0166)	(0.0169)	(0.0148)	(0.0144)	(0.0164)	(0.1072)	(0.1153)	(0.1133)	(0.1010)	(0.0996)	(0.0884)
80 - 84	(0.0043)	(0.0040)	(0.0042)	(0.0042)	(0.0037)	(0.0036)	(0.0913)	(0.0875)	(0.0932)	(0.0873)	(0.0738)	(0.0688)
85 & Over	(0.1916)	(0.1889)	(0.1886)	(0.1920)	(0.1946)	(0.1805)	(0.2682)	(0.2613)	(0.2466)	(0.2330)	(0.2069)	(0.1683)
Total	(0.0433)	(0.0440)	(0.0451)	(0.0584)	(0.0720)	(0.0780)	0.0218	0.0326	0.0448	0.0404	0.0341	0.0325

*Female*

Age	White						Black					
	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	0.0498	0.0396	0.0406	0.0417	0.0443	0.0455	0.0079	0.0064	0.0067	0.0064	0.0060	0.0050
5 - 9	(0.0158)	(0.0154)	(0.0122)	(0.0125)	(0.0129)	(0.0137)	0.0089	0.0093	0.0075	0.0074	0.0067	0.0059
10 - 14	(0.0913)	(0.1019)	(0.0993)	(0.0788)	(0.0809)	(0.0831)	0.0505	0.0548	0.0569	0.0437	0.0411	0.0350
15 - 19	(0.1160)	(0.1373)	(0.1533)	(0.1494)	(0.1186)	(0.1216)	0.0150	0.0166	0.0181	0.0178	0.0129	0.0115
20 - 24	(0.1294)	(0.1348)	(0.1524)	(0.1863)	(0.2063)	(0.1805)	(0.0148)	0.0033	0.0289	0.0312	0.0268	0.0227
25 - 29	0.0249	0.0241	0.0321	0.0215	0.0018	(0.0146)	0.1104	0.1148	0.1457	0.1528	0.1445	0.1337
30 - 34	0.0609	0.0572	0.0545	0.0452	0.0331	0.0202	0.0820	0.0947	0.1025	0.1049	0.1006	0.0959
35 - 39	(0.0518)	(0.0491)	(0.0378)	(0.0472)	(0.0692)	(0.0969)	(0.0127)	0.0083	0.0324	0.0284	0.0250	0.0276
40 - 44	0.0138	0.0160	0.0224	0.0076	(0.0079)	(0.0207)	0.0003	0.0240	0.0526	0.0480	0.0356	0.0363
45 - 49	(0.0940)	(0.0846)	(0.0751)	(0.0900)	(0.0993)	(0.0983)	(0.0163)	0.0046	0.0298	0.0309	0.0236	0.0216
50 - 54	(0.1902)	(0.2043)	(0.1818)	(0.1919)	(0.2141)	(0.2075)	(0.0457)	(0.0218)	0.0077	0.0099	0.0067	0.0099
55 - 59	(0.1433)	(0.1611)	(0.1692)	(0.1727)	(0.1850)	(0.2002)	(0.1218)	(0.1061)	(0.0819)	(0.0719)	(0.0688)	(0.0544)
60 - 64	(0.0589)	(0.0558)	(0.0561)	(0.0803)	(0.0969)	(0.1088)	(0.0431)	(0.0218)	0.0083	0.0102	0.0064	0.0114
65 - 69	(0.0311)	(0.0276)	(0.0275)	(0.0317)	(0.0341)	(0.0310)	0.0308	0.0287	0.0314	0.0317	0.0286	0.0232
70 - 74	(0.0793)	(0.0798)	(0.0711)	(0.0708)	(0.0817)	(0.0876)	(0.1024)	(0.1022)	(0.0949)	(0.0777)	(0.0935)	(0.0789)
75 - 79	0.0004	0.0004	0.0004	0.0003	0.0003	0.0004	0.0629	0.0624	0.0619	0.0545	0.0540	0.0491
80 - 84	0.0098	0.0091	0.0092	0.0093	0.0083	0.0082	(0.1071)	(0.1020)	(0.1004)	(0.0947)	(0.0784)	(0.0724)
85 & Over	(0.1909)	(0.1842)	(0.1789)	(0.1765)	(0.1764)	(0.1675)	(0.2429)	(0.2345)	(0.2223)	(0.2032)	(0.1785)	(0.1442)
Total	(0.0489)	(0.0502)	(0.0514)	(0.0637)	(0.0763)	(0.0820)	0.0073	0.0173	0.0298	0.0279	0.0233	0.0226
Grand Total	(0.0462)	(0.0472)	(0.0483)	(0.0611)	(0.0742)	(0.0800)	0.0143	0.0247	0.0372	0.0341	0.0287	0.0276

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: Mid-Hudson

*Male*

Asian/Other							Hispanic					
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	0.2717	0.2266	0.2425	0.2189	0.1867	0.1514	0.0031	0.0027	0.0028	0.0025	0.0023	0.0019
5 - 9	0.2582	0.3168	0.2642	0.2686	0.2300	0.1858	0.0747	0.0786	0.0690	0.0666	0.0582	0.0501
10 - 14	0.2597	0.2679	0.3287	0.2604	0.2509	0.2031	0.2390	0.2502	0.2631	0.2195	0.2020	0.1690
15 - 19	0.1909	0.1727	0.1782	0.2077	0.1553	0.1403	0.2577	0.2692	0.2819	0.2816	0.2228	0.1942
20 - 24	0.1883	0.2063	0.2121	0.2053	0.2237	0.1643	0.4017	0.4182	0.4579	0.4471	0.4231	0.3264
25 - 29	0.5534	0.5558	0.5664	0.4780	0.4353	0.4717	0.4476	0.4176	0.4396	0.4303	0.3934	0.3588
30 - 34	0.6253	0.7024	0.6976	0.6359	0.5057	0.4454	0.2362	0.2537	0.2525	0.2385	0.2159	0.1900
35 - 39	0.3214	0.3831	0.4468	0.4056	0.3433	0.2592	0.1407	0.1697	0.1930	0.1646	0.1432	0.1280
40 - 44	0.2241	0.2479	0.3122	0.3219	0.2712	0.2224	0.0790	0.1118	0.1539	0.1431	0.1114	0.0982
45 - 49	0.0329	0.0532	0.0801	0.0870	0.0811	0.0697	0.0045	0.0279	0.0571	0.0584	0.0480	0.0408
50 - 54	0.0008	0.0320	0.0642	0.0629	0.0595	0.0621	(0.0334)	(0.0019)	0.0381	0.0397	0.0335	0.0341
55 - 59	(0.1012)	(0.0695)	(0.0392)	(0.0324)	(0.0308)	(0.0234)	(0.0256)	(0.0036)	0.0246	0.0256	0.0209	0.0237
60 - 64	(0.0427)	(0.0057)	0.0367	0.0367	0.0278	0.0305	(0.0438)	(0.0117)	0.0273	0.0302	0.0238	0.0282
65 - 69	0.1492	0.1504	0.1599	0.1427	0.1244	0.0988	(0.1511)	(0.1416)	(0.1412)	(0.1404)	(0.1309)	(0.1094)
70 - 74	0.1559	0.1485	0.1497	0.1507	0.1274	0.1049	(0.1447)	(0.1533)	(0.1442)	(0.1361)	(0.1283)	(0.1129)
75 - 79	0.1414	0.1444	0.1377	0.1314	0.1252	0.0999	(0.0895)	(0.0968)	(0.1032)	(0.0918)	(0.0823)	(0.0735)
80 - 84	(0.1179)	(0.1173)	(0.1202)	(0.1086)	(0.0973)	(0.0862)	0.0516	0.0504	0.0551	0.0557	0.0472	0.0404
85 & Over	(0.2533)	(0.2348)	(0.2294)	(0.2182)	(0.1904)	(0.1589)	(0.1547)	(0.1355)	(0.1298)	(0.1264)	(0.1185)	(0.0987)
Total	0.2554	0.2762	0.3026	0.2856	0.2443	0.2027	0.1849	0.1929	0.2063	0.1925	0.1682	0.1422

*Female*

Asian/Other							Hispanic					
Age	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	0.2137	0.1783	0.1908	0.1722	0.1466	0.1184	(0.0301)	(0.0264)	(0.0268)	(0.0247)	(0.0223)	(0.0185)
5 - 9	0.3010	0.3756	0.3133	0.3185	0.2739	0.2225	0.1200	0.1244	0.1093	0.1055	0.0924	0.0800
10 - 14	0.1625	0.1661	0.2072	0.1642	0.1573	0.1264	0.1503	0.1603	0.1661	0.1387	0.1270	0.1054
15 - 19	0.2222	0.2051	0.2096	0.2485	0.1869	0.1696	0.1956	0.2071	0.2208	0.2174	0.1723	0.1497
20 - 24	0.1808	0.1924	0.2030	0.1947	0.2154	0.1587	0.2894	0.3153	0.3567	0.3550	0.3300	0.2554
25 - 29	0.6255	0.6613	0.6435	0.5538	0.5021	0.5552	0.3561	0.3381	0.3702	0.3669	0.3416	0.3083
30 - 34	0.5402	0.6216	0.6586	0.5796	0.4680	0.4062	0.2383	0.2574	0.2547	0.2466	0.2267	0.2043
35 - 39	0.2035	0.2429	0.2999	0.2900	0.2355	0.1813	0.1116	0.1388	0.1644	0.1404	0.1248	0.1135
40 - 44	0.2595	0.2623	0.3133	0.3296	0.2967	0.2361	0.0568	0.0873	0.1257	0.1186	0.0919	0.0838
45 - 49	(0.0537)	(0.0258)	0.0030	0.0053	0.0028	0.0079	(0.0358)	(0.0120)	0.0160	0.0179	0.0133	0.0148
50 - 54	(0.0308)	0.0041	0.0393	0.0368	0.0324	0.0378	(0.0185)	0.0115	0.0475	0.0486	0.0420	0.0410
55 - 59	(0.0252)	(0.0002)	0.0302	0.0284	0.0211	0.0246	(0.0360)	(0.0138)	0.0140	0.0152	0.0115	0.0154
60 - 64	0.0696	0.1090	0.1533	0.1444	0.1158	0.0970	(0.0143)	0.0152	0.0522	0.0538	0.0444	0.0454
65 - 69	0.1454	0.1412	0.1518	0.1497	0.1309	0.1014	0.0825	0.0782	0.0795	0.0788	0.0730	0.0607
70 - 74	0.0061	0.0063	0.0061	0.0063	0.0058	0.0048	(0.1460)	(0.1520)	(0.1446)	(0.1395)	(0.1298)	(0.1117)
75 - 79	0.1374	0.1333	0.1376	0.1269	0.1233	0.1092	0.2408	0.2443	0.2556	0.2307	0.2142	0.1938
80 - 84	(0.2854)	(0.2672)	(0.2598)	(0.2544)	(0.2192)	(0.1959)	0.0131	0.0116	0.0118	0.0117	0.0099	0.0086
85 & Over	(0.5662)	(0.5445)	(0.5178)	(0.4730)	(0.4241)	(0.3489)	(0.0404)	(0.0371)	(0.0342)	(0.0314)	(0.0283)	(0.0234)
Total	0.2389	0.2580	0.2810	0.2646	0.2255	0.1893	0.1366	0.1467	0.1606	0.1517	0.1344	0.1165
Grand Total	0.2471	0.2671	0.2918	0.2753	0.2351	0.1962	0.1620	0.1713	0.1852	0.1739	0.1529	0.1306

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: New Jersey

*Male*

Age	White						Black						
	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000		1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	(0.0125)	(0.0109)	(0.0107)	(0.0107)	(0.0114)	(0.0120)		(0.0961)	(0.0771)	(0.0767)	(0.0701)	(0.0667)	(0.0569)
5 - 9	(0.0572)	(0.0541)	(0.0472)	(0.0463)	(0.0467)	(0.0497)		(0.0661)	(0.0726)	(0.0583)	(0.0550)	(0.0478)	(0.0430)
10 - 14	(0.0823)	(0.0925)	(0.0875)	(0.0763)	(0.0749)	(0.0755)		(0.0468)	(0.0513)	(0.0564)	(0.0430)	(0.0385)	(0.0316)
15 - 19	(0.1089)	(0.1261)	(0.1419)	(0.1341)	(0.1169)	(0.1149)		(0.0334)	(0.0361)	(0.0396)	(0.0414)	(0.0299)	(0.0253)
20 - 24	(0.0659)	(0.0684)	(0.0782)	(0.0883)	(0.0850)	(0.0871)		(0.0570)	(0.0680)	(0.0863)	(0.1050)	(0.1207)	(0.1085)
25 - 29	0.0776	0.0670	0.0697	0.0805	0.0888	0.0686		0.1070	0.0763	0.0624	0.0527	0.0397	0.0093
30 - 34	0.0874	0.0758	0.0675	0.0688	0.0784	0.0730		0.0550	0.0359	0.0205	0.0081	(0.0045)	(0.0341)
35 - 39	(0.0108)	(0.0117)	(0.0091)	(0.0084)	(0.0100)	(0.0262)		(0.0208)	(0.0362)	(0.0455)	(0.0487)	(0.0541)	(0.0750)
40 - 44	0.0547	0.0515	0.0508	0.0444	0.0380	0.0275		(0.0315)	(0.0504)	(0.0650)	(0.0709)	(0.0657)	(0.0768)
45 - 49	(0.0346)	(0.0340)	(0.0318)	(0.0310)	(0.0287)	(0.0374)		(0.0754)	(0.0919)	(0.1049)	(0.1133)	(0.1075)	(0.1015)
50 - 54	(0.1445)	(0.1606)	(0.1510)	(0.1464)	(0.1427)	(0.1386)		(0.0533)	(0.0728)	(0.0898)	(0.1028)	(0.1096)	(0.1148)
55 - 59	(0.1039)	(0.1262)	(0.1376)	(0.1309)	(0.1280)	(0.1378)		(0.0925)	(0.1106)	(0.1250)	(0.1342)	(0.1349)	(0.1417)
60 - 64	(0.0118)	(0.0132)	(0.0145)	(0.0165)	(0.0174)	(0.0334)		(0.0304)	(0.0480)	(0.0649)	(0.0795)	(0.0905)	(0.1132)
65 - 69	(0.0146)	(0.0131)	(0.0134)	(0.0161)	(0.0177)	(0.0167)		0.0338	0.0312	0.0314	0.0307	0.0281	0.0244
70 - 74	(0.0376)	(0.0350)	(0.0314)	(0.0320)	(0.0384)	(0.0422)		(0.1061)	(0.1019)	(0.0949)	(0.0905)	(0.0835)	(0.0712)
75 - 79	0.0064	0.0061	0.0057	0.0051	0.0052	0.0062		0.0076	0.0076	0.0074	0.0065	0.0059	0.0052
80 - 84	(0.0298)	(0.0288)	(0.0280)	(0.0262)	(0.0234)	(0.0237)		(0.1360)	(0.1327)	(0.1354)	(0.1258)	(0.1049)	(0.0888)
85 & Over	(0.1856)	(0.1896)	(0.1929)	(0.1900)	(0.1813)	(0.1670)		(0.0775)	(0.0740)	(0.0727)	(0.0679)	(0.0600)	(0.0488)
Total	(0.0219)	(0.0255)	(0.0295)	(0.0334)	(0.0357)	(0.0431)		(0.0273)	(0.0370)	(0.0463)	(0.0529)	(0.0562)	(0.0624)

*Female*

Age	White						Black						
	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000		1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2000
Under 5	(0.0249)	(0.0218)	(0.0214)	(0.0216)	(0.0229)	(0.0240)		(0.0818)	(0.0657)	(0.0653)	(0.0597)	(0.0568)	(0.0486)
5 - 9	(0.0557)	(0.0525)	(0.0458)	(0.0450)	(0.0453)	(0.0482)		(0.0830)	(0.0915)	(0.0734)	(0.0694)	(0.0601)	(0.0540)
10 - 14	(0.0911)	(0.1032)	(0.0971)	(0.0848)	(0.0833)	(0.0839)		(0.0420)	(0.0463)	(0.0510)	(0.0389)	(0.0349)	(0.0286)
15 - 19	(0.1104)	(0.1282)	(0.1451)	(0.1366)	(0.1192)	(0.1171)		(0.0393)	(0.0426)	(0.0470)	(0.0492)	(0.0355)	(0.0301)
20 - 24	(0.0562)	(0.0587)	(0.0671)	(0.0763)	(0.0734)	(0.0770)		(0.0139)	(0.0266)	(0.0408)	(0.0569)	(0.0727)	(0.0756)
25 - 29	0.0645	0.0562	0.0588	0.0679	0.0752	0.0554		0.0615	0.0403	0.0283	0.0171	0.0038	(0.0250)
30 - 34	0.0880	0.0759	0.0682	0.0697	0.0797	0.0750		0.0133	(0.0016)	(0.0113)	(0.0213)	(0.0337)	(0.0621)
35 - 39	(0.0289)	(0.0293)	(0.0245)	(0.0221)	(0.0241)	(0.0427)		(0.0435)	(0.0581)	(0.0656)	(0.0670)	(0.0709)	(0.0908)
40 - 44	0.0595	0.0564	0.0558	0.0484	0.0419	0.0318		(0.0492)	(0.0665)	(0.0791)	(0.0823)	(0.0766)	(0.0865)
45 - 49	(0.0436)	(0.0419)	(0.0394)	(0.0387)	(0.0351)	(0.0432)		(0.0721)	(0.0852)	(0.0971)	(0.1041)	(0.0994)	(0.0985)
50 - 54	(0.1656)	(0.1857)	(0.1720)	(0.1671)	(0.1636)	(0.1556)		(0.0899)	(0.1097)	(0.1219)	(0.1314)	(0.1321)	(0.1303)
55 - 59	(0.1003)	(0.1222)	(0.1347)	(0.1263)	(0.1238)	(0.1343)		(0.0708)	(0.0883)	(0.1018)	(0.1074)	(0.1098)	(0.1189)
60 - 64	(0.0292)	(0.0310)	(0.0360)	(0.0407)	(0.0397)	(0.0547)		(0.0331)	(0.0504)	(0.0671)	(0.0807)	(0.0870)	(0.1060)
65 - 69	0.0262	0.0233	0.0239	0.0289	0.0321	0.0300		0.0321	0.0302	0.0299	0.0293	0.0266	0.0221
70 - 74	(0.0308)	(0.0284)	(0.0255)	(0.0260)	(0.0315)	(0.0350)		(0.0885)	(0.0873)	(0.0827)	(0.0777)	(0.0716)	(0.0608)
75 - 79	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		0.0665	0.0649	0.0644	0.0578	0.0518	0.0456
80 - 84	(0.0458)	(0.0442)	(0.0428)	(0.0396)	(0.0354)	(0.0362)		(0.0904)	(0.0858)	(0.0846)	(0.0799)	(0.0675)	(0.0564)
85 & Over	(0.2058)	(0.2039)	(0.2030)	(0.1987)	(0.1895)	(0.1767)		(0.1760)	(0.1669)	(0.1606)	(0.1477)	(0.1303)	(0.1064)
Total	(0.0273)	(0.0317)	(0.0362)	(0.0402)	(0.0424)	(0.0490)		(0.0345)	(0.0454)	(0.0539)	(0.0589)	(0.0602)	(0.0652)
Grand Total	(0.0247)	(0.0287)	(0.0329)	(0.0369)	(0.0391)	(0.0461)		(0.0311)	(0.0414)	(0.0503)	(0.0561)	(0.0583)	(0.0639)

Source: Population Model (Urbanomics)

Table 9-7

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: New Jersey

*Male*

Asian/Other							Hispanic						
Age	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	
Under 5	0.3630	0.3109	0.3183	0.2799	0.2408	0.1997	(0.1637)	(0.1473)	(0.1457)	(0.1298)	(0.1173)	(0.0986)	
5 - 9	0.2542	0.3023	0.2589	0.2517	0.2093	0.1694	(0.0311)	(0.0337)	(0.0304)	(0.0285)	(0.0242)	(0.0209)	
10 - 14	0.2680	0.2796	0.3325	0.2705	0.2494	0.1963	0.0905	0.0959	0.1041	0.0889	0.0796	0.0645	
15 - 19	0.3639	0.3387	0.3535	0.3993	0.3086	0.2702	0.1675	0.1651	0.1750	0.1804	0.1466	0.1247	
20 - 24	0.4002	0.3521	0.3166	0.2997	0.3033	0.1881	0.2764	0.2693	0.2655	0.2675	0.2625	0.2033	
25 - 29	0.7556	0.7226	0.6564	0.5707	0.5310	0.5177	0.3585	0.3131	0.3053	0.2863	0.2737	0.2545	
30 - 34	0.6195	0.6241	0.5995	0.5153	0.4210	0.3472	0.2286	0.2139	0.1871	0.1738	0.1535	0.1370	
35 - 39	0.3108	0.3114	0.3079	0.2712	0.2086	0.1321	0.0759	0.0772	0.0725	0.0605	0.0529	0.0436	
40 - 44	0.2627	0.2414	0.2386	0.2152	0.1708	0.0985	0.0765	0.0783	0.0799	0.0714	0.0564	0.0466	
45 - 49	0.1169	0.0912	0.0763	0.0607	0.0395	(0.0005)	(0.0285)	(0.0641)	(0.0954)	(0.1251)	(0.1377)	(0.1601)	
50 - 54	0.1797	0.1414	0.1151	0.0894	0.0639	0.0110	0.0343	0.0347	0.0357	0.0349	0.0323	0.0259	
55 - 59	(0.0065)	(0.0259)	(0.0388)	(0.0502)	(0.0606)	(0.0865)	(0.0271)	0.0063	(0.0206)	(0.0498)	(0.0775)	(0.1307)	
60 - 64	0.0705	0.0416	0.0163	(0.0079)	(0.0279)	(0.0675)	0.0679	0.0640	0.0672	0.0614	0.0569	0.0502	
65 - 69	0.3345	0.3337	0.3436	0.3060	0.2525	0.2042	(0.0832)	(0.0766)	(0.0724)	(0.0720)	(0.0620)	(0.0536)	
70 - 74	0.3093	0.3133	0.3127	0.3045	0.2567	0.1998	(0.0786)	(0.0803)	(0.0741)	(0.0662)	(0.0624)	(0.0507)	
75 - 79	0.2573	0.2542	0.2582	0.2435	0.2243	0.1780	0.1327	0.1321	0.1355	0.1182	0.1008	0.0911	
80 - 84	0.0120	0.0110	0.0110	0.0105	0.0094	0.0080	(0.0240)	(0.0241)	(0.0242)	(0.0235)	(0.0193)	(0.0154)	
85 & Over	(0.1901)	(0.1805)	(0.1701)	(0.1569)	(0.1402)	(0.1172)	0.1693	0.1487	0.1437	0.1340	0.1212	0.0994	
Total	0.3517	0.3373	0.3254	0.2914	0.2438	0.1852	0.1083	0.1021	0.0937	0.0823	0.0694	0.0520	

*Female*

Asian/Other							Hispanic						
Age	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-1995	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	
Under 5	0.3345	0.2866	0.2934	0.2581	0.2218	0.1837	(0.1633)	(0.1470)	(0.1454)	(0.1295)	(0.1170)	(0.0984)	
5 - 9	0.2738	0.3312	0.2838	0.2760	0.2299	0.1866	(0.0271)	(0.0291)	(0.0262)	(0.0246)	(0.0209)	(0.0180)	
10 - 14	0.2762	0.2787	0.3371	0.2744	0.2529	0.1991	0.0745	0.0796	0.0855	0.0731	0.0653	0.0528	
15 - 19	0.3749	0.3485	0.3518	0.4043	0.3126	0.2735	0.1351	0.1345	0.1438	0.1467	0.1191	0.1012	
20 - 24	0.5009	0.4492	0.4077	0.3781	0.3969	0.2596	0.2255	0.2256	0.2247	0.2281	0.2214	0.1712	
25 - 29	0.7486	0.7422	0.6797	0.5911	0.5307	0.5263	0.2765	0.2511	0.2512	0.2377	0.2289	0.2102	
30 - 34	0.5518	0.5704	0.5661	0.4888	0.3971	0.3118	0.1551	0.1464	0.1330	0.1264	0.1127	0.1014	
35 - 39	0.2008	0.1897	0.1868	0.1634	0.1192	0.0605	0.0395	0.0402	0.0380	0.0328	0.0294	0.0245	
40 - 44	0.3003	0.2616	0.2556	0.2400	0.2013	0.1238	0.0640	0.0643	0.0654	0.0587	0.0481	0.0408	
45 - 49	0.0397	0.0174	0.0019	(0.0138)	(0.0297)	(0.0583)	(0.0425)	(0.0764)	(0.1057)	(0.1337)	(0.1444)	(0.1682)	
50 - 54	0.0600	0.0306	0.0083	(0.0128)	(0.0343)	(0.0784)	0.0072	0.0071	0.0071	0.0068	0.0063	0.0050	
55 - 59	0.1174	0.0980	0.0784	0.0507	0.0263	(0.0099)	0.0044	0.0044	0.0044	0.0041	0.0037	0.0033	
60 - 64	0.3169	0.3032	0.2887	0.2463	0.1844	0.1131	0.0555	0.0532	0.0529	0.0501	0.0449	0.0387	
65 - 69	0.3360	0.3331	0.3415	0.3275	0.2840	0.2195	0.0485	0.0471	0.0452	0.0427	0.0383	0.0324	
70 - 74	0.1680	0.1656	0.1644	0.1600	0.1446	0.1171	0.0103	0.0103	0.0100	0.0092	0.0082	0.0069	
75 - 79	0.1831	0.1744	0.1723	0.1623	0.1497	0.1277	0.1694	0.1656	0.1667	0.1539	0.1336	0.1140	
80 - 84	(0.3520)	(0.3371)	(0.3222)	(0.3018)	(0.2650)	(0.2239)	0.0177	0.0167	0.0164	0.0156	0.0136	0.0110	
85 & Over	(0.3977)	(0.3968)	(0.3879)	(0.3542)	(0.3111)	(0.2580)	(0.0505)	(0.0451)	(0.0422)	(0.0384)	(0.0339)	(0.0280)	
Total	0.3447	0.3305	0.3195	0.2873	0.2417	0.1836	0.0764	0.0699	0.0649	0.0587	0.0514	0.0411	
Grand Total	0.3482	0.3339	0.3225	0.2893	0.2428	0.1844	0.0923	0.0862	0.0796	0.0708	0.0607	0.0468	

Source: Population Model (Urbanomics)

Table 9-8

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: Connecticut

*Male*

Age	White						Black					
	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020
Under 5	0.0338	0.0265	0.0271	0.0280	0.0297	0.0306	(0.1205)	(0.1240)	(0.1224)	(0.1161)	(0.1041)	(0.0860)
5 - 9	(0.0351)	(0.0339)	(0.0265)	(0.0271)	(0.0280)	(0.0297)	0.0064	0.0056	0.0058	0.0054	0.0049	0.0042
10 - 14	(0.1070)	(0.1230)	(0.1187)	(0.0928)	(0.0951)	(0.0980)	(0.0232)	(0.0253)	(0.0221)	(0.0216)	(0.0192)	(0.0164)
15 - 19	(0.1087)	(0.1307)	(0.1504)	(0.1450)	(0.1134)	(0.1162)	0.0018	0.0021	0.0022	0.0019	0.0017	0.0015
20 - 24	(0.0986)	(0.0867)	(0.0892)	(0.1223)	(0.1439)	(0.1397)	(0.0318)	0.0155	0.0639	0.0801	0.0743	0.0708
25 - 29	0.0456	0.0579	0.0729	0.0662	0.0512	0.0194	0.1235	0.1537	0.1998	0.2189	0.2208	0.1710
30 - 34	0.0703	0.0774	0.0773	0.0656	0.0558	0.0323	0.0879	0.1334	0.1546	0.1615	0.1677	0.1554
35 - 39	(0.0537)	(0.0318)	(0.0153)	(0.0307)	(0.0523)	(0.0899)	(0.0459)	0.0080	0.0577	0.0620	0.0682	0.0676
40 - 44	0.0053	0.0256	0.0375	0.0180	0.0001	(0.0227)	0.0459	0.1094	0.1727	0.1685	0.1412	0.1264
45 - 49	(0.0516)	(0.0294)	(0.0162)	(0.0331)	(0.0485)	(0.0654)	(0.0400)	0.0128	0.0617	0.0782	0.0780	0.0622
50 - 54	(0.2251)	(0.2229)	(0.1890)	(0.2072)	(0.2231)	(0.2241)	(0.0719)	(0.0085)	0.0528	0.0719	0.0849	0.0735
55 - 59	(0.1334)	(0.1400)	(0.1417)	(0.1499)	(0.1674)	(0.1882)	(0.0148)	0.0348	0.0865	0.0951	0.1004	0.0963
60 - 64	(0.0780)	(0.0614)	(0.0564)	(0.0872)	(0.1070)	(0.1368)	(0.0307)	0.0307	0.0939	0.1159	0.1169	0.1095
65 - 69	(0.0257)	(0.0225)	(0.0238)	(0.0286)	(0.0310)	(0.0280)	0.0660	0.0595	0.0642	0.0662	0.0640	0.0527
70 - 74	(0.0196)	(0.0180)	(0.0159)	(0.0167)	(0.0200)	(0.0217)	(0.0535)	(0.0507)	(0.0466)	(0.0478)	(0.0465)	(0.0420)
75 - 79	0.0234	0.0217	0.0202	0.0177	0.0186	0.0223	0.0693	0.0665	0.0650	0.0567	0.0554	0.0513
80 - 84	(0.0401)	(0.0381)	(0.0361)	(0.0335)	(0.0293)	(0.0308)	0.0395	0.0361	0.0363	0.0338	0.0280	0.0257
85 & Over	(0.1998)	(0.2040)	(0.2076)	(0.2012)	(0.1901)	(0.1731)	(0.0172)	(0.0151)	(0.0143)	(0.0131)	(0.0115)	(0.0092)
Total	(0.0422)	(0.0342)	(0.0326)	(0.0483)	(0.0626)	(0.0762)	(0.0030)	0.0271	0.0560	0.0654	0.0690	0.0632

*Female*

Age	White						Black					
	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020
Under 5	0.0040	0.0031	0.0032	0.0033	0.0035	0.0036	(0.0844)	(0.0869)	(0.0858)	(0.0814)	(0.0731)	(0.0606)
5 - 9	(0.0337)	(0.0329)	(0.0257)	(0.0264)	(0.0272)	(0.0289)	(0.0501)	(0.0440)	(0.0453)	(0.0425)	(0.0383)	(0.0326)
10 - 14	(0.0965)	(0.1091)	(0.1066)	(0.0834)	(0.0855)	(0.0881)	0.0190	0.0207	0.0182	0.0178	0.0159	0.0136
15 - 19	(0.1115)	(0.1336)	(0.1510)	(0.1475)	(0.1155)	(0.1183)	(0.0617)	(0.0703)	(0.0768)	(0.0640)	(0.0591)	(0.0493)
20 - 24	(0.0830)	(0.0723)	(0.0719)	(0.1009)	(0.1242)	(0.1240)	0.0423	0.0893	0.1443	0.1596	0.1373	0.1268
25 - 29	0.0350	0.0490	0.0649	0.0564	0.0390	0.0079	0.1345	0.1618	0.2104	0.2324	0.2325	0.1802
30 - 34	0.0687	0.0740	0.0751	0.0650	0.0548	0.0307	0.0337	0.0813	0.1096	0.1207	0.1300	0.1209
35 - 39	(0.0722)	(0.0506)	(0.0309)	(0.0447)	(0.0682)	(0.1086)	(0.0576)	(0.0053)	0.0447	0.0514	0.0597	0.0607
40 - 44	0.0123	0.0319	0.0437	0.0232	0.0051	(0.0173)	0.0319	0.0917	0.1522	0.1481	0.1248	0.1146
45 - 49	(0.0710)	(0.0471)	(0.0335)	(0.0502)	(0.0623)	(0.0778)	(0.0685)	(0.0136)	0.0356	0.0525	0.0563	0.0465
50 - 54	(0.2392)	(0.2394)	(0.2030)	(0.2200)	(0.2384)	(0.2315)	(0.0267)	0.0363	0.0918	0.1064	0.1164	0.0971
55 - 59	(0.1534)	(0.1650)	(0.1699)	(0.1750)	(0.1913)	(0.2142)	(0.0384)	0.0129	0.0627	0.0737	0.0795	0.0775
60 - 64	(0.0797)	(0.0640)	(0.0604)	(0.0913)	(0.1095)	(0.1381)	(0.0373)	0.0259	0.0876	0.1052	0.1072	0.0991
65 - 69	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0970	0.0917	0.1006	0.1008	0.0938	0.0777
70 - 74	0.0073	0.0066	0.0059	0.0062	0.0075	0.0082	(0.1062)	(0.1025)	(0.0981)	(0.0777)	(0.0961)	(0.0830)
75 - 79	0.0254	0.0237	0.0217	0.0191	0.0202	0.0245	0.1931	0.1841	0.1806	0.1637	0.1634	0.1488
80 - 84	(0.0416)	(0.0402)	(0.0379)	(0.0347)	(0.0306)	(0.0323)	(0.0838)	(0.0759)	(0.0742)	(0.0693)	(0.0588)	(0.0543)
85 & Over	(0.1499)	(0.1477)	(0.1478)	(0.1432)	(0.1356)	(0.1257)	(0.0274)	(0.0254)	(0.0241)	(0.0220)	(0.0193)	(0.0158)
Total	(0.0452)	(0.0382)	(0.0370)	(0.0521)	(0.0656)	(0.0779)	(0.0021)	0.0273	0.0558	0.0650	0.0680	0.0618
Grand Total	(0.0437)	(0.0363)	(0.0349)	(0.0502)	(0.0641)	(0.0771)	(0.0025)	0.0272	0.0559	0.0652	0.0685	0.0625

Table 9. Net Migration Rates by Age, Sex & Racial/Ethnic Group, 1990 to 2020: Connecticut

*Male*

		Asian/Other						Hispanic					
Age		1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020
Under 5		(0.0856)	(0.0932)	(0.0933)	(0.0853)	(0.0724)	(0.0573)	0.1760	0.1470	0.1545	0.1428	0.1300	0.1098
5 - 9		0.2926	0.2843	0.3098	0.2945	0.2587	0.2132	0.0344	0.0385	0.0321	0.0321	0.0279	0.0238
10 - 14		0.2801	0.2835	0.2754	0.2851	0.2566	0.2128	0.1149	0.1198	0.1339	0.1062	0.1008	0.0835
15 - 19		0.5094	0.4877	0.4936	0.4556	0.4504	0.3889	0.1580	0.1620	0.1689	0.1793	0.1350	0.1216
20 - 24		0.5466	0.6005	0.6086	0.5789	0.5156	0.4872	0.2682	0.3250	0.3704	0.3687	0.3842	0.2810
25 - 29		0.5555	0.6334	0.6798	0.6093	0.5468	0.4543	0.3372	0.3545	0.4078	0.3965	0.3708	0.3581
30 - 34		0.3830	0.4617	0.5357	0.5132	0.4342	0.3604	0.1949	0.2506	0.2747	0.2786	0.2577	0.2235
35 - 39		0.1796	0.2569	0.3242	0.3327	0.3046	0.2395	0.0761	0.1389	0.1889	0.1768	0.1726	0.1483
40 - 44		0.2388	0.3152	0.4038	0.4099	0.3929	0.3308	0.0959	0.1751	0.2477	0.2450	0.2109	0.1861
45 - 49		0.0398	0.1048	0.1668	0.1870	0.1851	0.1653	0.0063	0.0641	0.1214	0.1364	0.1313	0.1052
50 - 54		0.1965	0.2693	0.3360	0.3424	0.3446	0.3051	(0.0081)	0.0714	0.1423	0.1632	0.1696	0.1454
55 - 59		0.0038	0.0631	0.1168	0.1278	0.1291	0.1216	(0.0181)	0.0390	0.0963	0.1080	0.1145	0.1064
60 - 64		(0.2506)	(0.1525)	(0.0454)	(0.0112)	0.0141	0.0236	0.0249	0.0995	0.1748	0.1963	0.1927	0.1779
65 - 69		0.2631	0.2705	0.3069	0.2824	0.2498	0.2142	(0.0114)	(0.0107)	(0.0113)	(0.0116)	(0.0109)	(0.0090)
70 - 74		0.0976	0.0931	0.0963	0.1034	0.0896	0.0740	0.0853	0.0834	0.0780	0.0785	0.0762	0.0679
75 - 79		0.1298	0.1281	0.1237	0.1210	0.1231	0.1010	0.2562	0.2449	0.2409	0.2132	0.2043	0.1895
80 - 84		(0.3744)	(0.3413)	(0.3437)	(0.3142)	(0.2866)	(0.2675)	(0.0062)	(0.0062)	(0.0060)	(0.0056)	(0.0047)	(0.0042)
85 & Over		0.0315	0.0322	0.0320	0.0303	0.0268	0.0231	0.1452	0.1302	0.1276	0.1174	0.1034	0.0842
Total		0.2865	0.3322	0.3736	0.3614	0.3272	0.2750	0.1475	0.1753	0.2038	0.2005	0.1877	0.1617

*Female*

		Asian/Other						Hispanic					
Age		1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020	1990-95	1995-2000	2000-2005	2005-2010	2010-2015	2015-2020
Under 5		(0.1164)	(0.1269)	(0.1270)	(0.1161)	(0.0985)	(0.0777)	0.1505	0.1258	0.1322	0.1222	0.1111	0.0937
5 - 9		0.2770	0.2726	0.2973	0.2826	0.2485	0.2048	0.0508	0.0567	0.0473	0.0473	0.0412	0.0352
10 - 14		0.2147	0.2254	0.2219	0.2299	0.2066	0.1709	0.1321	0.1368	0.1525	0.1210	0.1149	0.0953
15 - 19		0.4536	0.4347	0.4564	0.4268	0.4226	0.3649	0.1016	0.1067	0.1106	0.1171	0.0879	0.0787
20 - 24		0.4726	0.5075	0.5213	0.5163	0.4670	0.4419	0.2635	0.3237	0.3769	0.3725	0.3879	0.2844
25 - 29		0.5652	0.6534	0.6724	0.6021	0.5615	0.4747	0.3103	0.3345	0.3916	0.3897	0.3619	0.3492
30 - 34		0.3646	0.4453	0.5250	0.4839	0.4091	0.3525	0.1461	0.1992	0.2315	0.2403	0.2289	0.1976
35 - 39		0.2172	0.2934	0.3630	0.3755	0.3293	0.2587	0.0210	0.0829	0.1329	0.1310	0.1330	0.1183
40 - 44		0.2247	0.2866	0.3692	0.3804	0.3706	0.2997	0.0864	0.1600	0.2329	0.2264	0.1984	0.1780
45 - 49		0.0438	0.1010	0.1521	0.1701	0.1704	0.1546	0.0152	0.0715	0.1268	0.1438	0.1350	0.1096
50 - 54		(0.1057)	(0.0122)	0.0702	0.0893	0.1059	0.1014	(0.0340)	0.0419	0.1098	0.1296	0.1403	0.1191
55 - 59		0.0387	0.1066	0.1781	0.1760	0.1667	0.1565	(0.0032)	0.0547	0.1102	0.1205	0.1250	0.1177
60 - 64		0.1454	0.2250	0.3165	0.3445	0.3057	0.2585	0.0216	0.0951	0.1669	0.1824	0.1789	0.1640
65 - 69		0.0492	0.0489	0.0508	0.0528	0.0504	0.0393	0.0714	0.0693	0.0724	0.0733	0.0670	0.0559
70 - 74		(0.1423)	(0.1453)	(0.1452)	(0.1432)	(0.1399)	(0.1246)	0.1783	0.1782	0.1733	0.1720	0.1658	0.1442
75 - 79		0.0588	0.0587	0.0604	0.0573	0.0539	0.0504	0.2828	0.2564	0.2573	0.2374	0.2239	0.2050
80 - 84		(0.1357)	(0.1388)	(0.1403)	(0.1369)	(0.1221)	(0.1071)	(0.0539)	(0.0508)	(0.0464)	(0.0441)	(0.0381)	(0.0332)
85 & Over		(0.7549)	(0.7007)	(0.7035)	(0.6706)	(0.6066)	(0.5031)	(0.0253)	(0.0238)	(0.0228)	(0.0202)	(0.0176)	(0.0145)
Total		0.2528	0.2967	0.3370	0.3270	0.2966	0.2485	0.1288	0.1565	0.1852	0.1832	0.1734	0.1504
Grand Total		0.2698	0.3148	0.3558	0.3449	0.3127	0.2625	0.1381	0.1659	0.1945	0.1919	0.1806	0.1562

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
<b>White Male</b>							
0	1	0.00743	100,000	743	99,349	7,331,685	73.32
1	2	0.00062	99,257	62	99,226	7,232,337	72.86
2	3	0.00043	99,195	43	99,172	7,133,111	71.91
3	4	0.00033	99,152	33	99,135	7,033,938	70.94
4	5	0.00027	99,119	27	99,105	6,934,803	69.96
5	6	0.00026	99,092	25	99,080	6,835,698	68.98
6	7	0.00025	99,067	25	99,054	6,736,618	68.00
7	8	0.00025	99,042	25	99,029	6,637,564	67.02
8	9	0.00023	99,017	23	99,006	6,538,535	66.03
9	10	0.00019	98,995	19	98,985	6,439,529	65.05
10	11	0.00016	98,975	16	98,967	6,340,544	64.06
11	12	0.00016	98,960	16	98,952	6,241,577	63.07
12	13	0.00023	98,944	22	98,933	6,142,625	62.08
13	14	0.00037	98,921	37	98,904	6,043,692	61.10
14	15	0.00058	98,884	57	98,858	5,944,787	60.12
15	16	0.00081	98,827	80	98,789	5,845,930	59.15
16	17	0.00102	98,747	101	98,698	5,747,141	58.20
17	18	0.00119	98,646	117	98,588	5,648,443	57.26
18	19	0.00128	98,528	127	98,466	5,549,855	56.33
19	20	0.00132	98,402	130	98,337	5,451,389	55.40
20	21	0.00135	98,272	133	98,205	5,353,052	54.47
21	22	0.00139	98,139	136	98,071	5,254,847	53.55
22	23	0.00141	98,002	138	97,933	5,156,776	52.62
23	24	0.00140	97,864	137	97,795	5,058,843	51.69
24	25	0.00139	97,727	136	97,659	4,961,048	50.76
25	26	0.00137	97,591	133	97,524	4,863,389	49.83
26	27	0.00135	97,458	131	97,392	4,765,865	48.90
27	28	0.00135	97,326	131	97,261	4,668,473	47.97
28	29	0.00138	97,195	134	97,128	4,571,212	47.03
29	30	0.00143	97,061	138	96,992	4,474,084	46.10
30	31	0.00148	96,923	144	96,851	4,377,091	45.16
31	32	0.00154	96,779	149	96,705	4,280,240	44.23
32	33	0.00163	96,630	158	96,552	4,183,535	43.29
33	34	0.00176	96,472	170	96,388	4,086,983	42.36
34	35	0.00191	96,303	184	96,212	3,990,594	41.44
35	36	0.00208	96,119	200	96,020	3,894,382	40.52
36	37	0.00226	95,918	216	95,812	3,798,362	39.60
37	38	0.00241	95,702	230	95,588	3,702,551	38.69
38	39	0.00252	95,472	241	95,352	3,606,963	37.78
39	40	0.00261	95,231	249	95,108	3,511,611	36.87
40	41	0.00271	94,983	257	94,855	3,416,503	35.97
41	42	0.00284	94,725	269	94,592	3,321,648	35.07
42	43	0.00298	94,457	281	94,317	3,227,056	34.16
43	44	0.00313	94,175	295	94,029	3,132,739	33.26
44	45	0.00331	93,881	311	93,726	3,038,710	32.37
45	46	0.00352	93,570	329	93,407	2,944,983	31.47
46	47	0.00376	93,240	351	93,067	2,851,577	30.58
47	48	0.00406	92,890	377	92,704	2,758,510	29.70

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-1

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
48	49	0.00441	92,513	408	92,312	2,665,806	28.82
49	50	0.00483	92,105	445	91,886	2,573,494	27.94
50	51	0.00530	91,660	486	91,421	2,481,608	27.07
51	52	0.00582	91,174	531	90,913	2,390,187	26.22
52	53	0.00642	90,644	582	90,357	2,299,274	25.37
53	54	0.00709	90,062	639	89,747	2,208,917	24.53
54	55	0.00785	89,423	702	89,078	2,119,170	23.70
55	56	0.00867	88,721	769	88,343	2,030,092	22.88
56	57	0.00956	87,952	841	87,538	1,941,750	22.08
57	58	0.01056	87,112	920	86,659	1,854,211	21.29
58	59	0.01167	86,192	1,006	85,697	1,767,552	20.51
59	60	0.01290	85,186	1,099	84,645	1,681,856	19.74
60	61	0.01423	84,087	1,197	83,497	1,597,211	18.99
61	62	0.01565	82,890	1,297	82,250	1,513,714	18.26
62	63	0.01714	81,593	1,399	80,902	1,431,463	17.54
63	64	0.01870	80,194	1,500	79,453	1,350,561	16.84
64	65	0.02035	78,695	1,601	77,903	1,271,108	16.15
65	66	0.02210	77,093	1,704	76,250	1,193,206	15.48
66	67	0.02400	75,390	1,809	74,494	1,116,955	14.82
67	68	0.02609	73,580	1,920	72,630	1,042,461	14.17
68	69	0.02841	71,660	2,036	70,652	969,831	13.53
69	70	0.03097	69,624	2,157	68,556	899,179	12.91
70	71	0.03370	67,468	2,273	66,341	830,623	12.31
71	72	0.03663	65,194	2,388	64,010	764,283	11.72
72	73	0.03992	62,806	2,508	61,563	700,273	11.15
73	74	0.04368	60,299	2,634	58,993	638,710	10.59
74	75	0.04789	57,665	2,761	56,295	579,717	10.05
75	76	0.05250	54,903	2,882	53,472	523,423	9.53
76	77	0.05745	52,021	2,988	50,535	469,951	9.03
77	78	0.06276	49,033	3,077	47,501	419,416	8.55
78	79	0.06842	45,956	3,144	44,388	371,915	8.09
79	80	0.07448	42,811	3,189	41,220	327,527	7.65
80	81	0.08120	39,623	3,217	38,016	286,306	7.23
81	82	0.08861	36,405	3,226	34,792	248,291	6.82
82	83	0.09649	33,180	3,202	31,575	213,499	6.43
83	84	0.10473	29,978	3,140	28,402	181,924	6.07
84	85	0.11342	26,838	3,044	25,308	153,522	5.72
85	86	0.12327	23,794	2,933	22,318	128,214	5.39
86	87	0.13445	20,861	2,805	19,446	105,896	5.08
87	88	0.14615	18,056	2,639	16,721	86,450	4.79
88	89	0.15765	15,417	2,431	14,183	69,729	4.52
89	90	0.16876	12,987	2,192	11,871	55,545	4.28
90	91	0.17951	10,795	1,938	9,805	43,675	4.05
91	92	0.19053	8,857	1,688	7,993	33,869	3.82
92	93	0.20226	7,170	1,450	6,426	25,876	3.61
93	94	0.21612	5,720	1,236	5,085	19,450	3.40
94	95	0.23272	4,483	1,043	3,946	14,366	3.20
95	96	0.24888	3,440	856	2,997	10,420	3.03
96	97	0.26159	2,584	676	2,232	7,423	2.87

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-2

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
97	98	0.27370	1,908	522	1,635	5,191	2.72
98	99	0.28929	1,386	401	1,176	3,555	2.57
99	100	0.31175	985	307	824	2,379	2.42
100	101	0.33590	678	228	558	1,555	2.29

**White Female**

0	1	0.00611	100,000	611	99,465	7,980,449	79.80
1	2	0.00050	99,389	50	99,364	7,880,985	79.29
2	3	0.00035	99,339	35	99,321	7,781,621	78.33
3	4	0.00027	99,305	27	99,291	7,682,299	77.36
4	5	0.00022	99,278	22	99,267	7,583,009	76.38
5	6	0.00019	99,256	19	99,247	7,483,742	75.40
6	7	0.00017	99,238	17	99,229	7,384,495	74.41
7	8	0.00016	99,221	15	99,213	7,285,265	73.42
8	9	0.00014	99,206	14	99,198	7,186,052	72.44
9	10	0.00013	99,191	13	99,185	7,086,854	71.45
10	11	0.00012	99,179	12	99,173	6,987,669	70.46
11	12	0.00013	99,167	12	99,161	6,888,496	69.46
12	13	0.00015	99,154	15	99,147	6,789,336	68.47
13	14	0.00021	99,139	21	99,129	6,690,189	67.48
14	15	0.00028	99,119	28	99,105	6,591,059	66.50
15	16	0.00037	99,091	36	99,073	6,491,954	65.52
16	17	0.00044	99,055	44	99,033	6,392,880	64.54
17	18	0.00050	99,011	49	98,987	6,293,847	63.57
18	19	0.00051	98,962	50	98,937	6,194,861	62.60
19	20	0.00050	98,911	49	98,887	6,095,924	61.63
20	21	0.00048	98,862	47	98,839	5,997,037	60.66
21	22	0.00046	98,815	46	98,792	5,898,199	59.69
22	23	0.00045	98,769	45	98,747	5,799,407	58.72
23	24	0.00046	98,725	45	98,702	5,700,660	57.74
24	25	0.00046	98,679	46	98,657	5,601,958	56.77
25	26	0.00048	98,634	47	98,610	5,503,301	55.80
26	27	0.00049	98,587	48	98,563	5,404,691	54.82
27	28	0.00050	98,539	49	98,514	5,306,128	53.85
28	29	0.00052	98,490	51	98,464	5,207,614	52.87
29	30	0.00054	98,439	53	98,412	5,109,149	51.90
30	31	0.00057	98,385	56	98,358	5,010,737	50.93
31	32	0.00060	98,329	59	98,300	4,912,379	49.96
32	33	0.00064	98,270	63	98,239	4,814,079	48.99
33	34	0.00068	98,207	67	98,174	4,715,841	48.02
34	35	0.00073	98,140	72	98,104	4,617,667	47.05
35	36	0.00079	98,068	77	98,030	4,519,562	46.09
36	37	0.00085	97,991	84	97,949	4,421,532	45.12
37	38	0.00092	97,907	90	97,863	4,323,583	44.16
38	39	0.00099	97,817	97	97,769	4,225,721	43.20
39	40	0.00107	97,720	104	97,668	4,127,952	42.24
40	41	0.00115	97,615	113	97,560	4,030,283	41.29
41	42	0.00126	97,503	122	97,442	3,932,723	40.33
42	43	0.00137	97,380	134	97,314	3,835,281	39.38

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-3

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
43	44	0.00151	97,247	147	97,174	3,737,967	38.44
44	45	0.00166	97,100	161	97,021	3,640,792	37.50
45	46	0.00184	96,939	178	96,851	3,543,772	36.56
46	47	0.00203	96,761	197	96,664	3,446,920	35.62
47	48	0.00224	96,564	217	96,457	3,350,256	34.69
48	49	0.00247	96,347	238	96,230	3,253,799	33.77
49	50	0.00272	96,109	262	95,980	3,157,569	32.85
50	51	0.00299	95,848	287	95,706	3,061,588	31.94
51	52	0.00331	95,561	316	95,405	2,965,882	31.04
52	53	0.00367	95,245	350	95,073	2,870,477	30.14
53	54	0.00410	94,895	389	94,704	2,775,404	29.25
54	55	0.00459	94,506	434	94,293	2,680,700	28.37
55	56	0.00512	94,072	482	93,835	2,586,407	27.49
56	57	0.00569	93,590	532	93,328	2,492,572	26.63
57	58	0.00630	93,058	587	92,769	2,399,244	25.78
58	59	0.00697	92,471	644	92,154	2,306,475	24.94
59	60	0.00768	91,827	705	91,479	2,214,321	24.11
60	61	0.00846	91,121	771	90,742	2,122,842	23.30
61	62	0.00928	90,351	839	89,937	2,032,100	22.49
62	63	0.01014	89,512	907	89,064	1,942,163	21.70
63	64	0.01100	88,605	975	88,123	1,853,099	20.91
64	65	0.01191	87,630	1,043	87,114	1,764,975	20.14
65	66	0.01287	86,587	1,115	86,035	1,677,861	19.38
66	67	0.01394	85,472	1,192	84,883	1,591,826	18.62
67	68	0.01514	84,280	1,276	83,650	1,506,943	17.88
68	69	0.01649	83,005	1,368	82,328	1,423,293	17.15
69	70	0.01800	81,636	1,469	80,910	1,340,965	16.43
70	71	0.01964	80,167	1,574	79,389	1,260,055	15.72
71	72	0.02142	78,593	1,683	77,761	1,180,666	15.02
72	73	0.02339	76,910	1,799	76,020	1,102,905	14.34
73	74	0.02560	75,111	1,923	74,160	1,026,885	13.67
74	75	0.02804	73,188	2,053	72,172	952,725	13.02
75	76	0.03067	71,135	2,182	70,055	880,553	12.38
76	77	0.03354	68,953	2,313	67,808	810,498	11.75
77	78	0.03681	66,640	2,453	65,426	742,689	11.14
78	79	0.04057	64,188	2,604	62,899	677,263	10.55
79	80	0.04482	61,584	2,760	60,216	614,365	9.98
80	81	0.04944	58,824	2,908	57,381	554,148	9.42
81	82	0.05443	55,916	3,044	54,405	496,767	8.88
82	83	0.06003	52,872	3,174	51,296	442,362	8.37
83	84	0.06636	49,698	3,298	48,059	391,066	7.87
84	85	0.07347	46,400	3,409	44,704	343,008	7.39
85	86	0.08157	42,991	3,507	41,245	298,303	6.94
86	87	0.09054	39,484	3,575	37,701	257,059	6.51
87	88	0.09999	35,910	3,591	34,113	219,358	6.11
88	89	0.10959	32,319	3,542	30,542	185,245	5.73
89	90	0.11944	28,777	3,437	27,049	154,703	5.38
90	91	0.13065	25,340	3,311	23,674	127,654	5.04
91	92	0.14367	22,030	3,165	20,433	103,981	4.72

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-4

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
92	93	0.15742	18,865	2,970	17,361	83,548	4.43
93	94	0.17110	15,895	2,720	14,513	66,186	4.16
94	95	0.18446	13,175	2,430	11,935	51,674	3.92
95	96	0.19739	10,745	2,121	9,659	39,738	3.70
96	97	0.21055	8,624	1,816	7,692	30,079	3.49
97	98	0.22455	6,808	1,529	6,021	22,388	3.29
98	99	0.24134	5,280	1,274	4,622	16,366	3.10
99	100	0.26190	4,005	1,049	3,462	11,744	2.93
100	101	0.28078	2,956	830	2,523	8,281	2.80

**Black Male**

0	1	0.01842	100,000	1,842	98,385	6,591,694	65.92
1	2	0.00111	98,158	109	98,104	6,493,308	66.15
2	3	0.00077	98,049	76	98,009	6,395,205	65.22
3	4	0.00059	97,973	58	97,943	6,297,195	64.27
4	5	0.00048	97,915	47	97,891	6,199,252	63.31
5	6	0.00043	97,868	43	97,847	6,101,361	62.34
6	7	0.00041	97,826	40	97,805	6,003,514	61.37
7	8	0.00038	97,785	37	97,767	5,905,709	60.39
8	9	0.00032	97,748	31	97,732	5,807,943	59.42
9	10	0.00023	97,717	23	97,705	5,710,210	58.44
10	11	0.00016	97,695	15	97,687	5,612,505	57.45
11	12	0.00015	97,679	15	97,672	5,514,819	56.46
12	13	0.00028	97,665	28	97,653	5,417,146	55.47
13	14	0.00059	97,637	58	97,611	5,319,493	54.48
14	15	0.00103	97,579	101	97,532	5,221,882	53.51
15	16	0.00152	97,478	148	97,408	5,124,350	52.57
16	17	0.00198	97,330	192	97,237	5,026,942	51.65
17	18	0.00237	97,138	231	97,025	4,929,705	50.75
18	19	0.00267	96,907	259	96,780	4,832,679	49.87
19	20	0.00289	96,648	279	96,510	4,735,900	49.00
20	21	0.00311	96,369	300	96,220	4,639,389	48.14
21	22	0.00333	96,069	320	95,910	4,543,169	47.29
22	23	0.00345	95,749	330	95,584	4,447,259	46.45
23	24	0.00344	95,418	328	95,254	4,351,675	45.61
24	25	0.00334	95,090	318	94,930	4,256,421	44.76
25	26	0.00320	94,772	304	94,619	4,161,491	43.91
26	27	0.00309	94,469	292	94,322	4,066,872	43.05
27	28	0.00307	94,176	289	94,032	3,972,550	42.18
28	29	0.00316	93,887	297	93,740	3,878,518	41.31
29	30	0.00336	93,590	314	93,435	3,784,778	40.44
30	31	0.00358	93,276	334	93,111	3,691,344	39.57
31	32	0.00379	92,943	352	92,768	3,598,233	38.71
32	33	0.00404	92,590	374	92,405	3,505,464	37.86
33	34	0.00433	92,216	399	92,019	3,413,059	37.01
34	35	0.00465	91,817	427	91,606	3,321,040	36.17
35	36	0.00500	91,391	457	91,165	3,229,434	35.34
36	37	0.00537	90,933	488	90,692	3,138,269	34.51
37	38	0.00570	90,445	515	90,189	3,047,578	33.70

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-5

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
38	39	0.00596	89,930	536	89,663	2,957,388	32.89
39	40	0.00618	89,394	553	89,119	2,867,725	32.08
40	41	0.00641	88,841	569	88,558	2,778,606	31.28
41	42	0.00667	88,272	589	87,980	2,690,048	30.47
42	43	0.00699	87,683	612	87,379	2,602,068	29.68
43	44	0.00737	87,071	642	86,753	2,514,689	28.88
44	45	0.00781	86,429	675	86,095	2,427,936	28.09
45	46	0.00832	85,754	713	85,400	2,341,842	27.31
46	47	0.00885	85,041	753	84,668	2,256,441	26.53
47	48	0.00940	84,288	792	83,895	2,171,773	25.77
48	49	0.00995	83,496	831	83,084	2,087,878	25.01
49	50	0.01053	82,665	871	82,233	2,004,794	24.25
50	51	0.01113	81,795	911	81,343	1,922,561	23.50
51	52	0.01183	80,884	957	80,410	1,841,218	22.76
52	53	0.01272	79,927	1,016	79,424	1,760,808	22.03
53	54	0.01384	78,911	1,092	78,371	1,681,384	21.31
54	55	0.01517	77,818	1,181	77,236	1,603,012	20.60
55	56	0.01664	76,638	1,275	76,008	1,525,776	19.91
56	57	0.01816	75,362	1,369	74,686	1,449,769	19.24
57	58	0.01970	73,994	1,458	73,272	1,375,083	18.58
58	59	0.02122	72,536	1,539	71,772	1,301,811	17.95
59	60	0.02275	70,996	1,615	70,195	1,230,039	17.33
60	61	0.02431	69,381	1,687	68,544	1,159,844	16.72
61	62	0.02601	67,694	1,761	66,820	1,091,300	16.12
62	63	0.02794	65,933	1,842	65,019	1,024,480	15.54
63	64	0.03016	64,091	1,933	63,132	959,461	14.97
64	65	0.03265	62,158	2,029	61,151	896,328	14.42
65	66	0.03535	60,129	2,126	59,074	835,177	13.89
66	67	0.03814	58,003	2,213	56,904	776,103	13.38
67	68	0.04091	55,791	2,282	54,654	719,199	12.89
68	69	0.04353	53,508	2,329	52,347	664,545	12.42
69	70	0.04608	51,179	2,358	50,002	612,198	11.96
70	71	0.04864	48,821	2,375	47,635	562,196	11.52
71	72	0.05141	46,446	2,388	45,253	514,562	11.08
72	73	0.05447	44,058	2,400	42,859	469,309	10.65
73	74	0.05796	41,658	2,414	40,452	426,449	10.24
74	75	0.06185	39,244	2,427	38,031	385,997	9.84
75	76	0.06610	36,817	2,434	35,600	347,966	9.45
76	77	0.07057	34,383	2,426	33,169	312,366	9.08
77	78	0.07512	31,957	2,401	30,753	279,197	8.74
78	79	0.07962	29,556	2,353	28,375	248,444	8.41
79	80	0.08407	27,203	2,287	26,054	220,069	8.09
80	81	0.08880	24,916	2,213	23,803	194,016	7.79
81	82	0.09388	22,703	2,131	21,630	170,212	7.50
82	83	0.09890	20,572	2,035	19,546	148,582	7.22
83	84	0.10364	18,538	1,921	17,567	129,036	6.96
84	85	0.10808	16,616	1,796	15,707	111,469	6.71
85	86	0.11213	14,820	1,662	13,978	95,762	6.46
86	87	0.11613	13,158	1,528	12,384	81,783	6.22

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-6

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
87	88	0.12064	11,630	1,403	10,919	69,400	5.97
88	89	0.12639	10,227	1,293	9,572	58,481	5.72
89	90	0.13357	8,935	1,193	8,330	48,909	5.47
90	91	0.14189	7,741	1,098	7,184	40,579	5.24
91	92	0.15076	6,643	1,002	6,134	33,395	5.03
92	93	0.16006	5,641	903	5,182	27,261	4.83
93	94	0.16901	4,738	801	4,329	22,079	4.66
94	95	0.17725	3,938	698	3,580	17,750	4.51
95	96	0.18441	3,240	597	2,933	14,170	4.37
96	97	0.19083	2,642	504	2,383	11,237	4.25
97	98	0.19700	2,138	421	1,921	8,854	4.14
98	99	0.20441	1,717	351	1,536	6,933	4.04
99	100	0.21361	1,366	292	1,215	5,397	3.95
100	101	0.22216	1,074	239	951	4,182	3.89

**Black Female**

0	1	0.01561	100,000	1,561	98,632	7,436,103	74.36
1	2	0.00093	98,439	92	98,393	7,337,471	74.54
2	3	0.00065	98,347	64	98,314	7,239,078	73.61
3	4	0.00050	98,284	49	98,258	7,140,764	72.65
4	5	0.00041	98,235	40	98,214	7,042,506	71.69
5	6	0.00035	98,195	34	98,178	6,944,292	70.72
6	7	0.00030	98,161	30	98,146	6,846,114	69.74
7	8	0.00027	98,131	27	98,118	6,747,968	68.76
8	9	0.00025	98,105	24	98,092	6,649,850	67.78
9	10	0.00024	98,080	23	98,069	6,551,758	66.80
10	11	0.00024	98,057	23	98,045	6,453,689	65.82
11	12	0.00025	98,034	25	98,022	6,355,644	64.83
12	13	0.00028	98,009	27	97,996	6,257,622	63.85
13	14	0.00033	97,982	32	97,966	6,159,626	62.86
14	15	0.00039	97,950	38	97,932	6,061,660	61.89
15	16	0.00046	97,912	45	97,890	5,963,728	60.91
16	17	0.00053	97,867	52	97,842	5,865,838	59.94
17	18	0.00060	97,815	59	97,786	5,767,996	58.97
18	19	0.00066	97,756	65	97,724	5,670,210	58.00
19	20	0.00072	97,692	70	97,657	5,572,485	57.04
20	21	0.00078	97,621	76	97,583	5,474,828	56.08
21	22	0.00085	97,545	83	97,504	5,377,245	55.13
22	23	0.00091	97,462	88	97,418	5,279,741	54.17
23	24	0.00096	97,374	93	97,327	5,182,323	53.22
24	25	0.00100	97,281	97	97,232	5,084,995	52.27
25	26	0.00105	97,183	102	97,133	4,987,763	51.32
26	27	0.00110	97,082	107	97,029	4,890,630	50.38
27	28	0.00117	96,975	114	96,919	4,793,601	49.43
28	29	0.00126	96,861	122	96,801	4,696,683	48.49
29	30	0.00136	96,739	132	96,674	4,599,882	47.55
30	31	0.00147	96,608	142	96,537	4,503,207	46.61
31	32	0.00159	96,466	153	96,390	4,406,670	45.68
32	33	0.00173	96,312	166	96,230	4,310,280	44.75

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-7

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
33	34	0.00189	96,146	182	96,056	4,214,050	43.83
34	35	0.00208	95,964	199	95,866	4,117,993	42.91
35	36	0.00228	95,765	218	95,657	4,022,128	42.00
36	37	0.00248	95,547	237	95,430	3,926,470	41.09
37	38	0.00267	95,309	255	95,183	3,831,041	40.20
38	39	0.00284	95,054	270	94,920	3,735,857	39.30
39	40	0.00300	94,784	284	94,643	3,640,937	38.41
40	41	0.00316	94,500	299	94,352	3,546,294	37.53
41	42	0.00335	94,201	316	94,045	3,451,942	36.64
42	43	0.00356	93,885	334	93,720	3,357,897	35.77
43	44	0.00378	93,551	354	93,376	3,264,177	34.89
44	45	0.00402	93,198	375	93,012	3,170,801	34.02
45	46	0.00429	92,823	398	92,626	3,077,789	33.16
46	47	0.00459	92,424	424	92,215	2,985,163	32.30
47	48	0.00494	92,000	455	91,775	2,892,948	31.45
48	49	0.00536	91,545	491	91,303	2,801,173	30.60
49	50	0.00583	91,055	531	90,793	2,709,870	29.76
50	51	0.00636	90,523	576	90,239	2,619,077	28.93
51	52	0.00693	89,948	623	89,640	2,528,838	28.11
52	53	0.00753	89,325	673	88,993	2,439,198	27.31
53	54	0.00817	88,652	724	88,295	2,350,205	26.51
54	55	0.00885	87,928	778	87,544	2,261,911	25.72
55	56	0.00957	87,150	834	86,738	2,174,367	24.95
56	57	0.01036	86,317	894	85,875	2,087,628	24.19
57	58	0.01126	85,423	962	84,948	2,001,753	23.43
58	59	0.01230	84,461	1,039	83,948	1,916,806	22.69
59	60	0.01346	83,422	1,123	82,867	1,832,858	21.97
60	61	0.01468	82,299	1,208	81,702	1,749,990	21.26
61	62	0.01595	81,091	1,293	80,451	1,668,289	20.57
62	63	0.01732	79,797	1,382	79,114	1,587,837	19.90
63	64	0.01881	78,415	1,475	77,685	1,508,723	19.24
64	65	0.02039	76,940	1,569	76,164	1,431,038	18.60
65	66	0.02212	75,371	1,667	74,546	1,354,874	17.98
66	67	0.02388	73,704	1,760	72,831	1,280,328	17.37
67	68	0.02553	71,944	1,836	71,031	1,207,497	16.78
68	69	0.02695	70,107	1,889	69,167	1,136,466	16.21
69	70	0.02823	68,218	1,926	67,258	1,067,300	15.65
70	71	0.02945	66,292	1,952	65,319	1,000,042	15.09
71	72	0.03082	64,340	1,983	63,352	934,723	14.53
72	73	0.03254	62,357	2,029	61,348	871,371	13.97
73	74	0.03478	60,328	2,098	59,286	810,023	13.43
74	75	0.03748	58,230	2,183	57,146	750,738	12.89
75	76	0.04046	56,047	2,268	54,920	693,592	12.38
76	77	0.04353	53,780	2,341	52,615	638,672	11.88
77	78	0.04672	51,439	2,403	50,241	586,057	11.39
78	79	0.04994	49,035	2,449	47,814	535,816	10.93
79	80	0.05323	46,587	2,480	45,349	488,001	10.48
80	81	0.05676	44,107	2,503	42,857	442,652	10.04
81	82	0.06058	41,604	2,520	40,344	399,795	9.61

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-8

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
82	83	0.06454	39,083	2,522	37,822	359,451	9.20
83	84	0.06858	36,561	2,508	35,305	321,630	8.80
84	85	0.07276	34,053	2,478	32,811	286,324	8.41
85	86	0.07715	31,576	2,436	30,354	253,513	8.03
86	87	0.08187	29,140	2,386	27,942	223,159	7.66
87	88	0.08709	26,754	2,330	25,584	195,217	7.30
88	89	0.09299	24,424	2,271	23,283	169,633	6.95
89	90	0.09960	22,153	2,206	21,044	146,350	6.61
90	91	0.10713	19,946	2,137	18,871	125,306	6.28
91	92	0.11541	17,809	2,055	16,774	106,435	5.98
92	93	0.12408	15,754	1,955	14,767	89,661	5.69
93	94	0.13268	13,799	1,831	12,873	74,893	5.43
94	95	0.14115	11,968	1,689	11,112	62,021	5.18
95	96	0.15003	10,279	1,542	9,496	50,909	4.95
96	97	0.15973	8,737	1,396	8,027	41,413	4.74
97	98	0.16975	7,341	1,246	6,706	33,386	4.55
98	99	0.17990	6,095	1,097	5,535	26,680	4.38
99	100	0.18987	4,999	949	4,512	21,146	4.23
100	101	0.19789	4,050	801	3,637	16,634	4.11

**American Indian, Eskimo, and Aleut Male**

0	1	0.01173	100,000	1,173	98,971	7,117,246	71.17
1	2	0.00130	98,827	128	98,763	7,018,275	71.02
2	3	0.00090	98,699	89	98,651	6,919,512	70.11
3	4	0.00069	98,609	68	98,574	6,820,861	69.17
4	5	0.00057	98,541	56	98,512	6,722,287	68.22
5	6	0.00047	98,485	46	98,462	6,623,774	67.26
6	7	0.00042	98,439	42	98,418	6,525,313	66.29
7	8	0.00038	98,398	38	98,378	6,426,895	65.32
8	9	0.00031	98,360	31	98,344	6,328,516	64.34
9	10	0.00021	98,329	21	98,318	6,230,172	63.36
10	11	0.00013	98,308	12	98,302	6,131,855	62.37
11	12	0.00014	98,296	14	98,290	6,033,553	61.38
12	13	0.00035	98,282	34	98,268	5,935,263	60.39
13	14	0.00082	98,248	80	98,212	5,836,995	59.41
14	15	0.00145	98,168	143	98,102	5,738,783	58.46
15	16	0.00219	98,025	215	97,923	5,640,681	57.54
16	17	0.00286	97,810	280	97,675	5,542,758	56.67
17	18	0.00335	97,531	326	97,370	5,445,082	55.83
18	19	0.00356	97,204	346	97,032	5,347,712	55.02
19	20	0.00357	96,858	345	96,685	5,250,680	54.21
20	21	0.00350	96,513	338	96,343	5,153,995	53.40
21	22	0.00349	96,174	336	96,007	5,057,652	52.59
22	23	0.00352	95,839	337	95,671	4,961,645	51.77
23	24	0.00363	95,502	346	95,330	4,865,975	50.95
24	25	0.00379	95,155	361	94,976	4,770,645	50.14
25	26	0.00398	94,795	377	94,607	4,675,669	49.32
26	27	0.00412	94,418	389	94,224	4,581,061	48.52
27	28	0.00419	94,028	394	93,831	4,486,838	47.72

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-9

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
28	29	0.00416	93,634	390	93,439	4,393,006	46.92
29	30	0.00407	93,244	379	93,054	4,299,568	46.11
30	31	0.00393	92,865	365	92,682	4,206,514	45.30
31	32	0.00383	92,500	355	92,323	4,113,832	44.47
32	33	0.00389	92,146	358	91,968	4,021,510	43.64
33	34	0.00415	91,788	381	91,600	3,929,542	42.81
34	35	0.00455	91,407	416	91,202	3,837,942	41.99
35	36	0.00503	90,991	457	90,765	3,746,740	41.18
36	37	0.00545	90,533	494	90,289	3,655,974	40.38
37	38	0.00576	90,040	519	89,782	3,565,685	39.60
38	39	0.00590	89,521	528	89,257	3,475,903	38.83
39	40	0.00591	88,993	526	88,730	3,386,646	38.06
40	41	0.00590	88,467	522	88,206	3,297,916	37.28
41	42	0.00594	87,945	522	87,684	3,209,709	36.50
42	43	0.00599	87,423	523	87,162	3,122,025	35.71
43	44	0.00606	86,900	527	86,637	3,034,863	34.92
44	45	0.00617	86,373	533	86,107	2,948,227	34.13
45	46	0.00629	85,840	540	85,570	2,862,120	33.34
46	47	0.00645	85,300	550	85,026	2,776,549	32.55
47	48	0.00669	84,750	567	84,468	2,691,523	31.76
48	49	0.00706	84,182	594	83,888	2,607,056	30.97
49	50	0.00752	83,588	629	83,277	2,523,168	30.19
50	51	0.00801	82,959	665	82,630	2,439,891	29.41
51	52	0.00853	82,295	702	81,947	2,357,261	28.64
52	53	0.00917	81,593	749	81,223	2,275,314	27.89
53	54	0.00996	80,844	805	80,447	2,194,091	27.14
54	55	0.01085	80,039	869	79,610	2,113,644	26.41
55	56	0.01191	79,170	943	78,705	2,034,034	25.69
56	57	0.01296	78,228	1,014	77,726	1,955,329	25.00
57	58	0.01374	77,214	1,061	76,686	1,877,603	24.32
58	59	0.01411	76,153	1,075	75,616	1,800,917	23.65
59	60	0.01422	75,079	1,068	74,544	1,725,301	22.98
60	61	0.01415	74,011	1,047	73,486	1,650,757	22.30
61	62	0.01429	72,964	1,043	72,444	1,577,271	21.62
62	63	0.01504	71,921	1,081	71,386	1,504,827	20.92
63	64	0.01665	70,839	1,180	70,259	1,433,441	20.24
64	65	0.01894	69,660	1,320	69,012	1,363,182	19.57
65	66	0.02154	68,340	1,472	67,616	1,294,170	18.94
66	67	0.02405	66,868	1,608	66,074	1,226,554	18.34
67	68	0.02634	65,260	1,719	64,408	1,160,480	17.78
68	69	0.02818	63,541	1,791	62,650	1,096,072	17.25
69	70	0.02966	61,750	1,832	60,838	1,033,422	16.74
70	71	0.03124	59,919	1,872	58,986	972,584	16.23
71	72	0.03297	58,047	1,914	57,093	913,598	15.74
72	73	0.03442	56,133	1,932	55,168	856,505	15.26
73	74	0.03546	54,201	1,922	53,239	801,337	14.78
74	75	0.03623	52,280	1,894	51,329	748,099	14.31
75	76	0.03655	50,386	1,842	49,461	696,769	13.83
76	77	0.03704	48,544	1,798	47,643	647,308	13.33

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-10

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
77	78	0.03871	46,746	1,810	45,845	599,665	12.83
78	79	0.04224	44,936	1,898	43,996	553,820	12.32
79	80	0.04732	43,038	2,036	42,032	509,824	11.85
80	81	0.05363	41,001	2,199	39,914	467,791	11.41
81	82	0.05999	38,803	2,328	37,646	427,877	11.03
82	83	0.06519	36,475	2,378	35,286	390,231	10.70
83	84	0.06796	34,097	2,317	32,930	354,945	10.41
84	85	0.06850	31,780	2,177	30,678	322,015	10.13
85	86	0.06769	29,603	2,004	28,587	291,337	9.84
86	87	0.06712	27,599	1,852	26,662	262,749	9.52
87	88	0.06769	25,747	1,743	24,869	236,087	9.17
88	89	0.07082	24,004	1,700	23,152	211,219	8.80
89	90	0.07638	22,304	1,703	21,453	188,066	8.43
90	91	0.08335	20,600	1,717	19,742	166,614	8.09
91	92	0.09040	18,883	1,707	18,028	146,872	7.78
92	93	0.09720	17,176	1,670	16,337	128,844	7.50
93	94	0.10263	15,507	1,591	14,703	112,508	7.26
94	95	0.10663	13,915	1,484	13,164	97,804	7.03
95	96	0.11004	12,431	1,368	11,738	84,641	6.81
96	97	0.11389	11,063	1,260	10,425	72,903	6.59
97	98	0.11813	9,803	1,158	9,216	62,478	6.37
98	99	0.12348	8,645	1,068	8,104	53,262	6.16
99	100	0.13007	7,578	986	7,078	45,157	5.96
100	101	0.13743	6,592	906	6,132	38,079	5.78

**American Indian, Eskimo and Aleut Female**

0	1	0.00831	100,000	831	99,272	8,133,258	81.33
1	2	0.00131	99,169	130	99,104	8,033,986	81.01
2	3	0.00091	99,039	90	98,991	7,934,882	80.12
3	4	0.00070	98,949	69	98,913	7,835,891	79.19
4	5	0.00057	98,879	57	98,850	7,736,978	78.25
5	6	0.00045	98,823	44	98,800	7,638,128	77.29
6	7	0.00037	98,778	36	98,760	7,539,328	76.33
7	8	0.00031	98,742	31	98,726	7,440,569	75.35
8	9	0.00026	98,711	25	98,698	7,341,842	74.38
9	10	0.00021	98,686	21	98,675	7,243,144	73.40
10	11	0.00018	98,665	18	98,656	7,144,469	72.41
11	12	0.00020	98,647	19	98,637	7,045,813	71.42
12	13	0.00028	98,627	28	98,614	6,947,176	70.44
13	14	0.00045	98,599	45	98,579	6,848,561	69.46
14	15	0.00068	98,555	67	98,523	6,749,983	68.49
15	16	0.00094	98,488	93	98,444	6,651,459	67.54
16	17	0.00119	98,395	117	98,338	6,553,016	66.60
17	18	0.00135	98,278	133	98,213	6,454,677	65.68
18	19	0.00141	98,145	138	98,076	6,356,464	64.77
19	20	0.00138	98,007	135	97,939	6,258,388	63.86
20	21	0.00134	97,872	131	97,806	6,160,449	62.94
21	22	0.00131	97,741	128	97,677	6,062,643	62.03
22	23	0.00128	97,613	125	97,550	5,964,966	61.11

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-11

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
23	24	0.00127	97,488	124	97,426	5,867,415	60.19
24	25	0.00128	97,364	125	97,301	5,769,990	59.26
25	26	0.00128	97,239	124	97,177	5,672,688	58.34
26	27	0.00127	97,115	124	97,053	5,575,511	57.41
27	28	0.00130	96,991	126	96,929	5,478,458	56.48
28	29	0.00136	96,865	132	96,800	5,381,530	55.56
29	30	0.00145	96,733	141	96,664	5,284,730	54.63
30	31	0.00155	96,593	150	96,518	5,188,066	53.71
31	32	0.00165	96,443	159	96,364	5,091,548	52.79
32	33	0.00174	96,284	167	96,201	4,995,184	51.88
33	34	0.00182	96,116	175	96,030	4,898,983	50.97
34	35	0.00190	95,941	182	95,851	4,802,954	50.06
35	36	0.00199	95,760	191	95,665	4,707,102	49.16
36	37	0.00209	95,569	200	95,470	4,611,437	48.25
37	38	0.00213	95,369	203	95,267	4,515,968	47.35
38	39	0.00211	95,166	200	95,065	4,420,700	46.45
39	40	0.00203	94,965	193	94,868	4,325,635	45.55
40	41	0.00194	94,772	184	94,680	4,230,767	44.64
41	42	0.00190	94,588	180	94,498	4,136,088	43.73
42	43	0.00198	94,408	187	94,316	4,041,589	42.81
43	44	0.00221	94,222	209	94,120	3,947,273	41.89
44	45	0.00258	94,013	242	93,895	3,853,153	40.99
45	46	0.00298	93,771	279	93,634	3,759,258	40.09
46	47	0.00337	93,492	315	93,337	3,665,623	39.21
47	48	0.00376	93,177	350	93,004	3,572,286	38.34
48	49	0.00413	92,826	383	92,637	3,479,282	37.48
49	50	0.00447	92,443	413	92,239	3,386,645	36.63
50	51	0.00488	92,030	449	91,808	3,294,406	35.80
51	52	0.00531	91,581	486	91,340	3,202,597	34.97
52	53	0.00563	91,094	513	90,840	3,111,257	34.15
53	54	0.00579	90,582	524	90,320	3,020,417	33.34
54	55	0.00586	90,057	527	89,794	2,930,097	32.54
55	56	0.00586	89,530	524	89,268	2,840,304	31.72
56	57	0.00598	89,006	532	88,741	2,751,035	30.91
57	58	0.00642	88,474	568	88,194	2,662,294	30.09
58	59	0.00731	87,906	643	87,592	2,574,100	29.28
59	60	0.00854	87,263	745	86,899	2,486,508	28.49
60	61	0.00992	86,518	859	86,097	2,399,609	27.74
61	62	0.01126	85,659	964	85,185	2,313,511	27.01
62	63	0.01246	84,695	1,055	84,174	2,228,326	26.31
63	64	0.01342	83,640	1,123	83,083	2,144,152	25.64
64	65	0.01421	82,517	1,173	81,935	2,061,069	24.98
65	66	0.01495	81,345	1,216	80,740	1,979,134	24.33
66	67	0.01575	80,129	1,262	79,502	1,898,394	23.69
67	68	0.01666	78,867	1,314	78,214	1,818,892	23.06
68	69	0.01774	77,552	1,375	76,870	1,740,678	22.45
69	70	0.01892	76,177	1,441	75,462	1,663,808	21.84
70	71	0.02026	74,736	1,514	73,984	1,588,346	21.25
71	72	0.02156	73,222	1,579	72,436	1,514,361	20.68

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-12

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
72	73	0.02248	71,643	1,611	70,838	1,441,925	20.13
73	74	0.02283	70,032	1,598	69,231	1,371,087	19.58
74	75	0.02277	68,433	1,558	67,650	1,301,857	19.02
75	76	0.02235	66,875	1,495	66,123	1,234,207	18.46
76	77	0.02214	65,381	1,448	64,655	1,168,083	17.87
77	78	0.02286	63,933	1,461	63,207	1,103,428	17.26
78	79	0.02498	62,472	1,561	61,702	1,040,221	16.65
79	80	0.02819	60,911	1,717	60,067	978,519	16.06
80	81	0.03216	59,194	1,904	58,256	918,452	15.52
81	82	0.03598	57,290	2,061	56,269	860,196	15.01
82	83	0.03879	55,229	2,142	54,160	803,926	14.56
83	84	0.03982	53,087	2,114	52,024	749,766	14.12
84	85	0.03942	50,973	2,010	49,958	697,742	13.69
85	86	0.03826	48,964	1,873	48,017	647,784	13.23
86	87	0.03757	47,090	1,769	46,199	599,767	12.74
87	88	0.03818	45,321	1,730	44,456	553,567	12.21
88	89	0.04102	43,590	1,788	42,704	509,111	11.68
89	90	0.04578	41,802	1,914	40,856	466,407	11.16
90	91	0.05141	39,888	2,051	38,873	425,551	10.67
91	92	0.05704	37,838	2,158	36,767	386,678	10.22
92	93	0.06291	35,679	2,244	34,563	349,911	9.81
93	94	0.06864	33,435	2,295	32,290	315,349	9.43
94	95	0.07429	31,140	2,313	29,984	283,058	9.09
95	96	0.08084	28,826	2,330	27,662	253,074	8.78
96	97	0.08819	26,496	2,337	25,326	225,412	8.51
97	98	0.09481	24,159	2,291	23,008	200,086	8.28
98	99	0.09962	21,869	2,179	20,768	177,078	8.10
99	100	0.10253	19,690	2,019	18,666	156,310	7.94
100	101	0.10374	17,671	1,833	16,740	137,643	7.79

**Asian and Pacific Islander Male**

0	1	0.00517	100,000	517	99,547	7,987,748	79.88
1	2	0.00057	99,483	57	99,455	7,888,201	79.29
2	3	0.00040	99,426	40	99,405	7,788,747	78.34
3	4	0.00031	99,386	30	99,370	7,689,341	77.37
4	5	0.00025	99,356	25	99,343	7,589,971	76.39
5	6	0.00020	99,331	19	99,321	7,490,628	75.41
6	7	0.00016	99,312	16	99,303	7,391,307	74.43
7	8	0.00013	99,296	13	99,289	7,292,004	73.44
8	9	0.00011	99,282	11	99,277	7,192,715	72.45
9	10	0.00009	99,271	9	99,266	7,093,438	71.46
10	11	0.00008	99,262	8	99,258	6,994,172	70.46
11	12	0.00009	99,254	9	99,250	6,894,914	69.47
12	13	0.00014	99,245	14	99,238	6,795,665	68.47
13	14	0.00023	99,231	23	99,221	6,696,426	67.48
14	15	0.00035	99,208	35	99,192	6,597,206	66.50
15	16	0.00049	99,174	49	99,150	6,498,014	65.52
16	17	0.00062	99,125	61	99,095	6,398,863	64.55
17	18	0.00071	99,064	70	99,029	6,299,768	63.59

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-13

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
18	19	0.00074	98,993	74	98,957	6,200,739	62.64
19	20	0.00074	98,920	73	98,883	6,101,782	61.68
20	21	0.00072	98,847	71	98,811	6,002,899	60.73
21	22	0.00071	98,776	70	98,741	5,904,088	59.77
22	23	0.00072	98,706	71	98,670	5,805,347	58.81
23	24	0.00074	98,635	73	98,599	5,706,676	57.86
24	25	0.00077	98,562	76	98,525	5,608,078	56.90
25	26	0.00081	98,486	80	98,447	5,509,553	55.94
26	27	0.00085	98,406	83	98,365	5,411,106	54.99
27	28	0.00089	98,323	87	98,280	5,312,741	54.03
28	29	0.00093	98,236	91	98,191	5,214,461	53.08
29	30	0.00098	98,145	96	98,097	5,116,271	52.13
30	31	0.00102	98,049	100	97,999	5,018,173	51.18
31	32	0.00107	97,949	105	97,897	4,920,174	50.23
32	33	0.00114	97,844	111	97,788	4,822,278	49.29
33	34	0.00123	97,732	120	97,673	4,724,489	48.34
34	35	0.00133	97,612	130	97,548	4,626,816	47.40
35	36	0.00145	97,483	141	97,413	4,529,268	46.46
36	37	0.00156	97,342	152	97,267	4,431,855	45.53
37	38	0.00163	97,190	158	97,111	4,334,588	44.60
38	39	0.00164	97,032	159	96,952	4,237,477	43.67
39	40	0.00161	96,873	156	96,794	4,140,524	42.74
40	41	0.00158	96,717	153	96,640	4,043,730	41.81
41	42	0.00158	96,564	152	96,488	3,947,090	40.88
42	43	0.00162	96,411	157	96,333	3,850,602	39.94
43	44	0.00173	96,255	167	96,172	3,754,269	39.00
44	45	0.00190	96,088	183	95,998	3,658,097	38.07
45	46	0.00208	95,905	200	95,807	3,562,099	37.14
46	47	0.00228	95,705	218	95,598	3,466,292	36.22
47	48	0.00251	95,487	240	95,370	3,370,694	35.30
48	49	0.00280	95,247	267	95,116	3,275,325	34.39
49	50	0.00313	94,980	298	94,834	3,180,208	33.48
50	51	0.00353	94,683	334	94,519	3,085,374	32.59
51	52	0.00394	94,348	372	94,165	2,990,855	31.70
52	53	0.00426	93,977	401	93,778	2,896,690	30.82
53	54	0.00446	93,576	418	93,368	2,802,912	29.95
54	55	0.00459	93,158	428	92,945	2,709,543	29.09
55	56	0.00468	92,731	434	92,515	2,616,598	28.22
56	57	0.00488	92,297	450	92,074	2,524,083	27.35
57	58	0.00533	91,846	490	91,606	2,432,010	26.48
58	59	0.00613	91,356	560	91,083	2,340,404	25.62
59	60	0.00719	90,796	653	90,478	2,249,321	24.77
60	61	0.00843	90,143	760	89,772	2,158,843	23.95
61	62	0.00966	89,383	864	88,959	2,069,071	23.15
62	63	0.01074	88,519	950	88,050	1,980,112	22.37
63	64	0.01155	87,569	1,011	87,068	1,892,061	21.61
64	65	0.01219	86,558	1,056	86,034	1,804,994	20.85
65	66	0.01280	85,502	1,094	84,959	1,718,960	20.10
66	67	0.01361	84,408	1,149	83,839	1,634,001	19.36

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-14

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
67	68	0.01480	83,259	1,232	82,652	1,550,162	18.62
68	69	0.01653	82,027	1,356	81,361	1,467,510	17.89
69	70	0.01871	80,671	1,509	79,929	1,386,149	17.18
70	71	0.02109	79,162	1,669	78,340	1,306,219	16.50
71	72	0.02350	77,492	1,821	76,594	1,227,879	15.85
72	73	0.02602	75,671	1,969	74,699	1,151,285	15.21
73	74	0.02859	73,702	2,107	72,660	1,076,586	14.61
74	75	0.03122	71,596	2,235	70,489	1,003,926	14.02
75	76	0.03409	69,361	2,365	68,189	933,437	13.46
76	77	0.03714	66,996	2,488	65,761	865,249	12.91
77	78	0.04005	64,508	2,584	63,222	799,488	12.39
78	79	0.04269	61,924	2,643	60,606	736,265	11.89
79	80	0.04514	59,281	2,676	57,945	675,659	11.40
80	81	0.04745	56,605	2,686	55,263	617,715	10.91
81	82	0.05001	53,919	2,696	52,573	562,452	10.43
82	83	0.05334	51,222	2,732	49,861	509,879	9.95
83	84	0.05789	48,490	2,807	47,094	460,019	9.49
84	85	0.06358	45,683	2,904	44,239	412,925	9.04
85	86	0.07019	42,778	3,003	41,284	368,686	8.62
86	87	0.07718	39,776	3,070	38,245	327,402	8.23
87	88	0.08409	36,706	3,086	35,162	289,158	7.88
88	89	0.09030	33,620	3,036	32,095	253,996	7.55
89	90	0.09584	30,584	2,931	29,109	221,901	7.26
90	91	0.10155	27,653	2,808	26,238	192,792	6.97
91	92	0.10788	24,845	2,680	23,493	166,554	6.70
92	93	0.11411	22,164	2,529	20,886	143,061	6.45
93	94	0.12001	19,635	2,356	18,442	122,175	6.22
94	95	0.12549	17,279	2,168	16,179	103,732	6.00
95	96	0.13015	15,111	1,967	14,111	87,554	5.79
96	97	0.13423	13,144	1,764	12,246	73,443	5.59
97	98	0.13872	11,380	1,579	10,576	61,198	5.38
98	99	0.14480	9,801	1,419	9,079	50,621	5.16
99	100	0.15281	8,382	1,281	7,730	41,542	4.96
100	101	0.16190	7,101	1,150	6,515	33,812	4.76

**Asian and Pacific Islander Female**

0	1	0.00334	100,000	334	99,708	8,597,639	85.98
1	2	0.00057	99,666	57	99,638	8,497,931	85.26
2	3	0.00040	99,609	40	99,588	8,398,293	84.31
3	4	0.00031	99,569	30	99,554	8,298,705	83.35
4	5	0.00025	99,539	25	99,526	8,199,151	82.37
5	6	0.00019	99,514	19	99,504	8,099,625	81.39
6	7	0.00015	99,495	15	99,488	8,000,121	80.41
7	8	0.00012	99,481	12	99,475	7,900,633	79.42
8	9	0.00012	99,469	12	99,463	7,801,159	78.43
9	10	0.00013	99,457	13	99,451	7,701,696	77.44
10	11	0.00015	99,445	15	99,437	7,602,245	76.45
11	12	0.00017	99,430	17	99,421	7,502,807	75.46
12	13	0.00019	99,413	19	99,403	7,403,386	74.47

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-15

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
13	14	0.00020	99,394	20	99,384	7,303,982	73.49
14	15	0.00020	99,374	20	99,364	7,204,599	72.50
15	16	0.00020	99,354	20	99,344	7,105,235	71.51
16	17	0.00021	99,333	21	99,323	7,005,892	70.53
17	18	0.00021	99,313	21	99,302	6,906,568	69.54
18	19	0.00021	99,292	21	99,281	6,807,266	68.56
19	20	0.00022	99,270	21	99,260	6,707,985	67.57
20	21	0.00022	99,249	22	99,238	6,608,726	66.59
21	22	0.00022	99,227	22	99,216	6,509,488	65.60
22	23	0.00022	99,205	22	99,194	6,410,272	64.62
23	24	0.00022	99,183	21	99,172	6,311,078	63.63
24	25	0.00021	99,161	21	99,151	6,211,906	62.64
25	26	0.00020	99,141	20	99,131	6,112,755	61.66
26	27	0.00020	99,121	19	99,112	6,013,624	60.67
27	28	0.00021	99,102	21	99,092	5,914,513	59.68
28	29	0.00025	99,081	25	99,069	5,815,421	58.69
29	30	0.00031	99,056	31	99,041	5,716,352	57.71
30	31	0.00038	99,025	37	99,007	5,617,311	56.73
31	32	0.00044	98,988	44	98,967	5,518,304	55.75
32	33	0.00051	98,944	51	98,920	5,419,337	54.77
33	34	0.00059	98,894	58	98,865	5,320,417	53.80
34	35	0.00066	98,836	65	98,804	5,221,552	52.83
35	36	0.00074	98,771	73	98,735	5,122,748	51.87
36	37	0.00081	98,698	80	98,658	5,024,013	50.90
37	38	0.00089	98,618	88	98,574	4,925,355	49.94
38	39	0.00097	98,529	96	98,482	4,826,781	48.99
39	40	0.00105	98,434	104	98,382	4,728,299	48.04
40	41	0.00114	98,330	112	98,275	4,629,916	47.09
41	42	0.00123	98,218	120	98,158	4,531,642	46.14
42	43	0.00129	98,098	126	98,035	4,433,483	45.19
43	44	0.00131	97,971	129	97,907	4,335,448	44.25
44	45	0.00132	97,843	129	97,778	4,237,541	43.31
45	46	0.00134	97,713	131	97,648	4,139,763	42.37
46	47	0.00139	97,582	136	97,515	4,042,115	41.42
47	48	0.00144	97,446	141	97,377	3,944,600	40.48
48	49	0.00150	97,306	146	97,233	3,847,224	39.54
49	50	0.00159	97,160	154	97,083	3,749,991	38.60
50	51	0.00164	97,006	160	96,926	3,652,907	37.66
51	52	0.00175	96,846	170	96,763	3,555,981	36.72
52	53	0.00204	96,676	197	96,581	3,459,218	35.78
53	54	0.00255	96,479	246	96,361	3,362,637	34.85
54	55	0.00323	96,233	311	96,083	3,266,276	33.94
55	56	0.00402	95,922	385	95,735	3,170,193	33.05
56	57	0.00475	95,536	454	95,314	3,074,458	32.18
57	58	0.00528	95,083	502	94,834	2,979,144	31.33
58	59	0.00552	94,580	522	94,320	2,884,310	30.50
59	60	0.00554	94,059	521	93,798	2,789,989	29.66
60	61	0.00551	93,537	515	93,279	2,696,192	28.82
61	62	0.00558	93,022	519	92,763	2,602,912	27.98

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-16

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
62	63	0.00579	92,503	535	92,238	2,510,149	27.14
63	64	0.00621	91,968	571	91,686	2,417,911	26.29
64	65	0.00680	91,397	622	91,091	2,326,226	25.45
65	66	0.00750	90,775	681	90,440	2,235,135	24.62
66	67	0.00821	90,094	740	89,729	2,144,695	23.80
67	68	0.00891	89,355	796	88,961	2,054,966	23.00
68	69	0.00955	88,559	846	88,140	1,966,005	22.20
69	70	0.01020	87,713	895	87,270	1,877,865	21.41
70	71	0.01086	86,818	943	86,352	1,790,595	20.62
71	72	0.01166	85,876	1,002	85,381	1,704,243	19.85
72	73	0.01279	84,874	1,086	84,340	1,618,862	19.07
73	74	0.01435	83,789	1,202	83,198	1,534,522	18.31
74	75	0.01625	82,586	1,342	81,928	1,451,324	17.57
75	76	0.01841	81,244	1,496	80,509	1,369,396	16.86
76	77	0.02063	79,749	1,645	78,938	1,288,887	16.16
77	78	0.02276	78,104	1,778	77,225	1,209,949	15.49
78	79	0.02470	76,326	1,885	75,392	1,132,724	14.84
79	80	0.02653	74,441	1,975	73,461	1,057,332	14.20
80	81	0.02836	72,466	2,055	71,446	983,871	13.58
81	82	0.03047	70,411	2,146	69,347	912,425	12.96
82	83	0.03311	68,266	2,260	67,146	843,079	12.35
83	84	0.03650	66,005	2,409	64,814	775,932	11.76
84	85	0.04056	63,596	2,580	62,320	711,118	11.18
85	86	0.04504	61,016	2,748	59,656	648,798	10.63
86	87	0.04976	58,268	2,899	56,830	589,142	10.11
87	88	0.05483	55,369	3,036	53,862	532,312	9.61
88	89	0.06023	52,333	3,152	50,766	478,450	9.14
89	90	0.06600	49,181	3,246	47,566	427,684	8.70
90	91	0.07237	45,935	3,324	44,279	380,118	8.28
91	92	0.07934	42,611	3,381	40,924	335,840	7.88
92	93	0.08661	39,230	3,398	37,531	294,916	7.52
93	94	0.09397	35,832	3,367	34,144	257,385	7.18
94	95	0.10147	32,465	3,294	30,811	223,241	6.88
95	96	0.10989	29,171	3,206	27,560	192,429	6.60
96	97	0.11924	25,965	3,096	24,406	164,869	6.35
97	98	0.12825	22,869	2,933	21,387	140,463	6.14
98	99	0.13580	19,936	2,707	18,562	119,077	5.97
99	100	0.14150	17,229	2,438	15,986	100,515	5.83
100	101	0.14489	14,791	2,143	13,695	84,528	5.71

**Hispanic Origin Male**

0	1	0.00888	100,000	888	99,221	7,513,190	75.13
1	2	0.00078	99,112	77	99,073	7,413,968	74.80
2	3	0.00054	99,035	53	99,007	7,314,895	73.86
3	4	0.00041	98,981	41	98,960	7,215,888	72.90
4	5	0.00034	98,941	33	98,923	7,116,928	71.93
5	6	0.00029	98,907	29	98,893	7,018,004	70.96
6	7	0.00026	98,879	26	98,865	6,919,112	69.98
7	8	0.00024	98,852	24	98,840	6,820,247	68.99

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-17

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
8	9	0.00020	98,829	19	98,819	6,721,406	68.01
9	10	0.00014	98,809	14	98,802	6,622,587	67.02
10	11	0.00009	98,795	9	98,791	6,523,785	66.03
11	12	0.00009	98,786	9	98,782	6,424,995	65.04
12	13	0.00018	98,777	18	98,769	6,326,213	64.05
13	14	0.00039	98,759	38	98,742	6,227,444	63.06
14	15	0.00068	98,721	67	98,690	6,128,702	62.08
15	16	0.00101	98,654	99	98,607	6,030,012	61.12
16	17	0.00131	98,554	129	98,492	5,931,405	60.18
17	18	0.00154	98,425	152	98,350	5,832,914	59.26
18	19	0.00166	98,273	163	98,192	5,734,563	58.35
19	20	0.00169	98,110	166	98,027	5,636,371	57.45
20	21	0.00170	97,944	167	97,861	5,538,344	56.55
21	22	0.00173	97,777	170	97,693	5,440,483	55.64
22	23	0.00177	97,608	173	97,522	5,342,790	54.74
23	24	0.00182	97,435	178	97,347	5,245,268	53.83
24	25	0.00189	97,257	184	97,166	5,147,921	52.93
25	26	0.00195	97,074	189	96,980	5,050,755	52.03
26	27	0.00200	96,885	194	96,788	4,953,775	51.13
27	28	0.00206	96,691	199	96,592	4,856,987	50.23
28	29	0.00213	96,491	206	96,389	4,760,395	49.33
29	30	0.00221	96,286	213	96,180	4,664,006	48.44
30	31	0.00229	96,073	220	95,964	4,567,826	47.55
31	32	0.00237	95,853	227	95,740	4,471,862	46.65
32	33	0.00247	95,626	236	95,509	4,376,122	45.76
33	34	0.00256	95,390	245	95,269	4,280,613	44.87
34	35	0.00267	95,146	254	95,019	4,185,344	43.99
35	36	0.00278	94,891	264	94,761	4,090,325	43.11
36	37	0.00289	94,628	273	94,492	3,995,564	42.22
37	38	0.00302	94,355	285	94,213	3,901,072	41.34
38	39	0.00318	94,070	299	93,921	3,806,859	40.47
39	40	0.00336	93,771	315	93,615	3,712,938	39.60
40	41	0.00357	93,456	334	93,291	3,619,323	38.73
41	42	0.00378	93,122	352	92,948	3,526,032	37.86
42	43	0.00391	92,770	363	92,589	3,433,085	37.01
43	44	0.00394	92,408	364	92,225	3,340,495	36.15
44	45	0.00390	92,044	359	91,863	3,248,270	35.29
45	46	0.00383	91,684	351	91,508	3,156,407	34.43
46	47	0.00382	91,333	349	91,159	3,064,898	33.56
47	48	0.00398	90,985	362	90,806	2,973,739	32.68
48	49	0.00436	90,623	396	90,429	2,882,933	31.81
49	50	0.00493	90,227	444	90,010	2,792,505	30.95
50	51	0.00560	89,783	503	89,536	2,702,495	30.10
51	52	0.00624	89,280	558	89,006	2,612,959	29.27
52	53	0.00677	88,723	601	88,425	2,523,953	28.45
53	54	0.00709	88,122	625	87,811	2,435,528	27.64
54	55	0.00729	87,497	638	87,179	2,347,716	26.83
55	56	0.00744	86,859	647	86,537	2,260,537	26.03
56	57	0.00772	86,213	666	85,882	2,173,999	25.22

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-18

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
57	58	0.00824	85,547	705	85,199	2,088,117	24.41
58	59	0.00912	84,842	773	84,462	2,002,918	23.61
59	60	0.01025	84,068	862	83,645	1,918,456	22.82
60	61	0.01156	83,206	962	82,734	1,834,811	22.05
61	62	0.01285	82,245	1,057	81,724	1,752,077	21.30
62	63	0.01402	81,188	1,138	80,625	1,670,353	20.57
63	64	0.01497	80,050	1,198	79,455	1,589,728	19.86
64	65	0.01578	78,852	1,244	78,233	1,510,273	19.15
65	66	0.01658	77,607	1,287	76,968	1,432,040	18.45
66	67	0.01756	76,320	1,340	75,656	1,355,072	17.76
67	68	0.01881	74,981	1,411	74,282	1,279,417	17.06
68	69	0.02047	73,570	1,506	72,826	1,205,135	16.38
69	70	0.02248	72,064	1,620	71,264	1,132,309	15.71
70	71	0.02469	70,444	1,739	69,584	1,061,046	15.06
71	72	0.02699	68,705	1,855	67,787	991,462	14.43
72	73	0.02942	66,850	1,967	65,876	923,674	13.82
73	74	0.03195	64,883	2,073	63,855	857,798	13.22
74	75	0.03461	62,810	2,174	61,731	793,943	12.64
75	76	0.03739	60,636	2,267	59,510	732,212	12.08
76	77	0.04041	58,369	2,359	57,197	672,702	11.52
77	78	0.04387	56,010	2,457	54,790	615,504	10.99
78	79	0.04791	53,553	2,566	52,279	560,714	10.47
79	80	0.05249	50,987	2,676	49,658	508,435	9.97
80	81	0.05762	48,310	2,784	46,927	458,778	9.50
81	82	0.06307	45,527	2,871	44,097	411,851	9.05
82	83	0.06853	42,655	2,923	41,196	367,755	8.62
83	84	0.07373	39,732	2,929	38,266	326,559	8.22
84	85	0.07872	36,803	2,897	35,350	288,292	7.83
85	86	0.08392	33,905	2,845	32,478	252,942	7.46
86	87	0.08963	31,060	2,784	29,662	220,464	7.10
87	88	0.09576	28,276	2,708	26,915	190,802	6.75
88	89	0.10245	25,568	2,619	24,251	163,887	6.41
89	90	0.10975	22,949	2,519	21,681	139,636	6.08
90	91	0.11784	20,430	2,407	19,217	117,955	5.77
91	92	0.12666	18,023	2,283	16,870	98,739	5.48
92	93	0.13596	15,740	2,140	14,657	81,868	5.20
93	94	0.14541	13,600	1,978	12,597	67,211	4.94
94	95	0.15497	11,622	1,801	10,707	54,614	4.70
95	96	0.16484	9,821	1,619	8,997	43,907	4.47
96	97	0.17533	8,202	1,438	7,468	34,910	4.26
97	98	0.18640	6,764	1,261	6,119	27,442	4.06
98	99	0.19825	5,503	1,091	4,944	21,323	3.87
99	100	0.21078	4,412	930	3,934	16,379	3.71
100	101	0.22162	3,482	772	3,084	12,445	3.57

**Hispanic Origin Female**

0	1	0.00719	100,000	719	99,370	8,260,539	82.61
1	2	0.00061	99,281	61	99,251	8,161,169	82.20
2	3	0.00043	99,221	42	99,198	8,061,918	81.25

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-19

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
3	4	0.00033	99,178	32	99,162	7,962,720	80.29
4	5	0.00027	99,146	26	99,132	7,863,559	79.31
5	6	0.00021	99,120	21	99,109	7,764,426	78.33
6	7	0.00018	99,099	17	99,090	7,665,318	77.35
7	8	0.00015	99,081	15	99,073	7,566,228	76.36
8	9	0.00013	99,066	13	99,059	7,467,154	75.38
9	10	0.00013	99,053	12	99,047	7,368,095	74.39
10	11	0.00012	99,040	12	99,034	7,269,049	73.39
11	12	0.00013	99,028	13	99,022	7,170,014	72.40
12	13	0.00016	99,015	16	99,007	7,070,993	71.41
13	14	0.00021	98,999	21	98,989	6,971,986	70.43
14	15	0.00027	98,978	26	98,965	6,872,997	69.44
15	16	0.00034	98,952	33	98,936	6,774,031	68.46
16	17	0.00040	98,919	40	98,899	6,675,096	67.48
17	18	0.00044	98,879	44	98,857	6,576,196	66.51
18	19	0.00045	98,835	45	98,813	6,477,339	65.54
19	20	0.00044	98,791	43	98,769	6,378,526	64.57
20	21	0.00041	98,748	41	98,727	6,279,757	63.59
21	22	0.00040	98,707	39	98,687	6,181,030	62.62
22	23	0.00040	98,668	39	98,648	6,082,343	61.64
23	24	0.00042	98,628	41	98,608	5,983,695	60.67
24	25	0.00045	98,587	44	98,565	5,885,086	59.69
25	26	0.00049	98,543	48	98,519	5,786,521	58.72
26	27	0.00052	98,495	52	98,469	5,688,002	57.75
27	28	0.00056	98,443	55	98,416	5,589,533	56.78
28	29	0.00059	98,388	58	98,360	5,491,116	55.81
29	30	0.00061	98,331	60	98,301	5,392,757	54.84
30	31	0.00064	98,270	63	98,239	5,294,456	53.88
31	32	0.00068	98,207	67	98,174	5,196,217	52.91
32	33	0.00071	98,140	70	98,106	5,098,043	51.95
33	34	0.00074	98,071	72	98,035	4,999,937	50.98
34	35	0.00077	97,998	75	97,961	4,901,903	50.02
35	36	0.00080	97,923	78	97,884	4,803,942	49.06
36	37	0.00083	97,845	81	97,805	4,706,057	48.10
37	38	0.00089	97,764	87	97,721	4,608,252	47.14
38	39	0.00096	97,677	94	97,631	4,510,531	46.18
39	40	0.00105	97,584	102	97,533	4,412,900	45.22
40	41	0.00115	97,481	112	97,426	4,315,367	44.27
41	42	0.00126	97,369	123	97,308	4,217,941	43.32
42	43	0.00137	97,246	133	97,180	4,120,633	42.37
43	44	0.00146	97,113	142	97,043	4,023,452	41.43
44	45	0.00155	96,971	150	96,897	3,926,410	40.49
45	46	0.00164	96,821	159	96,742	3,829,513	39.55
46	47	0.00176	96,662	170	96,578	3,732,771	38.62
47	48	0.00192	96,492	185	96,401	3,636,194	37.68
48	49	0.00213	96,307	205	96,206	3,539,793	36.76
49	50	0.00239	96,101	230	95,988	3,443,587	35.83
50	51	0.00269	95,871	258	95,745	3,347,599	34.92
51	52	0.00299	95,614	286	95,473	3,251,854	34.01

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-20

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 1992**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval [Q(x)]</i>	<i>Persons Alive at Beginning of Interval [l(x)]</i>	<i>Persons Dying Within Interval [D(x)]</i>	<i>Person-Yrs Lived W/in Interval [l(x)]</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval [T(x)]</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start [E(x)]</i>
52	53	0.00328	95,328	312	95,174	3,156,381	33.11
53	54	0.00353	95,015	335	94,850	3,061,208	32.22
54	55	0.00376	94,680	356	94,504	2,966,358	31.33
55	56	0.00401	94,324	378	94,137	2,871,854	30.45
56	57	0.00431	93,946	405	93,746	2,777,717	29.57
57	58	0.00468	93,541	438	93,325	2,683,971	28.69
58	59	0.00514	93,103	478	92,868	2,590,646	27.83
59	60	0.00568	92,625	526	92,366	2,497,778	26.97
60	61	0.00628	92,099	578	91,814	2,405,412	26.12
61	62	0.00691	91,521	633	91,209	2,313,597	25.28
62	63	0.00759	90,888	690	90,548	2,222,388	24.45
63	64	0.00832	90,198	751	89,828	2,131,840	23.64
64	65	0.00910	89,447	814	89,046	2,042,012	22.83
65	66	0.00993	88,633	880	88,199	1,952,966	22.03
66	67	0.01082	87,753	950	87,285	1,864,767	21.25
67	68	0.01183	86,804	1,027	86,297	1,777,482	20.48
68	69	0.01298	85,776	1,113	85,227	1,691,186	19.72
69	70	0.01425	84,663	1,206	84,068	1,605,958	18.97
70	71	0.01566	83,457	1,307	82,812	1,521,890	18.24
71	72	0.01714	82,150	1,408	81,454	1,439,078	17.52
72	73	0.01859	80,742	1,501	79,999	1,357,624	16.81
73	74	0.01994	79,242	1,580	78,458	1,277,625	16.12
74	75	0.02127	77,662	1,652	76,841	1,199,167	15.44
75	76	0.02264	76,009	1,721	75,155	1,122,325	14.77
76	77	0.02422	74,289	1,800	73,397	1,047,170	14.10
77	78	0.02625	72,489	1,903	71,548	973,774	13.43
78	79	0.02887	70,587	2,038	69,580	902,226	12.78
79	80	0.03205	68,549	2,197	67,463	832,646	12.15
80	81	0.03553	66,352	2,357	65,186	765,183	11.53
81	82	0.03923	63,994	2,510	62,752	699,996	10.94
82	83	0.04334	61,484	2,665	60,164	637,244	10.36
83	84	0.04793	58,819	2,819	57,422	577,080	9.81
84	85	0.05301	56,000	2,968	54,528	519,658	9.28
85	86	0.05859	53,031	3,107	51,489	465,130	8.77
86	87	0.06467	49,924	3,229	48,319	413,642	8.29
87	88	0.07120	46,695	3,325	45,040	365,323	7.82
88	89	0.07817	43,370	3,390	41,679	320,283	7.38
89	90	0.08564	39,980	3,424	38,270	278,604	6.97
90	91	0.09414	36,556	3,441	34,836	240,334	6.57
91	92	0.10363	33,115	3,432	31,396	205,498	6.21
92	93	0.11343	29,683	3,367	27,992	174,102	5.87
93	94	0.12297	26,316	3,236	24,685	146,110	5.55
94	95	0.13225	23,080	3,052	21,538	121,425	5.26
95	96	0.14208	20,028	2,846	18,588	99,887	4.99
96	97	0.15305	17,182	2,630	15,849	81,300	4.73
97	98	0.16457	14,553	2,395	13,335	65,451	4.50
98	99	0.17647	12,158	2,145	11,064	52,116	4.29
99	100	0.18855	10,012	1,888	9,047	41,052	4.10
100	101	0.19959	8,124	1,622	7,292	32,006	3.94

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

Appendix 1-21

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
<b>White Male</b>							
0	1	0.00545	100,000	545	99,522	7,442,082	74.42
1	2	0.00047	99,455	47	99,431	7,342,560	73.83
2	3	0.00033	99,408	33	99,391	7,243,129	72.86
3	4	0.00025	99,375	25	99,362	7,143,738	71.89
4	5	0.00020	99,350	20	99,340	7,044,376	70.90
5	6	0.00019	99,330	19	99,320	6,945,036	69.92
6	7	0.00019	99,311	19	99,301	6,845,715	68.93
7	8	0.00019	99,292	19	99,282	6,746,414	67.95
8	9	0.00017	99,273	17	99,264	6,647,132	66.96
9	10	0.00014	99,256	14	99,248	6,547,868	65.97
10	11	0.00012	99,241	12	99,235	6,448,620	64.98
11	12	0.00012	99,230	12	99,224	6,349,384	63.99
12	13	0.00018	99,218	18	99,210	6,250,160	62.99
13	14	0.00031	99,200	31	99,186	6,150,950	62.01
14	15	0.00050	99,169	50	99,146	6,051,764	61.02
15	16	0.00072	99,119	71	99,085	5,952,618	60.06
16	17	0.00091	99,048	90	99,005	5,853,532	59.10
17	18	0.00107	98,958	106	98,906	5,754,528	58.15
18	19	0.00118	98,852	116	98,794	5,655,622	57.21
19	20	0.00123	98,735	122	98,675	5,556,828	56.28
20	21	0.00129	98,613	127	98,550	5,458,153	55.35
21	22	0.00136	98,486	134	98,420	5,359,603	54.42
22	23	0.00140	98,352	137	98,284	5,261,183	53.49
23	24	0.00141	98,215	138	98,146	5,162,899	52.57
24	25	0.00140	98,077	137	98,008	5,064,753	51.64
25	26	0.00138	97,940	135	97,872	4,966,745	50.71
26	27	0.00137	97,805	134	97,738	4,868,873	49.78
27	28	0.00142	97,671	139	97,602	4,771,135	48.85
28	29	0.00155	97,532	151	97,458	4,673,532	47.92
29	30	0.00173	97,381	169	97,299	4,576,074	46.99
30	31	0.00193	97,213	187	97,120	4,478,776	46.07
31	32	0.00211	97,025	205	96,924	4,381,655	45.16
32	33	0.00231	96,820	223	96,710	4,284,731	44.25
33	34	0.00250	96,597	241	96,478	4,188,021	43.36
34	35	0.00268	96,356	258	96,228	4,091,543	42.46
35	36	0.00288	96,097	277	95,960	3,995,315	41.58
36	37	0.00307	95,820	295	95,674	3,899,355	40.69
37	38	0.00320	95,526	305	95,374	3,803,681	39.82
38	39	0.00323	95,220	307	95,067	3,708,307	38.94
39	40	0.00319	94,913	303	94,761	3,613,241	38.07
40	41	0.00314	94,610	297	94,461	3,518,479	37.19
41	42	0.00311	94,313	293	94,166	3,424,018	36.30
42	43	0.00312	94,020	294	93,873	3,329,852	35.42
43	44	0.00319	93,726	299	93,577	3,235,979	34.53
44	45	0.00332	93,427	310	93,273	3,142,402	33.63
45	46	0.00347	93,117	324	92,957	3,049,129	32.75
46	47	0.00365	92,794	339	92,626	2,956,172	31.86
47	48	0.00384	92,455	355	92,279	2,863,547	30.97
48	49	0.00404	92,100	372	91,915	2,771,268	30.09

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: 2000

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
49	50	0.00426	91,728	391	91,534	2,679,353	29.21
50	51	0.00452	91,336	413	91,132	2,587,819	28.33
51	52	0.00485	90,924	441	90,706	2,496,687	27.46
52	53	0.00528	90,483	478	90,247	2,405,981	26.59
53	54	0.00586	90,005	527	89,746	2,315,734	25.73
54	55	0.00655	89,478	586	89,190	2,225,988	24.88
55	56	0.00731	88,892	650	88,572	2,136,798	24.04
56	57	0.00813	88,242	717	87,889	2,048,226	23.21
57	58	0.00904	87,524	791	87,135	1,960,337	22.40
58	59	0.01005	86,733	872	86,304	1,873,202	21.60
59	60	0.01115	85,862	957	85,390	1,786,898	20.81
60	61	0.01235	84,905	1,049	84,388	1,701,507	20.04
61	62	0.01363	83,856	1,143	83,293	1,617,119	19.28
62	63	0.01491	82,714	1,233	82,104	1,533,827	18.54
63	64	0.01618	81,480	1,318	80,828	1,451,723	17.82
64	65	0.01746	80,162	1,400	79,469	1,370,894	17.10
65	66	0.01883	78,763	1,483	78,028	1,291,425	16.40
66	67	0.02035	77,280	1,573	76,501	1,213,397	15.70
67	68	0.02206	75,707	1,670	74,881	1,136,896	15.02
68	69	0.02400	74,037	1,777	73,158	1,062,015	14.34
69	70	0.02619	72,260	1,892	71,324	988,857	13.68
70	71	0.02851	70,368	2,006	69,375	917,533	13.04
71	72	0.03104	68,362	2,122	67,312	848,159	12.41
72	73	0.03403	66,240	2,254	65,125	780,847	11.79
73	74	0.03762	63,986	2,407	62,796	715,722	11.19
74	75	0.04178	61,579	2,573	60,306	652,926	10.60
75	76	0.04633	59,006	2,734	57,652	592,620	10.04
76	77	0.05120	56,273	2,881	54,844	534,968	9.51
77	78	0.05651	53,391	3,017	51,893	480,124	8.99
78	79	0.06226	50,374	3,136	48,815	428,231	8.50
79	80	0.06849	47,238	3,235	45,628	379,415	8.03
80	81	0.07549	44,003	3,322	42,348	333,787	7.59
81	82	0.08319	40,681	3,384	38,992	291,439	7.16
82	83	0.09115	37,297	3,400	35,596	252,447	6.77
83	84	0.09907	33,897	3,358	32,212	216,851	6.40
84	85	0.10701	30,539	3,268	28,896	184,639	6.05
85	86	0.11572	27,271	3,156	25,683	155,743	5.71
86	87	0.12551	24,115	3,027	22,590	130,060	5.39
87	88	0.13574	21,088	2,862	19,642	107,470	5.10
88	89	0.14603	18,226	2,662	16,877	87,828	4.82
89	90	0.15632	15,564	2,433	14,328	70,951	4.56
90	91	0.16669	13,131	2,189	12,016	56,622	4.31
91	92	0.17752	10,943	1,943	9,951	44,606	4.08
92	93	0.18912	9,000	1,702	8,130	34,655	3.85
93	94	0.20225	7,298	1,476	6,542	26,525	3.63
94	95	0.21716	5,822	1,264	5,172	19,984	3.43
95	96	0.23162	4,558	1,056	4,013	14,811	3.25
96	97	0.24390	3,502	854	3,059	10,799	3.08
97	98	0.25621	2,648	678	2,295	7,740	2.92
98	99	0.27175	1,969	535	1,691	5,444	2.76

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
99	100	0.29281	1,434	420	1,215	3,753	2.62
100	101	0.31410	1,014	319	847	2,538	2.50

**White Female**

0	1	0.00442	100,000	442	99,613	8,078,010	80.78
1	2	0.00038	99,558	38	99,539	7,978,397	80.14
2	3	0.00027	99,520	27	99,506	7,878,858	79.17
3	4	0.00020	99,493	20	99,483	7,779,352	78.19
4	5	0.00017	99,473	17	99,465	7,679,869	77.21
5	6	0.00014	99,457	14	99,449	7,580,405	76.22
6	7	0.00013	99,442	13	99,436	7,480,955	75.23
7	8	0.00012	99,430	12	99,424	7,381,519	74.24
8	9	0.00011	99,418	11	99,412	7,282,096	73.25
9	10	0.00010	99,407	10	99,401	7,182,684	72.26
10	11	0.00010	99,396	10	99,392	7,083,282	71.26
11	12	0.00010	99,387	10	99,382	6,983,891	70.27
12	13	0.00013	99,377	13	99,370	6,884,509	69.28
13	14	0.00019	99,364	19	99,355	6,785,138	68.29
14	15	0.00026	99,345	26	99,333	6,685,784	67.30
15	16	0.00035	99,319	34	99,302	6,586,451	66.32
16	17	0.00042	99,285	42	99,264	6,487,149	65.34
17	18	0.00047	99,242	47	99,219	6,387,885	64.37
18	19	0.00048	99,196	48	99,172	6,288,665	63.40
19	20	0.00046	99,148	45	99,125	6,189,494	62.43
20	21	0.00042	99,103	42	99,081	6,090,369	61.46
21	22	0.00040	99,061	40	99,041	5,991,287	60.48
22	23	0.00039	99,021	39	99,002	5,892,247	59.51
23	24	0.00039	98,982	39	98,963	5,793,245	58.53
24	25	0.00041	98,943	41	98,923	5,694,282	57.55
25	26	0.00043	98,903	43	98,881	5,595,359	56.57
26	27	0.00045	98,860	44	98,838	5,496,477	55.60
27	28	0.00047	98,816	47	98,792	5,397,640	54.62
28	29	0.00050	98,769	49	98,745	5,298,847	53.65
29	30	0.00053	98,720	52	98,694	5,200,102	52.68
30	31	0.00056	98,668	55	98,641	5,101,408	51.70
31	32	0.00059	98,613	58	98,584	5,002,767	50.73
32	33	0.00063	98,555	62	98,524	4,904,183	49.76
33	34	0.00066	98,493	65	98,460	4,805,659	48.79
34	35	0.00070	98,427	69	98,393	4,707,199	47.82
35	36	0.00074	98,358	73	98,322	4,608,806	46.86
36	37	0.00079	98,285	78	98,247	4,510,484	45.89
37	38	0.00084	98,207	82	98,166	4,412,238	44.93
38	39	0.00088	98,125	87	98,082	4,314,071	43.97
39	40	0.00093	98,038	91	97,993	4,215,990	43.00
40	41	0.00098	97,947	96	97,899	4,117,997	42.04
41	42	0.00106	97,850	103	97,799	4,020,097	41.08
42	43	0.00114	97,747	112	97,692	3,922,298	40.13
43	44	0.00126	97,635	123	97,575	3,824,606	39.17
44	45	0.00139	97,513	136	97,446	3,727,031	38.22
45	46	0.00155	97,377	151	97,303	3,629,585	37.27

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: 2000

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
46	47	0.00173	97,226	168	97,144	3,532,282	36.33
47	48	0.00193	97,058	187	96,966	3,435,139	35.39
48	49	0.00215	96,871	208	96,769	3,338,172	34.46
49	50	0.00239	96,663	231	96,549	3,241,403	33.53
50	51	0.00267	96,432	257	96,305	3,144,854	32.61
51	52	0.00298	96,175	286	96,034	3,048,548	31.70
52	53	0.00334	95,888	320	95,731	2,952,514	30.79
53	54	0.00375	95,568	359	95,393	2,856,783	29.89
54	55	0.00422	95,210	402	95,013	2,761,390	29.00
55	56	0.00473	94,808	449	94,588	2,666,378	28.12
56	57	0.00528	94,359	498	94,115	2,571,790	27.26
57	58	0.00588	93,861	552	93,590	2,477,675	26.40
58	59	0.00654	93,309	610	93,009	2,384,086	25.55
59	60	0.00725	92,699	672	92,368	2,291,076	24.72
60	61	0.00803	92,027	739	91,663	2,198,708	23.89
61	62	0.00886	91,288	808	90,889	2,107,045	23.08
62	63	0.00969	90,479	877	90,046	2,016,156	22.28
63	64	0.01053	89,602	943	89,136	1,926,110	21.50
64	65	0.01139	88,659	1,010	88,160	1,836,974	20.72
65	66	0.01230	87,649	1,078	87,116	1,748,814	19.95
66	67	0.01331	86,571	1,152	86,001	1,661,698	19.19
67	68	0.01444	85,419	1,233	84,809	1,575,697	18.45
68	69	0.01571	84,186	1,323	83,532	1,490,888	17.71
69	70	0.01713	82,863	1,420	82,162	1,407,355	16.98
70	71	0.01867	81,444	1,521	80,692	1,325,194	16.27
71	72	0.02034	79,923	1,626	79,119	1,244,502	15.57
72	73	0.02219	78,297	1,737	77,438	1,165,383	14.88
73	74	0.02424	76,559	1,856	75,642	1,087,945	14.21
74	75	0.02650	74,704	1,980	73,724	1,012,304	13.55
75	76	0.02893	72,724	2,104	71,682	938,580	12.91
76	77	0.03159	70,620	2,231	69,515	866,898	12.28
77	78	0.03459	68,389	2,366	67,218	797,382	11.66
78	79	0.03804	66,023	2,511	64,780	730,165	11.06
79	80	0.04193	63,512	2,663	62,193	665,385	10.48
80	81	0.04613	60,849	2,807	59,457	603,192	9.91
81	82	0.05068	58,042	2,941	56,582	543,735	9.37
82	83	0.05576	55,100	3,073	53,575	487,152	8.84
83	84	0.06150	52,028	3,200	50,438	433,577	8.33
84	85	0.06792	48,828	3,317	47,179	383,139	7.85
85	86	0.07515	45,511	3,420	43,809	335,960	7.38
86	87	0.08310	42,091	3,498	40,347	292,152	6.94
87	88	0.09154	38,593	3,533	36,828	251,805	6.52
88	89	0.10029	35,061	3,516	33,299	214,977	6.13
89	90	0.10945	31,544	3,452	29,812	181,678	5.76
90	91	0.11995	28,092	3,370	26,399	151,866	5.41
91	92	0.13203	24,722	3,264	23,079	125,466	5.08
92	93	0.14468	21,458	3,105	19,890	102,387	4.77
93	94	0.15709	18,354	2,883	16,892	82,497	4.49
94	95	0.16908	15,471	2,616	14,139	65,605	4.24
95	96	0.18102	12,855	2,327	11,667	51,466	4.00

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
96	97	0.19371	10,528	2,039	9,485	39,798	3.78
97	98	0.20729	8,488	1,760	7,586	30,314	3.57
98	99	0.22284	6,729	1,499	5,958	22,728	3.38
99	100	0.24073	5,229	1,259	4,580	16,769	3.21
100	101	0.25701	3,971	1,020	3,441	12,189	3.07

**Black Male**

0	1	0.01593	100,000	1,593	98,603	6,487,578	64.88
1	2	0.00102	98,407	100	98,357	6,388,975	64.92
2	3	0.00071	98,307	70	98,270	6,290,618	63.99
3	4	0.00054	98,237	53	98,210	6,192,348	63.03
4	5	0.00044	98,184	43	98,162	6,094,139	62.07
5	6	0.00040	98,141	39	98,121	5,995,977	61.10
6	7	0.00038	98,102	38	98,083	5,897,856	60.12
7	8	0.00036	98,064	35	98,046	5,799,774	59.14
8	9	0.00029	98,029	28	98,014	5,701,728	58.16
9	10	0.00018	98,001	18	97,991	5,603,713	57.18
10	11	0.00009	97,983	9	97,978	5,505,723	56.19
11	12	0.00009	97,974	9	97,970	5,407,745	55.20
12	13	0.00028	97,965	27	97,954	5,309,774	54.20
13	14	0.00071	97,938	70	97,907	5,211,820	53.22
14	15	0.00132	97,868	129	97,809	5,113,913	52.25
15	16	0.00199	97,739	194	97,647	5,016,104	51.32
16	17	0.00261	97,545	254	97,423	4,918,456	50.42
17	18	0.00316	97,291	307	97,141	4,821,034	49.55
18	19	0.00358	96,983	347	96,813	4,723,893	48.71
19	20	0.00390	96,636	376	96,450	4,627,080	47.88
20	21	0.00424	96,260	408	96,058	4,530,630	47.07
21	22	0.00457	95,852	438	95,635	4,434,571	46.26
22	23	0.00471	95,414	449	95,190	4,338,936	45.47
23	24	0.00461	94,965	438	94,745	4,243,747	44.69
24	25	0.00435	94,527	411	94,319	4,149,002	43.89
25	26	0.00398	94,116	375	93,926	4,054,683	43.08
26	27	0.00370	93,742	347	93,567	3,960,756	42.25
27	28	0.00366	93,395	342	93,225	3,867,190	41.41
28	29	0.00396	93,053	369	92,872	3,773,965	40.56
29	30	0.00453	92,684	420	92,479	3,681,093	39.72
30	31	0.00518	92,264	478	92,030	3,588,614	38.89
31	32	0.00576	91,787	529	91,526	3,496,584	38.09
32	33	0.00631	91,258	575	90,974	3,405,057	37.31
33	34	0.00676	90,682	613	90,379	3,314,083	36.55
34	35	0.00715	90,069	644	89,750	3,223,705	35.79
35	36	0.00756	89,425	676	89,090	3,133,955	35.05
36	37	0.00797	88,749	708	88,398	3,044,865	34.31
37	38	0.00830	88,042	730	87,678	2,956,467	33.58
38	39	0.00848	87,311	741	86,941	2,868,789	32.86
39	40	0.00858	86,571	743	86,199	2,781,848	32.13
40	41	0.00862	85,828	739	85,458	2,695,649	31.41
41	42	0.00868	85,089	739	84,719	2,610,191	30.68
42	43	0.00884	84,350	746	83,978	2,525,471	29.94

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
43	44	0.00915	83,604	765	83,224	2,441,493	29.20
44	45	0.00957	82,839	792	82,445	2,358,270	28.47
45	46	0.01007	82,047	826	81,636	2,275,824	27.74
46	47	0.01056	81,220	857	80,794	2,194,188	27.02
47	48	0.01092	80,363	878	79,925	2,113,394	26.30
48	49	0.01109	79,486	882	79,045	2,033,469	25.58
49	50	0.01116	78,604	877	78,165	1,954,424	24.86
50	51	0.01118	77,727	869	77,292	1,876,259	24.14
51	52	0.01134	76,858	872	76,423	1,798,967	23.41
52	53	0.01180	75,986	897	75,541	1,722,544	22.67
53	54	0.01268	75,090	952	74,619	1,647,003	21.93
54	55	0.01391	74,137	1,031	73,628	1,572,384	21.21
55	56	0.01532	73,106	1,120	72,553	1,498,756	20.50
56	57	0.01676	71,986	1,206	71,390	1,426,202	19.81
57	58	0.01821	70,780	1,289	70,142	1,354,812	19.14
58	59	0.01962	69,491	1,363	68,815	1,284,671	18.49
59	60	0.02102	68,127	1,432	67,417	1,215,855	17.85
60	61	0.02247	66,695	1,499	65,952	1,148,438	17.22
61	62	0.02407	65,197	1,569	64,418	1,082,487	16.60
62	63	0.02593	63,627	1,650	62,810	1,018,068	16.00
63	64	0.02811	61,978	1,742	61,115	955,259	15.41
64	65	0.03057	60,236	1,842	59,323	894,144	14.84
65	66	0.03329	58,394	1,944	57,430	834,821	14.30
66	67	0.03610	56,450	2,038	55,438	777,390	13.77
67	68	0.03881	54,412	2,112	53,361	721,952	13.27
68	69	0.04127	52,300	2,158	51,224	668,591	12.78
69	70	0.04356	50,142	2,184	49,051	617,368	12.31
70	71	0.04580	47,957	2,197	46,860	568,316	11.85
71	72	0.04828	45,761	2,209	44,658	521,456	11.40
72	73	0.05122	43,552	2,231	42,439	476,798	10.95
73	74	0.05489	41,321	2,268	40,190	434,360	10.51
74	75	0.05924	39,053	2,314	37,899	394,169	10.09
75	76	0.06405	36,739	2,353	35,565	356,270	9.70
76	77	0.06907	34,386	2,375	33,199	320,705	9.33
77	78	0.07431	32,011	2,379	30,821	287,505	8.98
78	79	0.07961	29,632	2,359	28,450	256,684	8.66
79	80	0.08495	27,273	2,317	26,111	228,234	8.37
80	81	0.09104	24,956	2,272	23,816	202,123	8.10
81	82	0.09764	22,684	2,215	21,570	178,307	7.86
82	83	0.10333	20,469	2,115	19,401	156,737	7.66
83	84	0.10695	18,354	1,963	17,359	137,335	7.48
84	85	0.10829	16,391	1,775	15,487	119,977	7.32
85	86	0.10712	14,616	1,566	13,816	104,490	7.15
86	87	0.10485	13,051	1,368	12,352	90,673	6.95
87	88	0.10366	11,682	1,211	11,066	78,322	6.70
88	89	0.10629	10,471	1,113	9,908	67,256	6.42
89	90	0.11314	9,358	1,059	8,825	57,347	6.13
90	91	0.12272	8,299	1,018	7,786	48,523	5.85
91	92	0.13283	7,281	967	6,793	40,736	5.59
92	93	0.14329	6,314	905	5,855	33,944	5.38

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
93	94	0.15198	5,409	822	4,991	28,088	5.19
94	95	0.15827	4,587	726	4,216	23,098	5.04
95	96	0.16344	3,861	631	3,538	18,882	4.89
96	97	0.16926	3,230	547	2,950	15,344	4.75
97	98	0.17498	2,683	470	2,442	12,394	4.62
98	99	0.18165	2,214	402	2,007	9,951	4.50
99	100	0.18950	1,812	343	1,635	7,944	4.38
100	101	0.19649	1,468	289	1,320	6,309	4.30

**Black Female**

0	1	0.01335	100,000	1,335	98,829	7,476,010	74.76
1	2	0.00084	98,665	83	98,623	7,377,180	74.77
2	3	0.00059	98,581	58	98,551	7,278,557	73.83
3	4	0.00045	98,523	44	98,500	7,180,007	72.88
4	5	0.00037	98,479	36	98,460	7,081,506	71.91
5	6	0.00032	98,443	32	98,427	6,983,046	70.94
6	7	0.00029	98,411	29	98,396	6,884,619	69.96
7	8	0.00026	98,382	26	98,369	6,786,223	68.98
8	9	0.00025	98,356	24	98,344	6,687,854	68.00
9	10	0.00024	98,332	23	98,320	6,589,510	67.01
10	11	0.00023	98,309	23	98,298	6,491,189	66.03
11	12	0.00024	98,286	24	98,274	6,392,892	65.04
12	13	0.00027	98,262	26	98,249	6,294,617	64.06
13	14	0.00031	98,236	30	98,221	6,196,368	63.08
14	15	0.00037	98,206	36	98,188	6,098,147	62.10
15	16	0.00043	98,169	42	98,149	5,999,959	61.12
16	17	0.00050	98,127	49	98,103	5,901,810	60.14
17	18	0.00058	98,078	57	98,050	5,803,707	59.17
18	19	0.00066	98,021	65	97,989	5,705,657	58.21
19	20	0.00075	97,956	74	97,920	5,607,668	57.25
20	21	0.00086	97,882	84	97,841	5,509,748	56.29
21	22	0.00096	97,798	94	97,752	5,411,907	55.34
22	23	0.00105	97,704	102	97,654	5,314,154	54.39
23	24	0.00110	97,602	107	97,549	5,216,501	53.45
24	25	0.00113	97,495	110	97,440	5,118,952	52.50
25	26	0.00116	97,385	113	97,329	5,021,512	51.56
26	27	0.00120	97,272	117	97,214	4,924,183	50.62
27	28	0.00130	97,155	127	97,093	4,826,969	49.68
28	29	0.00148	97,029	143	96,959	4,729,875	48.75
29	30	0.00171	96,885	165	96,805	4,632,917	47.82
30	31	0.00195	96,720	189	96,628	4,536,112	46.90
31	32	0.00218	96,531	211	96,428	4,439,484	45.99
32	33	0.00240	96,321	231	96,207	4,343,056	45.09
33	34	0.00259	96,089	249	95,966	4,246,850	44.20
34	35	0.00276	95,840	265	95,709	4,150,884	43.31
35	36	0.00294	95,576	281	95,437	4,055,174	42.43
36	37	0.00312	95,295	297	95,147	3,959,738	41.55
37	38	0.00325	94,998	309	94,844	3,864,590	40.68
38	39	0.00333	94,689	315	94,532	3,769,746	39.81
39	40	0.00336	94,374	318	94,216	3,675,214	38.94

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
40	41	0.00339	94,057	319	93,897	3,580,998	38.07
41	42	0.00345	93,738	323	93,576	3,487,101	37.20
42	43	0.00354	93,414	331	93,250	3,393,524	36.33
43	44	0.00370	93,083	344	92,912	3,300,275	35.46
44	45	0.00391	92,739	362	92,559	3,207,362	34.58
45	46	0.00415	92,377	383	92,187	3,114,803	33.72
46	47	0.00441	91,993	406	91,792	3,022,616	32.86
47	48	0.00470	91,587	431	91,374	2,930,824	32.00
48	49	0.00502	91,157	457	90,930	2,839,449	31.15
49	50	0.00537	90,699	487	90,459	2,748,519	30.30
50	51	0.00576	90,213	520	89,956	2,658,061	29.46
51	52	0.00622	89,693	557	89,418	2,568,105	28.63
52	53	0.00674	89,136	601	88,839	2,478,687	27.81
53	54	0.00734	88,535	650	88,214	2,389,848	26.99
54	55	0.00802	87,885	705	87,537	2,301,634	26.19
55	56	0.00876	87,180	764	86,803	2,214,097	25.40
56	57	0.00957	86,416	827	86,008	2,127,294	24.62
57	58	0.01052	85,589	901	85,146	2,041,285	23.85
58	59	0.01166	84,689	987	84,203	1,956,140	23.10
59	60	0.01294	83,701	1,083	83,168	1,871,937	22.36
60	61	0.01428	82,618	1,180	82,037	1,788,769	21.65
61	62	0.01566	81,439	1,275	80,809	1,706,733	20.96
62	63	0.01717	80,163	1,376	79,484	1,625,924	20.28
63	64	0.01881	78,787	1,482	78,055	1,546,440	19.63
64	65	0.02054	77,306	1,588	76,521	1,468,385	18.99
65	66	0.02247	75,718	1,701	74,876	1,391,864	18.38
66	67	0.02440	74,017	1,806	73,121	1,316,988	17.79
67	68	0.02601	72,211	1,878	71,276	1,243,867	17.23
68	69	0.02710	70,332	1,906	69,380	1,172,591	16.67
69	70	0.02782	68,426	1,904	67,473	1,103,210	16.12
70	71	0.02835	66,522	1,886	65,578	1,035,737	15.57
71	72	0.02908	64,636	1,880	63,697	970,159	15.01
72	73	0.03032	62,756	1,903	61,809	906,462	14.44
73	74	0.03235	60,854	1,969	59,876	844,653	13.88
74	75	0.03508	58,885	2,066	57,860	784,777	13.33
75	76	0.03807	56,819	2,163	55,745	726,916	12.79
76	77	0.04111	54,656	2,247	53,540	671,171	12.28
77	78	0.04450	52,409	2,332	51,250	617,632	11.78
78	79	0.04824	50,077	2,416	48,876	566,382	11.31
79	80	0.05231	47,661	2,493	46,421	517,506	10.86
80	81	0.05699	45,168	2,574	43,887	471,085	10.43
81	82	0.06197	42,594	2,640	41,277	427,198	10.03
82	83	0.06642	39,954	2,654	38,626	385,921	9.66
83	84	0.06972	37,301	2,600	35,994	347,295	9.31
84	85	0.07199	34,700	2,498	33,441	311,301	8.97
85	86	0.07356	32,202	2,369	31,007	277,860	8.63
86	87	0.07530	29,833	2,246	28,701	246,853	8.27
87	88	0.07794	27,587	2,150	26,506	218,152	7.91
88	89	0.08243	25,437	2,097	24,385	191,646	7.53
89	90	0.08878	23,340	2,072	22,302	167,261	7.17

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
90	91	0.09645	21,268	2,051	20,240	144,958	6.82
91	92	0.10461	19,217	2,010	18,207	124,719	6.49
92	93	0.11306	17,206	1,945	16,227	106,512	6.19
93	94	0.12103	15,261	1,847	14,328	90,285	5.92
94	95	0.12848	13,414	1,723	12,542	75,956	5.66
95	96	0.13636	11,691	1,594	10,883	63,414	5.42
96	97	0.14536	10,096	1,468	9,352	52,532	5.20
97	98	0.15458	8,629	1,334	7,951	43,180	5.00
98	99	0.16366	7,295	1,194	6,686	35,229	4.83
99	100	0.17232	6,101	1,051	5,564	28,543	4.68
100	101	0.17951	5,050	906	4,585	22,979	4.55

**American Indian, Eskimo, and Aleut Male**

0	1	0.00861	100,000	861	99,245	7,326,388	73.26
1	2	0.00096	99,139	95	99,091	7,227,143	72.90
2	3	0.00067	99,044	66	99,009	7,128,052	71.97
3	4	0.00051	98,977	51	98,951	7,029,043	71.02
4	5	0.00042	98,927	41	98,905	6,930,092	70.05
5	6	0.00034	98,885	34	98,868	6,831,187	69.08
6	7	0.00032	98,851	31	98,835	6,732,319	68.11
7	8	0.00029	98,820	29	98,805	6,633,484	67.13
8	9	0.00023	98,791	23	98,779	6,534,679	66.15
9	10	0.00013	98,768	13	98,761	6,435,900	65.16
10	11	0.00005	98,755	5	98,752	6,337,139	64.17
11	12	0.00005	98,750	5	98,748	6,238,387	63.17
12	13	0.00025	98,745	25	98,735	6,139,639	62.18
13	14	0.00069	98,720	68	98,690	6,040,903	61.19
14	15	0.00130	98,652	128	98,593	5,942,213	60.23
15	16	0.00200	98,524	197	98,431	5,843,620	59.31
16	17	0.00264	98,327	260	98,201	5,745,189	58.43
17	18	0.00308	98,067	302	97,918	5,646,988	57.58
18	19	0.00321	97,765	314	97,609	5,549,070	56.76
19	20	0.00312	97,452	304	97,299	5,451,461	55.94
20	21	0.00295	97,148	287	97,003	5,354,162	55.11
21	22	0.00286	96,861	277	96,722	5,257,159	54.28
22	23	0.00284	96,585	274	96,448	5,160,436	53.43
23	24	0.00296	96,310	286	96,169	5,063,988	52.58
24	25	0.00319	96,025	306	95,873	4,967,820	51.73
25	26	0.00345	95,718	330	95,555	4,871,946	50.90
26	27	0.00367	95,388	350	95,214	4,776,391	50.07
27	28	0.00385	95,038	366	94,856	4,681,177	49.26
28	29	0.00395	94,672	374	94,486	4,586,320	48.44
29	30	0.00401	94,298	378	94,109	4,491,835	47.63
30	31	0.00403	93,920	379	93,731	4,397,725	46.82
31	32	0.00409	93,542	382	93,351	4,303,994	46.01
32	33	0.00427	93,159	398	92,963	4,210,643	45.20
33	34	0.00464	92,762	430	92,550	4,117,680	44.39
34	35	0.00512	92,331	473	92,099	4,025,131	43.59
35	36	0.00568	91,858	522	91,601	3,933,032	42.82
36	37	0.00616	91,337	562	91,058	3,841,431	42.06

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
37	38	0.00644	90,774	585	90,483	3,750,373	41.32
38	39	0.00644	90,190	581	89,898	3,659,890	40.58
39	40	0.00624	89,608	559	89,327	3,569,992	39.84
40	41	0.00597	89,050	532	88,782	3,480,665	39.09
41	42	0.00576	88,518	510	88,262	3,391,883	38.32
42	43	0.00559	88,008	492	87,761	3,303,622	37.54
43	44	0.00551	87,517	482	87,275	3,215,860	36.75
44	45	0.00551	87,034	480	86,795	3,128,585	35.95
45	46	0.00553	86,555	479	86,316	3,041,791	35.14
46	47	0.00557	86,076	479	85,837	2,955,475	34.34
47	48	0.00569	85,597	487	85,354	2,869,639	33.53
48	49	0.00590	85,110	503	84,860	2,784,284	32.71
49	50	0.00621	84,607	525	84,346	2,699,424	31.91
50	51	0.00654	84,082	550	83,809	2,615,078	31.10
51	52	0.00691	83,532	578	83,246	2,531,269	30.30
52	53	0.00743	82,954	617	82,650	2,448,023	29.51
53	54	0.00813	82,338	669	82,008	2,365,373	28.73
54	55	0.00895	81,668	731	81,308	2,283,365	27.96
55	56	0.00993	80,937	804	80,541	2,202,057	27.21
56	57	0.01090	80,133	873	79,702	2,121,516	26.47
57	58	0.01163	79,260	922	78,802	2,041,814	25.76
58	59	0.01201	78,338	941	77,868	1,963,012	25.06
59	60	0.01214	77,397	940	76,927	1,885,144	24.36
60	61	0.01215	76,457	929	75,993	1,808,217	23.65
61	62	0.01233	75,529	932	75,065	1,732,225	22.93
62	63	0.01299	74,597	969	74,118	1,657,160	22.21
63	64	0.01432	73,628	1,054	73,110	1,583,042	21.50
64	65	0.01617	72,574	1,173	71,998	1,509,933	20.81
65	66	0.01826	71,400	1,304	70,759	1,437,935	20.14
66	67	0.02028	70,097	1,421	69,395	1,367,176	19.50
67	68	0.02214	68,676	1,520	67,922	1,297,781	18.90
68	69	0.02369	67,155	1,591	66,365	1,229,859	18.31
69	70	0.02499	65,564	1,639	64,749	1,163,494	17.75
70	71	0.02640	63,926	1,688	63,086	1,098,745	17.19
71	72	0.02796	62,238	1,740	61,372	1,035,659	16.64
72	73	0.02933	60,498	1,774	59,613	974,287	16.10
73	74	0.03044	58,724	1,787	57,831	914,674	15.58
74	75	0.03140	56,937	1,788	56,042	856,843	15.05
75	76	0.03200	55,149	1,765	54,265	800,801	14.52
76	77	0.03281	53,384	1,751	52,509	746,536	13.98
77	78	0.03476	51,633	1,795	50,742	694,027	13.44
78	79	0.03848	49,838	1,918	48,891	643,285	12.91
79	80	0.04363	47,920	2,091	46,890	594,394	12.40
80	81	0.04998	45,829	2,290	44,699	547,504	11.95
81	82	0.05634	43,538	2,453	42,322	502,805	11.55
82	83	0.06144	41,086	2,524	39,824	460,484	11.21
83	84	0.06402	38,561	2,469	37,318	420,660	10.91
84	85	0.06432	36,092	2,321	34,918	383,341	10.62
85	86	0.06323	33,771	2,135	32,689	348,423	10.32
86	87	0.06239	31,636	1,974	30,637	315,734	9.98

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
87	88	0.06273	29,662	1,861	28,725	285,097	9.61
88	89	0.06562	27,801	1,824	26,888	256,371	9.22
89	90	0.07091	25,977	1,842	25,058	229,483	8.83
90	91	0.07751	24,135	1,871	23,201	204,425	8.47
91	92	0.08408	22,264	1,872	21,327	181,224	8.14
92	93	0.09037	20,393	1,843	19,467	159,897	7.84
93	94	0.09536	18,550	1,769	17,658	140,430	7.57
94	95	0.09904	16,781	1,662	15,940	122,772	7.32
95	96	0.10228	15,119	1,546	14,336	106,832	7.07
96	97	0.10601	13,572	1,439	12,844	92,496	6.81
97	98	0.11006	12,134	1,335	11,458	79,652	6.56
98	99	0.11498	10,798	1,242	10,170	68,194	6.32
99	100	0.12087	9,557	1,155	8,972	58,024	6.07
100	101	0.12711	8,401	1,068	7,860	49,052	5.84

**American Indian, Eskimo and Aleut Female**

0	1	0.00601	100,000	601	99,473	8,289,732	82.90
1	2	0.00098	99,399	98	99,350	8,190,259	82.40
2	3	0.00069	99,301	68	99,265	8,090,909	81.48
3	4	0.00052	99,233	52	99,206	7,991,643	80.53
4	5	0.00043	99,181	43	99,159	7,892,437	79.58
5	6	0.00033	99,139	33	99,122	7,793,278	78.61
6	7	0.00027	99,106	27	99,092	7,694,157	77.64
7	8	0.00023	99,079	23	99,067	7,595,065	76.66
8	9	0.00019	99,056	19	99,046	7,495,998	75.67
9	10	0.00016	99,037	15	99,029	7,396,951	74.69
10	11	0.00013	99,022	13	99,015	7,297,922	73.70
11	12	0.00015	99,008	15	99,001	7,198,907	72.71
12	13	0.00024	98,993	24	98,983	7,099,906	71.72
13	14	0.00041	98,970	40	98,951	7,000,923	70.74
14	15	0.00063	98,929	63	98,900	6,901,972	69.77
15	16	0.00090	98,867	89	98,825	6,803,072	68.81
16	17	0.00113	98,778	112	98,724	6,704,247	67.87
17	18	0.00129	98,666	127	98,603	6,605,523	66.95
18	19	0.00131	98,539	129	98,474	6,506,920	66.03
19	20	0.00125	98,410	123	98,348	6,408,446	65.12
20	21	0.00115	98,287	113	98,230	6,310,098	64.20
21	22	0.00109	98,174	107	98,120	6,211,868	63.27
22	23	0.00105	98,067	102	98,015	6,113,749	62.34
23	24	0.00105	97,964	102	97,913	6,015,733	61.41
24	25	0.00108	97,862	106	97,809	5,917,820	60.47
25	26	0.00111	97,756	109	97,702	5,820,011	59.54
26	27	0.00114	97,648	111	97,592	5,722,308	58.60
27	28	0.00119	97,536	116	97,479	5,624,716	57.67
28	29	0.00126	97,421	123	97,360	5,527,237	56.74
29	30	0.00135	97,298	132	97,233	5,429,877	55.81
30	31	0.00145	97,166	141	97,096	5,332,645	54.88
31	32	0.00155	97,025	150	96,951	5,235,548	53.96
32	33	0.00163	96,875	158	96,796	5,138,598	53.04
33	34	0.00169	96,717	163	96,636	5,041,801	52.13

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
34	35	0.00173	96,554	167	96,470	4,945,166	51.22
35	36	0.00179	96,386	173	96,301	4,848,695	50.30
36	37	0.00185	96,214	178	96,125	4,752,394	49.39
37	38	0.00187	96,036	179	95,946	4,656,269	48.48
38	39	0.00182	95,856	174	95,769	4,560,324	47.57
39	40	0.00173	95,682	166	95,599	4,464,555	46.66
40	41	0.00163	95,517	155	95,438	4,368,956	45.74
41	42	0.00157	95,361	149	95,287	4,273,518	44.81
42	43	0.00162	95,212	154	95,136	4,178,231	43.88
43	44	0.00182	95,058	173	94,973	4,083,095	42.95
44	45	0.00215	94,885	204	94,786	3,988,122	42.03
45	46	0.00251	94,681	238	94,565	3,893,336	41.12
46	47	0.00286	94,443	270	94,311	3,798,771	40.22
47	48	0.00322	94,173	303	94,024	3,704,460	39.34
48	49	0.00355	93,870	333	93,706	3,610,436	38.46
49	50	0.00386	93,537	361	93,359	3,516,730	37.60
50	51	0.00423	93,176	394	92,982	3,423,371	36.74
51	52	0.00463	92,782	430	92,570	3,330,389	35.89
52	53	0.00494	92,352	456	92,126	3,237,819	35.06
53	54	0.00511	91,896	470	91,662	3,145,693	34.23
54	55	0.00521	91,427	477	91,189	3,054,031	33.40
55	56	0.00526	90,950	478	90,712	2,962,842	32.58
56	57	0.00541	90,472	490	90,229	2,872,131	31.75
57	58	0.00588	89,982	529	89,723	2,781,902	30.92
58	59	0.00676	89,453	605	89,158	2,692,179	30.10
59	60	0.00796	88,849	707	88,504	2,603,021	29.30
60	61	0.00931	88,141	821	87,740	2,514,517	28.53
61	62	0.01061	87,320	926	86,865	2,426,777	27.79
62	63	0.01177	86,394	1,017	85,892	2,339,912	27.08
63	64	0.01270	85,377	1,084	84,840	2,254,019	26.40
64	65	0.01345	84,293	1,134	83,730	2,169,179	25.73
65	66	0.01415	83,159	1,177	82,575	2,085,449	25.08
66	67	0.01491	81,983	1,222	81,375	2,002,875	24.43
67	68	0.01577	80,760	1,274	80,128	1,921,499	23.79
68	69	0.01678	79,487	1,334	78,825	1,841,371	23.17
69	70	0.01790	78,152	1,399	77,459	1,762,546	22.55
70	71	0.01917	76,754	1,471	76,024	1,685,088	21.95
71	72	0.02039	75,282	1,535	74,519	1,609,064	21.37
72	73	0.02123	73,747	1,566	72,965	1,534,545	20.81
73	74	0.02151	72,182	1,553	71,403	1,461,580	20.25
74	75	0.02140	70,629	1,511	69,869	1,390,176	19.68
75	76	0.02094	69,118	1,447	68,390	1,320,307	19.10
76	77	0.02068	67,671	1,400	66,969	1,251,918	18.50
77	78	0.02130	66,271	1,412	65,570	1,184,948	17.88
78	79	0.02326	64,859	1,509	64,115	1,119,379	17.26
79	80	0.02624	63,351	1,662	62,534	1,055,263	16.66
80	81	0.02993	61,689	1,846	60,780	992,730	16.09
81	82	0.03344	59,842	2,001	58,851	931,950	15.57
82	83	0.03598	57,841	2,081	56,802	873,098	15.09
83	84	0.03682	55,760	2,053	54,728	816,296	14.64

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

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<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
84	85	0.03632	53,706	1,951	52,721	761,568	14.18
85	86	0.03512	51,756	1,817	50,837	708,847	13.70
86	87	0.03438	49,938	1,717	49,074	658,010	13.18
87	88	0.03488	48,221	1,682	47,381	608,936	12.63
88	89	0.03749	46,539	1,745	45,675	561,555	12.07
89	90	0.04189	44,794	1,876	43,868	515,880	11.52
90	91	0.04705	42,918	2,019	41,919	472,012	11.00
91	92	0.05219	40,899	2,134	39,840	430,093	10.52
92	93	0.05755	38,764	2,231	37,656	390,253	10.07
93	94	0.06284	36,534	2,296	35,390	352,597	9.65
94	95	0.06808	34,238	2,331	33,075	317,207	9.26
95	96	0.07423	31,907	2,368	30,726	284,132	8.90
96	97	0.08111	29,539	2,396	28,341	253,406	8.58
97	98	0.08712	27,143	2,365	25,955	225,066	8.29
98	99	0.09117	24,778	2,259	23,637	199,111	8.04
99	100	0.09329	22,519	2,101	21,454	175,474	7.79
100	101	0.09339	20,418	1,907	19,449	154,020	7.54

**Asian and Pacific Islander Male**

0	1	0.00379	100,000	379	99,668	8,140,054	81.40
1	2	0.00043	99,621	42	99,600	8,040,386	80.71
2	3	0.00030	99,579	30	99,563	7,940,786	79.74
3	4	0.00023	99,549	23	99,537	7,841,223	78.77
4	5	0.00019	99,527	18	99,517	7,741,685	77.79
5	6	0.00014	99,508	14	99,501	7,642,168	76.80
6	7	0.00012	99,494	12	99,488	7,542,668	75.81
7	8	0.00010	99,482	10	99,477	7,443,180	74.82
8	9	0.00008	99,472	8	99,468	7,343,703	73.83
9	10	0.00007	99,464	6	99,461	7,244,235	72.83
10	11	0.00005	99,457	5	99,455	7,144,774	71.84
11	12	0.00006	99,452	6	99,449	7,045,320	70.84
12	13	0.00011	99,446	11	99,441	6,945,870	69.85
13	14	0.00019	99,435	19	99,427	6,846,429	68.85
14	15	0.00031	99,416	31	99,402	6,747,003	67.87
15	16	0.00045	99,385	44	99,364	6,647,601	66.89
16	17	0.00057	99,341	57	99,314	6,548,237	65.92
17	18	0.00065	99,284	65	99,252	6,448,923	64.95
18	19	0.00067	99,220	67	99,186	6,349,671	64.00
19	20	0.00064	99,153	64	99,121	6,250,485	63.04
20	21	0.00061	99,089	60	99,059	6,151,364	62.08
21	22	0.00058	99,029	58	99,000	6,052,305	61.12
22	23	0.00058	98,971	57	98,943	5,953,305	60.15
23	24	0.00060	98,914	60	98,884	5,854,363	59.19
24	25	0.00065	98,854	64	98,823	5,755,478	58.22
25	26	0.00070	98,790	69	98,756	5,656,656	57.26
26	27	0.00075	98,721	74	98,685	5,557,899	56.30
27	28	0.00081	98,648	80	98,609	5,459,214	55.34
28	29	0.00088	98,568	87	98,525	5,360,606	54.38
29	30	0.00097	98,481	96	98,434	5,262,080	53.43
30	31	0.00106	98,386	104	98,334	5,163,646	52.48

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
31	32	0.00115	98,281	113	98,226	5,065,312	51.54
32	33	0.00125	98,169	122	98,108	4,967,086	50.60
33	34	0.00136	98,046	134	97,980	4,868,978	49.66
34	35	0.00149	97,913	146	97,841	4,770,997	48.73
35	36	0.00163	97,767	159	97,688	4,673,156	47.80
36	37	0.00176	97,608	171	97,523	4,575,468	46.88
37	38	0.00182	97,436	177	97,348	4,477,945	45.96
38	39	0.00179	97,259	175	97,172	4,380,597	45.04
39	40	0.00171	97,085	166	97,001	4,283,425	44.12
40	41	0.00161	96,919	156	96,840	4,186,424	43.20
41	42	0.00154	96,763	149	96,688	4,089,584	42.26
42	43	0.00152	96,614	147	96,540	3,992,897	41.33
43	44	0.00158	96,467	152	96,391	3,896,357	40.39
44	45	0.00169	96,315	163	96,234	3,799,965	39.45
45	46	0.00183	96,152	176	96,065	3,703,731	38.52
46	47	0.00197	95,976	189	95,883	3,607,666	37.59
47	48	0.00214	95,787	205	95,686	3,511,784	36.66
48	49	0.00235	95,581	225	95,471	3,416,098	35.74
49	50	0.00259	95,356	247	95,235	3,320,628	34.82
50	51	0.00289	95,109	275	94,974	3,225,393	33.91
51	52	0.00320	94,835	304	94,685	3,130,418	33.01
52	53	0.00346	94,531	327	94,369	3,035,733	32.11
53	54	0.00364	94,204	343	94,034	2,941,363	31.22
54	55	0.00377	93,862	354	93,685	2,847,329	30.34
55	56	0.00388	93,507	363	93,327	2,753,644	29.45
56	57	0.00408	93,144	380	92,956	2,660,317	28.56
57	58	0.00450	92,764	418	92,559	2,567,361	27.68
58	59	0.00522	92,346	482	92,111	2,474,802	26.80
59	60	0.00616	91,864	566	91,588	2,382,691	25.94
60	61	0.00726	91,298	663	90,974	2,291,103	25.09
61	62	0.00835	90,635	756	90,264	2,200,129	24.27
62	63	0.00926	89,879	833	89,468	2,109,865	23.47
63	64	0.00991	89,046	882	88,608	2,020,397	22.69
64	65	0.01039	88,164	916	87,709	1,931,789	21.91
65	66	0.01083	87,248	945	86,779	1,844,080	21.14
66	67	0.01147	86,303	990	85,813	1,757,301	20.36
67	68	0.01244	85,314	1,062	84,790	1,671,488	19.59
68	69	0.01390	84,252	1,171	83,677	1,586,698	18.83
69	70	0.01574	83,081	1,308	82,439	1,503,021	18.09
70	71	0.01775	81,773	1,452	81,059	1,420,582	17.37
71	72	0.01982	80,321	1,592	79,537	1,339,523	16.68
72	73	0.02208	78,729	1,738	77,872	1,259,986	16.00
73	74	0.02452	76,991	1,888	76,059	1,182,114	15.35
74	75	0.02714	75,103	2,038	74,096	1,106,054	14.73
75	76	0.03001	73,065	2,192	71,981	1,031,958	14.12
76	77	0.03303	70,872	2,341	69,713	959,977	13.55
77	78	0.03598	68,532	2,466	67,308	890,263	12.99
78	79	0.03874	66,066	2,560	64,793	822,955	12.46
79	80	0.04140	63,506	2,629	62,197	758,163	11.94
80	81	0.04401	60,877	2,679	59,542	695,966	11.43

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
81	82	0.04688	58,198	2,728	56,839	636,424	10.94
82	83	0.05033	55,470	2,792	54,080	579,586	10.45
83	84	0.05466	52,678	2,879	51,246	525,505	9.98
84	85	0.05981	49,799	2,978	48,318	474,259	9.52
85	86	0.06565	46,821	3,074	45,290	425,941	9.10
86	87	0.07181	43,747	3,141	42,180	380,651	8.70
87	88	0.07793	40,605	3,164	39,023	338,471	8.34
88	89	0.08360	37,441	3,130	35,871	299,448	8.00
89	90	0.08885	34,311	3,048	32,779	263,577	7.68
90	91	0.09434	31,263	2,949	29,779	230,798	7.38
91	92	0.10035	28,313	2,841	26,883	201,019	7.10
92	93	0.10623	25,472	2,706	24,107	174,136	6.84
93	94	0.11169	22,766	2,543	21,480	150,029	6.59
94	95	0.11668	20,224	2,360	19,028	128,549	6.36
95	96	0.12097	17,864	2,161	16,767	109,521	6.13
96	97	0.12491	15,703	1,961	14,706	92,754	5.91
97	98	0.12926	13,741	1,776	12,839	78,048	5.68
98	99	0.13500	11,965	1,615	11,145	65,209	5.45
99	100	0.14238	10,350	1,474	9,601	54,064	5.22
100	101	0.15061	8,876	1,337	8,196	44,463	5.01

**Asian and Pacific Islander Female**

0	1	0.00241	100,000	241	99,789	8,709,265	87.09
1	2	0.00043	99,759	43	99,738	8,609,476	86.30
2	3	0.00030	99,716	30	99,700	8,509,738	85.34
3	4	0.00023	99,686	23	99,674	8,410,038	84.37
4	5	0.00019	99,663	19	99,654	8,310,364	83.38
5	6	0.00014	99,645	14	99,637	8,210,710	82.40
6	7	0.00011	99,631	11	99,625	8,111,073	81.41
7	8	0.00009	99,620	9	99,616	8,011,448	80.42
8	9	0.00009	99,611	9	99,607	7,911,832	79.43
9	10	0.00010	99,603	10	99,598	7,812,225	78.43
10	11	0.00012	99,593	12	99,587	7,712,627	77.44
11	12	0.00015	99,581	15	99,574	7,613,040	76.45
12	13	0.00017	99,566	17	99,558	7,513,467	75.46
13	14	0.00018	99,550	18	99,541	7,413,909	74.47
14	15	0.00018	99,532	18	99,523	7,314,368	73.49
15	16	0.00019	99,514	19	99,504	7,214,845	72.50
16	17	0.00020	99,495	20	99,485	7,115,341	71.51
17	18	0.00020	99,475	20	99,465	7,015,856	70.53
18	19	0.00020	99,455	20	99,445	6,916,391	69.54
19	20	0.00020	99,435	19	99,425	6,816,947	68.56
20	21	0.00019	99,415	19	99,406	6,717,522	67.57
21	22	0.00019	99,396	19	99,387	6,618,116	66.58
22	23	0.00018	99,378	18	99,369	6,518,729	65.60
23	24	0.00018	99,360	18	99,351	6,419,361	64.61
24	25	0.00017	99,342	17	99,333	6,320,010	63.62
25	26	0.00017	99,325	17	99,316	6,220,677	62.63
26	27	0.00017	99,308	17	99,299	6,121,360	61.64
27	28	0.00019	99,291	19	99,281	6,022,061	60.65

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
28	29	0.00023	99,272	23	99,261	5,922,780	59.66
29	30	0.00029	99,249	29	99,235	5,823,519	58.68
30	31	0.00035	99,220	35	99,203	5,724,284	57.69
31	32	0.00042	99,185	41	99,165	5,625,081	56.71
32	33	0.00048	99,144	48	99,120	5,525,916	55.74
33	34	0.00054	99,096	54	99,070	5,426,796	54.76
34	35	0.00060	99,042	60	99,013	5,327,727	53.79
35	36	0.00066	98,983	66	98,950	5,228,714	52.82
36	37	0.00073	98,917	72	98,882	5,129,763	51.86
37	38	0.00079	98,845	78	98,807	5,030,882	50.90
38	39	0.00084	98,768	83	98,727	4,932,075	49.94
39	40	0.00089	98,685	88	98,641	4,833,348	48.98
40	41	0.00095	98,596	94	98,550	4,734,707	48.02
41	42	0.00101	98,502	100	98,453	4,636,158	47.07
42	43	0.00106	98,402	104	98,351	4,537,705	46.11
43	44	0.00108	98,298	107	98,245	4,439,354	45.16
44	45	0.00110	98,192	108	98,138	4,341,109	44.21
45	46	0.00113	98,084	111	98,029	4,242,971	43.26
46	47	0.00118	97,973	116	97,915	4,144,942	42.31
47	48	0.00124	97,857	121	97,797	4,047,027	41.36
48	49	0.00129	97,736	126	97,673	3,949,230	40.41
49	50	0.00136	97,609	133	97,543	3,851,557	39.46
50	51	0.00141	97,476	138	97,408	3,754,014	38.51
51	52	0.00151	97,338	147	97,267	3,656,606	37.57
52	53	0.00177	97,192	172	97,108	3,559,340	36.62
53	54	0.00226	97,019	219	96,914	3,462,231	35.69
54	55	0.00290	96,800	281	96,665	3,365,317	34.77
55	56	0.00364	96,520	351	96,350	3,268,652	33.87
56	57	0.00433	96,168	416	95,965	3,172,302	32.99
57	58	0.00484	95,752	463	95,524	3,076,337	32.13
58	59	0.00508	95,289	484	95,048	2,980,813	31.28
59	60	0.00514	94,805	487	94,561	2,885,765	30.44
60	61	0.00515	94,318	486	94,075	2,791,204	29.59
61	62	0.00525	93,832	493	93,587	2,697,129	28.74
62	63	0.00547	93,339	511	93,086	2,603,543	27.89
63	64	0.00589	92,828	546	92,559	2,510,457	27.04
64	65	0.00645	92,282	595	91,989	2,417,898	26.20
65	66	0.00710	91,687	651	91,366	2,325,909	25.37
66	67	0.00777	91,036	707	90,687	2,234,543	24.55
67	68	0.00843	90,328	761	89,952	2,143,857	23.73
68	69	0.00904	89,567	809	89,167	2,053,905	22.93
69	70	0.00965	88,758	856	88,334	1,964,738	22.14
70	71	0.01026	87,902	902	87,455	1,876,405	21.35
71	72	0.01102	87,000	959	86,526	1,788,950	20.56
72	73	0.01207	86,041	1,039	85,529	1,702,424	19.79
73	74	0.01352	85,002	1,149	84,438	1,616,894	19.02
74	75	0.01529	83,853	1,282	83,223	1,532,457	18.28
75	76	0.01730	82,570	1,428	81,868	1,449,234	17.55
76	77	0.01935	81,142	1,570	80,368	1,367,366	16.85
77	78	0.02132	79,571	1,697	78,733	1,286,998	16.17

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
78	79	0.02309	77,875	1,798	76,984	1,208,265	15.52
79	80	0.02474	76,077	1,882	75,143	1,131,281	14.87
80	81	0.02640	74,195	1,959	73,222	1,056,139	14.23
81	82	0.02832	72,236	2,046	71,221	982,917	13.61
82	83	0.03070	70,190	2,155	69,123	911,695	12.99
83	84	0.03375	68,035	2,296	66,900	842,572	12.38
84	85	0.03738	65,739	2,458	64,524	775,672	11.80
85	86	0.04136	63,282	2,617	61,986	711,148	11.24
86	87	0.04554	60,664	2,763	59,295	649,163	10.70
87	88	0.05010	57,902	2,901	56,462	589,868	10.19
88	89	0.05504	55,001	3,027	53,497	533,406	9.70
89	90	0.06038	51,974	3,138	50,413	479,909	9.23
90	91	0.06626	48,835	3,236	47,225	429,495	8.79
91	92	0.07264	45,599	3,313	43,948	382,271	8.38
92	93	0.07931	42,287	3,354	40,612	338,323	8.00
93	94	0.08609	38,933	3,352	37,255	297,711	7.65
94	95	0.09304	35,581	3,311	33,922	260,456	7.32
95	96	0.10090	32,271	3,256	30,637	226,534	7.02
96	97	0.10958	29,015	3,179	27,416	195,897	6.75
97	98	0.11780	25,835	3,043	24,299	168,481	6.52
98	99	0.12449	22,792	2,837	21,354	144,181	6.33
99	100	0.12935	19,955	2,581	18,641	122,827	6.16
100	101	0.13211	17,373	2,295	16,202	104,186	6.00

**Hispanic Origin Male**

0	1	0.00656	100,000	656	99,425	7,531,031	75.31
1	2	0.00064	99,344	64	99,313	7,431,605	74.81
2	3	0.00045	99,281	44	99,257	7,332,293	73.85
3	4	0.00034	99,237	34	99,219	7,233,035	72.89
4	5	0.00028	99,203	28	99,189	7,133,816	71.91
5	6	0.00025	99,175	25	99,162	7,034,628	70.93
6	7	0.00024	99,150	24	99,138	6,935,465	69.95
7	8	0.00022	99,126	22	99,115	6,836,328	68.97
8	9	0.00018	99,104	18	99,095	6,737,213	67.98
9	10	0.00013	99,086	13	99,079	6,638,118	66.99
10	11	0.00008	99,073	8	99,069	6,539,039	66.00
11	12	0.00008	99,065	7	99,061	6,439,970	65.01
12	13	0.00015	99,057	15	99,051	6,340,909	64.01
13	14	0.00032	99,043	32	99,028	6,241,858	63.02
14	15	0.00058	99,011	57	98,984	6,142,829	62.04
15	16	0.00086	98,954	85	98,913	6,043,845	61.08
16	17	0.00113	98,869	112	98,815	5,944,931	60.13
17	18	0.00136	98,757	135	98,692	5,846,116	59.20
18	19	0.00154	98,623	152	98,548	5,747,425	58.28
19	20	0.00168	98,470	165	98,389	5,648,877	57.37
20	21	0.00182	98,305	179	98,217	5,550,488	56.46
21	22	0.00197	98,127	193	98,031	5,452,271	55.56
22	23	0.00209	97,933	204	97,832	5,354,240	54.67
23	24	0.00215	97,729	210	97,624	5,256,408	53.79
24	25	0.00219	97,519	213	97,412	5,158,783	52.90

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
25	26	0.00219	97,306	213	97,199	5,061,371	52.02
26	27	0.00222	97,093	216	96,985	4,964,172	51.13
27	28	0.00235	96,877	228	96,764	4,867,187	50.24
28	29	0.00262	96,649	254	96,525	4,770,422	49.36
29	30	0.00299	96,395	288	96,254	4,673,898	48.49
30	31	0.00339	96,107	326	95,947	4,577,644	47.63
31	32	0.00375	95,781	360	95,604	4,481,696	46.79
32	33	0.00405	95,422	387	95,230	4,386,093	45.97
33	34	0.00425	95,035	404	94,834	4,290,863	45.15
34	35	0.00437	94,631	414	94,425	4,196,029	44.34
35	36	0.00447	94,217	421	94,007	4,101,604	43.53
36	37	0.00457	93,796	428	93,583	4,007,597	42.73
37	38	0.00465	93,368	434	93,151	3,914,014	41.92
38	39	0.00472	92,934	438	92,715	3,820,863	41.11
39	40	0.00477	92,496	441	92,275	3,728,148	40.31
40	41	0.00481	92,055	443	91,833	3,635,872	39.50
41	42	0.00485	91,612	444	91,390	3,544,039	38.69
42	43	0.00485	91,168	442	90,946	3,452,649	37.87
43	44	0.00482	90,725	437	90,506	3,361,703	37.05
44	45	0.00476	90,288	430	90,073	3,271,196	36.23
45	46	0.00469	89,859	421	89,648	3,181,123	35.40
46	47	0.00465	89,437	416	89,229	3,091,476	34.57
47	48	0.00469	89,021	417	88,813	3,002,247	33.73
48	49	0.00482	88,604	427	88,392	2,913,434	32.88
49	50	0.00503	88,177	444	87,957	2,825,042	32.04
50	51	0.00531	87,733	466	87,502	2,737,085	31.20
51	52	0.00561	87,267	489	87,024	2,649,583	30.36
52	53	0.00589	86,778	511	86,524	2,562,559	29.53
53	54	0.00614	86,266	530	86,003	2,476,035	28.70
54	55	0.00638	85,737	547	85,464	2,390,032	27.88
55	56	0.00662	85,189	564	84,909	2,304,568	27.05
56	57	0.00695	84,625	588	84,334	2,219,659	26.23
57	58	0.00748	84,037	628	83,727	2,135,325	25.41
58	59	0.00827	83,408	690	83,069	2,051,598	24.60
59	60	0.00927	82,718	767	82,342	1,968,529	23.80
60	61	0.01042	81,952	854	81,532	1,886,187	23.02
61	62	0.01157	81,097	939	80,634	1,804,656	22.25
62	63	0.01258	80,159	1,008	79,659	1,724,021	21.51
63	64	0.01334	79,150	1,056	78,626	1,644,362	20.78
64	65	0.01394	78,095	1,088	77,553	1,565,736	20.05
65	66	0.01452	77,006	1,118	76,450	1,488,183	19.33
66	67	0.01528	75,888	1,160	75,312	1,411,733	18.60
67	68	0.01630	74,728	1,218	74,125	1,336,421	17.88
68	69	0.01768	73,510	1,300	72,868	1,262,296	17.17
69	70	0.01939	72,210	1,400	71,518	1,189,429	16.47
70	71	0.02128	70,809	1,507	70,065	1,117,910	15.79
71	72	0.02328	69,303	1,613	68,505	1,047,846	15.12
72	73	0.02548	67,690	1,725	66,837	979,340	14.47
73	74	0.02790	65,965	1,840	65,055	912,504	13.83
74	75	0.03054	64,125	1,959	63,155	847,449	13.22

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
75	76	0.03333	62,166	2,072	61,140	784,294	12.62
76	77	0.03635	60,094	2,184	59,012	723,155	12.03
77	78	0.03985	57,910	2,308	56,767	664,143	11.47
78	79	0.04398	55,602	2,446	54,391	607,376	10.92
79	80	0.04869	53,157	2,588	51,875	552,984	10.40
80	81	0.05401	50,569	2,731	49,214	501,109	9.91
81	82	0.05963	47,838	2,852	46,420	451,895	9.45
82	83	0.06510	44,985	2,928	43,525	405,476	9.01
83	84	0.07002	42,057	2,945	40,584	361,951	8.61
84	85	0.07449	39,112	2,913	37,652	321,367	8.22
85	86	0.07895	36,199	2,858	34,765	283,715	7.84
86	87	0.08387	33,341	2,796	31,937	248,950	7.47
87	88	0.08923	30,544	2,726	29,176	217,013	7.10
88	89	0.09534	27,819	2,652	26,487	187,838	6.75
89	90	0.10224	25,167	2,573	23,873	161,351	6.41
90	91	0.10995	22,594	2,484	21,344	137,478	6.08
91	92	0.11828	20,109	2,379	18,911	116,134	5.78
92	93	0.12701	17,731	2,252	16,593	97,224	5.48
93	94	0.13580	15,479	2,102	14,415	80,630	5.21
94	95	0.14460	13,377	1,934	12,395	66,216	4.95
95	96	0.15379	11,443	1,760	10,548	53,820	4.70
96	97	0.16375	9,683	1,586	8,875	43,272	4.47
97	98	0.17424	8,097	1,411	7,377	34,397	4.25
98	99	0.18531	6,686	1,239	6,053	27,020	4.04
99	100	0.19683	5,447	1,072	4,897	20,967	3.85
100	101	0.20706	4,375	906	3,909	16,070	3.67

**Hispanic Origin Female**

0	1	0.00523	100,000	523	99,542	8,348,115	83.48
1	2	0.00051	99,477	50	99,452	8,248,573	82.92
2	3	0.00035	99,427	35	99,408	8,149,121	81.96
3	4	0.00027	99,392	27	99,378	8,049,713	80.99
4	5	0.00022	99,365	22	99,354	7,950,335	80.01
5	6	0.00019	99,343	18	99,334	7,850,981	79.03
6	7	0.00016	99,325	16	99,316	7,751,647	78.04
7	8	0.00015	99,308	15	99,301	7,652,331	77.06
8	9	0.00013	99,294	13	99,287	7,553,030	76.07
9	10	0.00012	99,281	12	99,275	7,453,743	75.08
10	11	0.00011	99,269	11	99,263	7,354,468	74.09
11	12	0.00011	99,258	11	99,253	7,255,205	73.09
12	13	0.00013	99,247	13	99,241	7,155,952	72.10
13	14	0.00018	99,234	18	99,225	7,056,712	71.11
14	15	0.00025	99,216	25	99,204	6,957,486	70.12
15	16	0.00033	99,191	33	99,176	6,858,282	69.14
16	17	0.00040	99,159	40	99,139	6,759,106	68.16
17	18	0.00044	99,118	43	99,097	6,659,968	67.19
18	19	0.00041	99,075	41	99,054	6,560,871	66.22
19	20	0.00035	99,034	35	99,016	6,461,817	65.25
20	21	0.00027	98,999	27	98,985	6,362,801	64.27
21	22	0.00022	98,972	21	98,961	6,263,816	63.29

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: 2000

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
22	23	0.00020	98,951	20	98,941	6,164,855	62.30
23	24	0.00025	98,931	25	98,919	6,065,914	61.31
24	25	0.00035	98,906	34	98,890	5,966,995	60.33
25	26	0.00045	98,872	45	98,850	5,868,105	59.35
26	27	0.00055	98,827	54	98,801	5,769,254	58.38
27	28	0.00064	98,773	63	98,742	5,670,454	57.41
28	29	0.00071	98,710	70	98,675	5,571,712	56.45
29	30	0.00077	98,639	76	98,602	5,473,037	55.49
30	31	0.00084	98,563	82	98,522	5,374,436	54.53
31	32	0.00090	98,480	89	98,436	5,275,913	53.57
32	33	0.00095	98,392	94	98,345	5,177,477	52.62
33	34	0.00098	98,298	97	98,250	5,079,132	51.67
34	35	0.00100	98,201	98	98,152	4,980,882	50.72
35	36	0.00101	98,103	99	98,054	4,882,730	49.77
36	37	0.00103	98,004	101	97,953	4,784,676	48.82
37	38	0.00106	97,903	104	97,851	4,686,723	47.87
38	39	0.00109	97,799	107	97,746	4,588,871	46.92
39	40	0.00114	97,692	112	97,637	4,491,125	45.97
40	41	0.00120	97,581	117	97,523	4,393,489	45.02
41	42	0.00126	97,464	123	97,403	4,295,966	44.08
42	43	0.00133	97,341	129	97,277	4,198,563	43.13
43	44	0.00141	97,212	137	97,144	4,101,285	42.19
44	45	0.00151	97,075	146	97,002	4,004,141	41.25
45	46	0.00162	96,928	157	96,851	3,907,139	40.31
46	47	0.00174	96,772	168	96,689	3,810,288	39.37
47	48	0.00188	96,604	181	96,514	3,713,599	38.44
48	49	0.00204	96,422	197	96,325	3,617,085	37.51
49	50	0.00222	96,226	214	96,120	3,520,759	36.59
50	51	0.00243	96,012	233	95,897	3,424,639	35.67
51	52	0.00266	95,778	255	95,653	3,328,743	34.75
52	53	0.00289	95,524	276	95,387	3,233,090	33.85
53	54	0.00313	95,247	298	95,100	3,137,703	32.94
54	55	0.00338	94,949	321	94,791	3,042,603	32.04
55	56	0.00364	94,628	345	94,458	2,947,812	31.15
56	57	0.00396	94,284	373	94,100	2,853,354	30.26
57	58	0.00433	93,911	407	93,710	2,759,254	29.38
58	59	0.00480	93,504	449	93,283	2,665,544	28.51
59	60	0.00533	93,055	496	92,811	2,572,260	27.64
60	61	0.00593	92,559	548	92,289	2,479,449	26.79
61	62	0.00656	92,010	603	91,713	2,387,160	25.94
62	63	0.00722	91,407	660	91,082	2,295,447	25.11
63	64	0.00792	90,747	719	90,392	2,204,365	24.29
64	65	0.00866	90,028	780	89,643	2,113,972	23.48
65	66	0.00944	89,248	843	88,832	2,024,329	22.68
66	67	0.01029	88,405	910	87,956	1,935,497	21.89
67	68	0.01124	87,495	984	87,010	1,847,541	21.12
68	69	0.01233	86,512	1,066	85,986	1,760,531	20.35
69	70	0.01352	85,445	1,155	84,876	1,674,545	19.60
70	71	0.01485	84,290	1,251	83,673	1,589,670	18.86
71	72	0.01624	83,039	1,348	82,372	1,505,997	18.14

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: 2000**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
72	73	0.01759	81,691	1,437	80,979	1,423,625	17.43
73	74	0.01884	80,254	1,512	79,504	1,342,646	16.73
74	75	0.02007	78,742	1,580	77,957	1,263,142	16.04
75	76	0.02132	77,162	1,645	76,345	1,185,185	15.36
76	77	0.02278	75,517	1,720	74,664	1,108,839	14.68
77	78	0.02463	73,797	1,818	72,897	1,034,175	14.01
78	79	0.02704	71,979	1,946	71,018	961,278	13.35
79	80	0.02994	70,033	2,097	68,997	890,260	12.71
80	81	0.03312	67,936	2,250	66,824	821,263	12.09
81	82	0.03650	65,686	2,397	64,500	754,439	11.49
82	83	0.04024	63,289	2,547	62,028	689,939	10.90
83	84	0.04437	60,742	2,695	59,407	627,910	10.34
84	85	0.04892	58,047	2,840	56,639	568,503	9.79
85	86	0.05388	55,207	2,975	53,731	511,865	9.27
86	87	0.05926	52,233	3,095	50,694	458,134	8.77
87	88	0.06512	49,137	3,200	47,545	407,440	8.29
88	89	0.07150	45,937	3,284	44,301	359,895	7.83
89	90	0.07844	42,653	3,346	40,985	315,593	7.40
90	91	0.08632	39,307	3,393	37,614	274,609	6.99
91	92	0.09505	35,914	3,414	34,207	236,995	6.60
92	93	0.10402	32,500	3,381	30,805	202,788	6.24
93	94	0.11275	29,120	3,283	27,468	171,984	5.91
94	95	0.12126	25,837	3,133	24,257	144,516	5.59
95	96	0.13038	22,704	2,960	21,209	120,259	5.30
96	97	0.14061	19,744	2,776	18,339	99,051	5.02
97	98	0.15129	16,967	2,567	15,666	80,711	4.76
98	99	0.16216	14,400	2,335	13,213	65,046	4.52
99	100	0.17308	12,065	2,088	11,000	51,833	4.30
100	101	0.18333	9,977	1,829	9,041	40,833	4.09

**Appendix 1. Complete Life Table for the Total Population of the United States, by Racial Ethnic Group: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
<b>White Male</b>							
0	1	0.00232	100,000	232	99,797	8,122,535	81.23
1	2	0.00019	99,768	19	99,759	8,022,738	80.41
2	3	0.00013	99,749	13	99,742	7,922,979	79.43
3	4	0.00010	99,736	10	99,730	7,823,237	78.44
4	5	0.00008	99,725	8	99,721	7,723,507	77.45
5	6	0.00008	99,717	8	99,713	7,623,786	76.45
6	7	0.00009	99,709	9	99,704	7,524,073	75.46
7	8	0.00009	99,700	9	99,696	7,424,369	74.47
8	9	0.00007	99,692	7	99,688	7,324,673	73.47
9	10	0.00004	99,684	4	99,682	7,224,985	72.48
10	11	0.00002	99,680	2	99,679	7,125,303	71.48
11	12	0.00001	99,678	1	99,678	7,025,624	70.48
12	13	0.00004	99,678	4	99,676	6,925,946	69.48
13	14	0.00014	99,674	13	99,668	6,826,269	68.49
14	15	0.00027	99,660	27	99,648	6,726,601	67.50
15	16	0.00043	99,634	42	99,614	6,626,953	66.51
16	17	0.00057	99,591	56	99,564	6,527,339	65.54
17	18	0.00064	99,535	64	99,503	6,427,776	64.58
18	19	0.00063	99,471	63	99,439	6,328,273	63.62
19	20	0.00056	99,408	56	99,379	6,228,834	62.66
20	21	0.00047	99,352	47	99,328	6,129,454	61.69
21	22	0.00041	99,305	41	99,284	6,030,126	60.72
22	23	0.00038	99,264	38	99,245	5,930,842	59.75
23	24	0.00041	99,226	41	99,206	5,831,597	58.77
24	25	0.00048	99,186	47	99,162	5,732,390	57.79
25	26	0.00055	99,138	55	99,111	5,633,228	56.82
26	27	0.00063	99,083	62	99,053	5,534,116	55.85
27	28	0.00075	99,021	74	98,985	5,435,063	54.89
28	29	0.00090	98,947	89	98,904	5,336,078	53.93
29	30	0.00109	98,858	108	98,805	5,237,174	52.98
30	31	0.00130	98,750	128	98,687	5,138,369	52.03
31	32	0.00149	98,622	147	98,550	5,039,682	51.10
32	33	0.00168	98,475	166	98,393	4,941,132	50.18
33	34	0.00185	98,309	182	98,219	4,842,739	49.26
34	35	0.00200	98,127	197	98,030	4,744,520	48.35
35	36	0.00215	97,930	211	97,826	4,646,490	47.45
36	37	0.00230	97,719	225	97,608	4,548,664	46.55
37	38	0.00241	97,495	235	97,378	4,451,056	45.65
38	39	0.00248	97,259	242	97,139	4,353,678	44.76
39	40	0.00252	97,018	245	96,896	4,256,539	43.87
40	41	0.00254	96,773	246	96,650	4,159,644	42.98
41	42	0.00257	96,527	248	96,403	4,062,994	42.09
42	43	0.00260	96,279	250	96,154	3,966,591	41.20
43	44	0.00265	96,028	254	95,902	3,870,437	40.31
44	45	0.00271	95,774	260	95,645	3,774,535	39.41
45	46	0.00277	95,514	265	95,383	3,678,890	38.52
46	47	0.00282	95,250	269	95,116	3,583,508	37.62
47	48	0.00288	94,981	274	94,844	3,488,392	36.73
48	49	0.00294	94,707	278	94,569	3,393,548	35.83

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
49	50	0.00299	94,429	283	94,288	3,298,979	34.94
50	51	0.00309	94,146	291	94,001	3,204,691	34.04
51	52	0.00321	93,855	301	93,705	3,110,689	33.14
52	53	0.00325	93,554	304	93,402	3,016,984	32.25
53	54	0.00321	93,250	299	93,100	2,923,582	31.35
54	55	0.00313	92,951	291	92,804	2,830,482	30.45
55	56	0.00302	92,660	280	92,519	2,737,678	29.55
56	57	0.00302	92,380	279	92,241	2,645,158	28.63
57	58	0.00323	92,101	298	91,955	2,552,917	27.72
58	59	0.00376	91,803	345	91,636	2,460,962	26.81
59	60	0.00452	91,458	413	91,258	2,369,326	25.91
60	61	0.00539	91,045	490	90,807	2,278,068	25.02
61	62	0.00625	90,555	566	90,278	2,187,262	24.15
62	63	0.00710	89,989	639	89,675	2,096,984	23.30
63	64	0.00789	89,350	705	89,003	2,007,309	22.47
64	65	0.00863	88,645	765	88,268	1,918,306	21.64
65	66	0.00949	87,880	834	87,469	1,830,038	20.82
66	67	0.01044	87,046	909	86,597	1,742,568	20.02
67	68	0.01131	86,137	974	85,655	1,655,971	19.22
68	69	0.01205	85,163	1,026	84,654	1,570,316	18.44
69	70	0.01275	84,136	1,073	83,604	1,485,663	17.66
70	71	0.01353	83,064	1,123	82,507	1,402,059	16.88
71	72	0.01455	81,940	1,192	81,351	1,319,552	16.10
72	73	0.01595	80,748	1,288	80,113	1,238,201	15.33
73	74	0.01783	79,460	1,417	78,764	1,158,088	14.57
74	75	0.02021	78,043	1,577	77,267	1,079,324	13.83
75	76	0.02259	76,466	1,728	75,615	1,002,057	13.10
76	77	0.02526	74,738	1,888	73,811	926,442	12.40
77	78	0.02907	72,851	2,118	71,815	852,631	11.70
78	79	0.03445	70,733	2,437	69,543	780,816	11.04
79	80	0.04113	68,296	2,809	66,924	711,273	10.41
80	81	0.04898	65,487	3,208	63,915	644,349	9.84
81	82	0.05712	62,280	3,557	60,526	580,434	9.32
82	83	0.06453	58,723	3,789	56,841	519,909	8.85
83	84	0.07023	54,934	3,858	53,005	463,068	8.43
84	85	0.07442	51,076	3,801	49,168	410,063	8.03
85	86	0.07823	47,275	3,698	45,417	360,894	7.63
86	87	0.08265	43,576	3,602	41,767	315,477	7.24
87	88	0.08745	39,975	3,496	38,218	273,710	6.85
88	89	0.09311	36,479	3,396	34,773	235,492	6.46
89	90	0.09974	33,083	3,300	31,423	200,719	6.07
90	91	0.10651	29,783	3,172	28,185	169,295	5.68
91	92	0.11352	26,611	3,021	25,089	141,110	5.30
92	93	0.12250	23,590	2,890	22,136	116,022	4.92
93	94	0.13487	20,700	2,792	19,297	93,886	4.54
94	95	0.15133	17,908	2,710	16,547	74,589	4.17
95	96	0.17422	15,198	2,648	13,868	58,042	3.82
96	97	0.20346	12,550	2,554	11,262	44,174	3.52
97	98	0.23627	9,997	2,362	8,794	32,913	3.29
98	99	0.26721	7,635	2,040	6,584	24,118	3.16

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
99	100	0.29157	5,595	1,631	4,744	17,534	3.13
100	101	0.29929	3,964	1,186	3,335	12,790	3.23

**White Female**

0	1	0.00190	100,000	190	99,833	8,631,580	86.32
1	2	0.00016	99,810	16	99,802	8,531,747	85.48
2	3	0.00011	99,794	11	99,788	8,431,945	84.49
3	4	0.00008	99,783	8	99,779	8,332,156	83.50
4	5	0.00007	99,775	7	99,771	8,232,377	82.51
5	6	0.00006	99,768	6	99,765	8,132,606	81.52
6	7	0.00005	99,762	5	99,760	8,032,841	80.52
7	8	0.00005	99,757	5	99,755	7,933,081	79.52
8	9	0.00004	99,752	4	99,750	7,833,326	78.53
9	10	0.00003	99,748	3	99,746	7,733,577	77.53
10	11	0.00002	99,744	2	99,743	7,633,831	76.53
11	12	0.00002	99,742	2	99,741	7,534,088	75.54
12	13	0.00004	99,740	4	99,738	7,434,347	74.54
13	14	0.00009	99,735	9	99,731	7,334,609	73.54
14	15	0.00016	99,726	16	99,719	7,234,877	72.55
15	16	0.00024	99,710	24	99,699	7,135,158	71.56
16	17	0.00031	99,686	31	99,671	7,035,459	70.58
17	18	0.00034	99,656	34	99,639	6,935,788	69.60
18	19	0.00032	99,621	32	99,605	6,836,149	68.62
19	20	0.00027	99,589	26	99,576	6,736,544	67.64
20	21	0.00020	99,563	20	99,553	6,636,969	66.66
21	22	0.00014	99,543	14	99,536	6,537,416	65.67
22	23	0.00011	99,529	11	99,524	6,437,880	64.68
23	24	0.00012	99,518	12	99,513	6,338,357	63.69
24	25	0.00015	99,507	15	99,499	6,238,844	62.70
25	26	0.00019	99,492	19	99,483	6,139,345	61.71
26	27	0.00022	99,473	22	99,463	6,039,862	60.72
27	28	0.00026	99,451	25	99,439	5,940,399	59.73
28	29	0.00029	99,426	29	99,412	5,840,960	58.75
29	30	0.00033	99,397	33	99,380	5,741,549	57.76
30	31	0.00038	99,363	38	99,345	5,642,168	56.78
31	32	0.00042	99,326	42	99,305	5,542,823	55.80
32	33	0.00046	99,284	45	99,261	5,443,518	54.83
33	34	0.00047	99,239	47	99,215	5,344,257	53.85
34	35	0.00048	99,192	47	99,168	5,245,042	52.88
35	36	0.00048	99,145	47	99,121	5,145,873	51.90
36	37	0.00048	99,097	48	99,073	5,046,752	50.93
37	38	0.00049	99,049	48	99,025	4,947,679	49.95
38	39	0.00049	99,001	49	98,977	4,848,654	48.98
39	40	0.00049	98,952	49	98,928	4,749,678	48.00
40	41	0.00050	98,903	50	98,879	4,650,750	47.02
41	42	0.00052	98,854	51	98,828	4,551,871	46.05
42	43	0.00053	98,803	53	98,777	4,453,043	45.07
43	44	0.00055	98,750	54	98,723	4,354,266	44.09
44	45	0.00058	98,696	57	98,668	4,255,543	43.12
45	46	0.00062	98,639	61	98,609	4,156,875	42.14

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
46	47	0.00068	98,578	67	98,544	4,058,267	41.17
47	48	0.00076	98,510	74	98,474	3,959,722	40.20
48	49	0.00084	98,436	83	98,395	3,861,248	39.23
49	50	0.00095	98,353	93	98,308	3,762,853	38.26
50	51	0.00107	98,260	106	98,209	3,664,546	37.29
51	52	0.00124	98,155	122	98,095	3,566,337	36.33
52	53	0.00146	98,033	144	97,963	3,468,242	35.38
53	54	0.00175	97,889	172	97,806	3,370,279	34.43
54	55	0.00210	97,718	206	97,618	3,272,473	33.49
55	56	0.00249	97,512	242	97,394	3,174,855	32.56
56	57	0.00291	97,270	283	97,132	3,077,461	31.64
57	58	0.00341	96,987	330	96,826	2,980,329	30.73
58	59	0.00400	96,657	387	96,468	2,883,503	29.83
59	60	0.00467	96,270	449	96,051	2,787,035	28.95
60	61	0.00540	95,821	517	95,568	2,690,984	28.08
61	62	0.00615	95,303	586	95,016	2,595,416	27.23
62	63	0.00688	94,717	651	94,397	2,500,400	26.40
63	64	0.00754	94,066	709	93,716	2,406,003	25.58
64	65	0.00817	93,357	763	92,979	2,312,288	24.77
65	66	0.00883	92,593	818	92,189	2,219,308	23.97
66	67	0.00956	91,776	877	91,342	2,127,119	23.18
67	68	0.01036	90,898	942	90,433	2,035,777	22.40
68	69	0.01127	89,957	1,014	89,456	1,945,343	21.63
69	70	0.01227	88,943	1,091	88,404	1,855,887	20.87
70	71	0.01335	87,852	1,172	87,272	1,767,483	20.12
71	72	0.01449	86,679	1,256	86,059	1,680,211	19.38
72	73	0.01572	85,423	1,343	84,759	1,594,152	18.66
73	74	0.01705	84,081	1,433	83,372	1,509,393	17.95
74	75	0.01848	82,647	1,527	81,892	1,426,021	17.25
75	76	0.02001	81,120	1,623	80,317	1,344,129	16.57
76	77	0.02166	79,497	1,722	78,645	1,263,813	15.90
77	78	0.02349	77,775	1,827	76,871	1,185,168	15.24
78	79	0.02554	75,948	1,940	74,988	1,108,297	14.59
79	80	0.02780	74,009	2,057	72,990	1,033,309	13.96
80	81	0.03024	71,952	2,176	70,874	960,319	13.35
81	82	0.03287	69,776	2,293	68,639	889,445	12.75
82	83	0.03571	67,483	2,410	66,287	820,806	12.16
83	84	0.03878	65,073	2,524	63,821	754,519	11.59
84	85	0.04212	62,549	2,635	61,241	690,699	11.04
85	86	0.04564	59,915	2,735	58,555	629,458	10.51
86	87	0.04947	57,180	2,829	55,774	570,902	9.98
87	88	0.05388	54,351	2,928	52,896	515,129	9.48
88	89	0.05908	51,423	3,038	49,913	462,233	8.99
89	90	0.06505	48,385	3,147	46,820	412,320	8.52
90	91	0.07185	45,238	3,250	43,620	365,499	8.08
91	92	0.07922	41,987	3,326	40,328	321,880	7.67
92	93	0.08676	38,661	3,354	36,983	281,551	7.28
93	94	0.09408	35,306	3,322	33,641	244,568	6.93
94	95	0.10123	31,985	3,238	30,358	210,927	6.59
95	96	0.10896	28,747	3,132	27,171	180,569	6.28

Source: US Census Bureau, Population Division, 1993 Middle Series

Vital Rate Inputs (see memo text for full citation)

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96	97	0.11762	25,615	3,013	24,097	153,398	5.99
97	98	0.12661	22,602	2,862	21,157	129,301	5.72
98	99	0.13566	19,740	2,678	18,385	108,144	5.48
99	100	0.14472	17,062	2,469	15,810	89,759	5.26
100	101	0.15398	14,593	2,247	13,451	73,949	5.07

**Black Male**

0	1	0.00664	100,000	664	99,418	7,056,402	70.56
1	2	0.00037	99,336	37	99,318	6,956,984	70.03
2	3	0.00026	99,299	26	99,286	6,857,666	69.06
3	4	0.00020	99,274	20	99,263	6,758,380	68.08
4	5	0.00016	99,254	16	99,245	6,659,117	67.09
5	6	0.00013	99,238	13	99,231	6,559,871	66.10
6	7	0.00013	99,224	13	99,218	6,460,640	65.11
7	8	0.00012	99,211	12	99,205	6,361,423	64.12
8	9	0.00010	99,199	10	99,194	6,262,217	63.13
9	10	0.00006	99,189	6	99,186	6,163,023	62.13
10	11	0.00004	99,183	4	99,181	6,063,838	61.14
11	12	0.00007	99,179	7	99,177	5,964,656	60.14
12	13	0.00022	99,172	22	99,163	5,865,480	59.14
13	14	0.00051	99,151	51	99,128	5,766,316	58.16
14	15	0.00092	99,100	91	99,058	5,667,188	57.19
15	16	0.00135	99,009	134	98,946	5,568,130	56.24
16	17	0.00177	98,875	175	98,791	5,469,185	55.31
17	18	0.00215	98,700	212	98,597	5,370,394	54.41
18	19	0.00248	98,488	244	98,368	5,271,797	53.53
19	20	0.00275	98,244	271	98,111	5,173,428	52.66
20	21	0.00304	97,973	298	97,826	5,075,318	51.80
21	22	0.00332	97,675	324	97,515	4,977,491	50.96
22	23	0.00347	97,351	338	97,183	4,879,977	50.13
23	24	0.00348	97,013	337	96,844	4,782,794	49.30
24	25	0.00337	96,676	326	96,512	4,685,950	48.47
25	26	0.00321	96,350	310	96,194	4,589,439	47.63
26	27	0.00310	96,040	297	95,891	4,493,245	46.79
27	28	0.00306	95,743	293	95,596	4,397,354	45.93
28	29	0.00316	95,450	301	95,300	4,301,758	45.07
29	30	0.00336	95,148	319	94,990	4,206,458	44.21
30	31	0.00358	94,829	339	94,661	4,111,468	43.36
31	32	0.00379	94,490	358	94,313	4,016,807	42.51
32	33	0.00404	94,132	380	93,944	3,922,494	41.67
33	34	0.00433	93,752	406	93,551	3,828,550	40.84
34	35	0.00465	93,346	434	93,131	3,734,999	40.01
35	36	0.00498	92,912	463	92,683	3,641,868	39.20
36	37	0.00533	92,449	492	92,205	3,549,185	38.39
37	38	0.00566	91,957	520	91,699	3,456,980	37.59
38	39	0.00597	91,436	546	91,165	3,365,281	36.80
39	40	0.00627	90,890	570	90,607	3,274,116	36.02
40	41	0.00657	90,320	594	90,025	3,183,509	35.25
41	42	0.00686	89,727	616	89,420	3,093,483	34.48
42	43	0.00711	89,111	633	88,795	3,004,063	33.71

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43	44	0.00728	88,477	644	88,156	2,915,268	32.95
44	45	0.00741	87,833	651	87,508	2,827,112	32.19
45	46	0.00751	87,182	655	86,855	2,739,604	31.42
46	47	0.00762	86,527	660	86,198	2,652,749	30.66
47	48	0.00774	85,867	665	85,535	2,566,551	29.89
48	49	0.00788	85,202	672	84,867	2,481,016	29.12
49	50	0.00804	84,531	680	84,192	2,396,148	28.35
50	51	0.00826	83,851	693	83,506	2,311,956	27.57
51	52	0.00850	83,158	707	82,806	2,228,450	26.80
52	53	0.00865	82,451	714	82,095	2,145,645	26.02
53	54	0.00868	81,738	709	81,383	2,063,550	25.25
54	55	0.00864	81,029	700	80,678	1,982,168	24.46
55	56	0.00861	80,328	691	79,982	1,901,490	23.67
56	57	0.00874	79,637	696	79,290	1,821,508	22.87
57	58	0.00923	78,941	728	78,581	1,742,217	22.07
58	59	0.01018	78,213	796	77,821	1,663,636	21.27
59	60	0.01154	77,416	893	76,978	1,585,815	20.48
60	61	0.01298	76,523	993	76,035	1,508,837	19.72
61	62	0.01450	75,530	1,095	74,992	1,432,802	18.97
62	63	0.01638	74,435	1,219	73,837	1,357,810	18.24
63	64	0.01869	73,216	1,369	72,545	1,283,973	17.54
64	65	0.02133	71,847	1,532	71,096	1,211,429	16.86
65	66	0.02446	70,315	1,720	69,470	1,140,333	16.22
66	67	0.02763	68,595	1,895	67,659	1,070,863	15.61
67	68	0.03004	66,700	2,004	65,703	1,003,204	15.04
68	69	0.03122	64,696	2,020	63,685	937,501	14.49
69	70	0.03150	62,676	1,974	61,683	873,817	13.94
70	71	0.03115	60,702	1,891	59,751	812,133	13.38
71	72	0.03127	58,811	1,839	57,891	752,382	12.79
72	73	0.03300	56,972	1,880	56,041	694,491	12.19
73	74	0.03727	55,092	2,053	54,084	638,450	11.59
74	75	0.04368	53,039	2,317	51,903	584,366	11.02
75	76	0.05123	50,722	2,599	49,445	532,462	10.50
76	77	0.05886	48,124	2,833	46,725	483,018	10.04
77	78	0.06641	45,291	3,008	43,798	436,293	9.63
78	79	0.07322	42,283	3,096	40,739	392,495	9.28
79	80	0.07936	39,187	3,110	37,633	351,756	8.98
80	81	0.08621	36,077	3,110	34,522	314,123	8.71
81	82	0.09394	32,967	3,097	31,414	279,601	8.48
82	83	0.10072	29,870	3,009	28,355	248,187	8.31
83	84	0.10538	26,861	2,831	25,428	219,833	8.18
84	85	0.10769	24,031	2,588	22,715	194,404	8.09
85	86	0.10768	21,443	2,309	20,265	171,689	8.01
86	87	0.10650	19,134	2,038	18,094	151,424	7.91
87	88	0.10542	17,096	1,802	16,178	133,330	7.80
88	89	0.10638	15,294	1,627	14,468	117,152	7.66
89	90	0.10959	13,667	1,498	12,908	102,685	7.51
90	91	0.11316	12,169	1,377	11,470	89,777	7.38
91	92	0.11555	10,792	1,247	10,158	78,307	7.26
92	93	0.11797	9,545	1,126	8,972	68,149	7.14

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
93	94	0.12026	8,419	1,012	7,904	59,177	7.03
94	95	0.12240	7,406	907	6,945	51,273	6.92
95	96	0.12452	6,500	809	6,087	44,328	6.82
96	97	0.12674	5,691	721	5,323	38,241	6.72
97	98	0.12898	4,969	641	4,642	32,918	6.62
98	99	0.13129	4,328	568	4,038	28,275	6.53
99	100	0.13366	3,760	503	3,504	24,237	6.45
100	101	0.13614	3,257	443	3,031	20,733	6.36

**Black Female**

0	1	0.00521	100,000	521	99,544	7,896,245	78.96
1	2	0.00029	99,479	29	99,465	7,796,702	78.38
2	3	0.00020	99,450	20	99,440	7,697,237	77.40
3	4	0.00016	99,430	16	99,422	7,597,797	76.41
4	5	0.00013	99,414	13	99,408	7,498,375	75.43
5	6	0.00010	99,402	10	99,397	7,398,967	74.43
6	7	0.00008	99,392	8	99,388	7,299,571	73.44
7	8	0.00008	99,384	8	99,380	7,200,183	72.45
8	9	0.00008	99,376	8	99,372	7,100,803	71.45
9	10	0.00009	99,368	9	99,363	7,001,430	70.46
10	11	0.00011	99,359	11	99,353	6,902,067	69.47
11	12	0.00014	99,347	14	99,340	6,802,714	68.47
12	13	0.00019	99,333	19	99,324	6,703,373	67.48
13	14	0.00025	99,314	25	99,302	6,604,049	66.50
14	15	0.00033	99,289	32	99,274	6,504,747	65.51
15	16	0.00041	99,257	41	99,237	6,405,474	64.53
16	17	0.00050	99,216	49	99,192	6,306,236	63.56
17	18	0.00056	99,167	56	99,139	6,207,045	62.59
18	19	0.00060	99,111	59	99,081	6,107,906	61.63
19	20	0.00061	99,052	61	99,022	6,008,824	60.66
20	21	0.00062	98,991	62	98,960	5,909,803	59.70
21	22	0.00064	98,930	64	98,898	5,810,842	58.74
22	23	0.00069	98,866	68	98,832	5,711,944	57.77
23	24	0.00076	98,798	76	98,761	5,613,112	56.81
24	25	0.00086	98,722	85	98,680	5,514,351	55.86
25	26	0.00098	98,637	96	98,590	5,415,671	54.91
26	27	0.00109	98,541	107	98,488	5,317,081	53.96
27	28	0.00119	98,433	118	98,375	5,218,593	53.02
28	29	0.00129	98,316	127	98,253	5,120,218	52.08
29	30	0.00139	98,189	136	98,121	5,021,965	51.15
30	31	0.00147	98,053	144	97,981	4,923,844	50.22
31	32	0.00157	97,908	154	97,832	4,825,863	49.29
32	33	0.00171	97,754	167	97,672	4,728,030	48.37
33	34	0.00189	97,587	185	97,497	4,630,358	47.45
34	35	0.00211	97,403	206	97,302	4,532,862	46.54
35	36	0.00235	97,197	228	97,085	4,435,560	45.63
36	37	0.00256	96,969	248	96,847	4,338,475	44.74
37	38	0.00272	96,721	263	96,590	4,241,629	43.85
38	39	0.00281	96,458	271	96,323	4,145,039	42.97
39	40	0.00284	96,187	273	96,050	4,048,716	42.09

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: 2050

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
40	41	0.00285	95,914	274	95,777	3,952,666	41.21
41	42	0.00287	95,640	275	95,503	3,856,889	40.33
42	43	0.00291	95,365	277	95,227	3,761,386	39.44
43	44	0.00296	95,088	282	94,947	3,666,159	38.56
44	45	0.00303	94,806	287	94,663	3,571,212	37.67
45	46	0.00314	94,519	297	94,371	3,476,549	36.78
46	47	0.00325	94,222	306	94,070	3,382,177	35.90
47	48	0.00330	93,916	310	93,761	3,288,107	35.01
48	49	0.00326	93,607	305	93,454	3,194,346	34.13
49	50	0.00317	93,302	296	93,153	3,100,893	33.24
50	51	0.00310	93,006	288	92,861	3,007,740	32.34
51	52	0.00313	92,717	291	92,573	2,914,878	31.44
52	53	0.00334	92,427	309	92,275	2,822,305	30.54
53	54	0.00378	92,118	348	91,948	2,730,031	29.64
54	55	0.00443	91,769	406	91,572	2,638,083	28.75
55	56	0.00519	91,363	474	91,132	2,546,511	27.87
56	57	0.00603	90,889	548	90,621	2,455,379	27.02
57	58	0.00699	90,340	631	90,032	2,364,758	26.18
58	59	0.00805	89,709	722	89,356	2,274,726	25.36
59	60	0.00922	88,987	821	88,585	2,185,370	24.56
60	61	0.01037	88,167	914	87,718	2,096,785	23.78
61	62	0.01163	87,253	1,014	86,755	2,009,067	23.03
62	63	0.01332	86,238	1,149	85,677	1,922,311	22.29
63	64	0.01560	85,089	1,327	84,442	1,836,634	21.58
64	65	0.01827	83,762	1,531	83,015	1,752,192	20.92
65	66	0.02131	82,232	1,752	81,373	1,669,177	20.30
66	67	0.02420	80,480	1,948	79,519	1,587,804	19.73
67	68	0.02637	78,532	2,071	77,502	1,508,285	19.21
68	69	0.02737	76,461	2,093	75,413	1,430,783	18.71
69	70	0.02745	74,368	2,042	73,342	1,355,370	18.23
70	71	0.02729	72,326	1,974	71,334	1,282,028	17.73
71	72	0.02736	70,353	1,925	69,386	1,210,693	17.21
72	73	0.02754	68,428	1,884	67,483	1,141,307	16.68
73	74	0.02803	66,543	1,865	65,610	1,073,824	16.14
74	75	0.02888	64,679	1,868	63,744	1,008,213	15.59
75	76	0.02938	62,811	1,845	61,887	944,470	15.04
76	77	0.03003	60,965	1,831	60,053	882,583	14.48
77	78	0.03236	59,134	1,914	58,190	822,530	13.91
78	79	0.03713	57,221	2,125	56,180	764,340	13.36
79	80	0.04388	55,096	2,418	53,913	708,161	12.85
80	81	0.05227	52,678	2,753	51,327	654,247	12.42
81	82	0.06074	49,925	3,033	48,426	602,920	12.08
82	83	0.06767	46,892	3,173	45,309	554,494	11.82
83	84	0.07131	43,719	3,118	42,150	509,185	11.65
84	85	0.07187	40,602	2,918	39,124	467,035	11.50
85	86	0.07081	37,684	2,669	36,330	427,911	11.36
86	87	0.06992	35,015	2,448	33,774	391,581	11.18
87	88	0.06931	32,567	2,257	31,425	357,807	10.99
88	89	0.07012	30,310	2,125	29,238	326,382	10.77
89	90	0.07227	28,185	2,037	27,159	297,144	10.54

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
90	91	0.07452	26,148	1,949	25,165	269,985	10.33
91	92	0.07607	24,199	1,841	23,270	244,820	10.12
92	93	0.07764	22,358	1,736	21,482	221,550	9.91
93	94	0.07918	20,623	1,633	19,798	200,068	9.70
94	95	0.08073	18,990	1,533	18,215	180,271	9.49
95	96	0.08217	17,457	1,434	16,731	162,056	9.28
96	97	0.08373	16,022	1,341	15,344	145,324	9.07
97	98	0.08592	14,681	1,261	14,044	129,980	8.85
98	99	0.08921	13,419	1,197	12,816	115,936	8.64
99	100	0.09363	12,222	1,144	11,646	103,120	8.44
100	101	0.09924	11,078	1,099	10,524	91,475	8.26

**American Indian, Eskimo, and Aleut Male**

0	1	0.00541	100,000	541	99,526	7,757,468	77.57
1	2	0.00060	99,459	60	99,429	7,657,942	77.00
2	3	0.00042	99,399	42	99,377	7,558,513	76.04
3	4	0.00032	99,357	32	99,341	7,459,136	75.07
4	5	0.00026	99,325	26	99,312	7,359,795	74.10
5	6	0.00021	99,299	21	99,289	7,260,483	73.12
6	7	0.00019	99,279	19	99,269	7,161,195	72.13
7	8	0.00018	99,260	18	99,250	7,061,925	71.15
8	9	0.00015	99,242	15	99,234	6,962,675	70.16
9	10	0.00009	99,227	9	99,222	6,863,441	69.17
10	11	0.00005	99,217	5	99,215	6,764,219	68.18
11	12	0.00006	99,213	6	99,211	6,665,004	67.18
12	13	0.00020	99,207	20	99,199	6,565,794	66.18
13	14	0.00051	99,187	51	99,164	6,466,595	65.20
14	15	0.00093	99,136	92	99,093	6,367,431	64.23
15	16	0.00143	99,043	142	98,977	6,268,337	63.29
16	17	0.00188	98,902	186	98,812	6,169,361	62.38
17	18	0.00214	98,716	211	98,612	6,070,549	61.49
18	19	0.00214	98,505	211	98,399	5,971,937	60.63
19	20	0.00195	98,294	192	98,197	5,873,538	59.75
20	21	0.00169	98,103	166	98,018	5,775,341	58.87
21	22	0.00152	97,937	149	97,861	5,677,323	57.97
22	23	0.00147	97,788	144	97,716	5,579,462	57.06
23	24	0.00162	97,644	158	97,567	5,481,746	56.14
24	25	0.00192	97,486	187	97,394	5,384,179	55.23
25	26	0.00227	97,298	221	97,190	5,286,784	54.34
26	27	0.00258	97,078	250	96,955	5,189,594	53.46
27	28	0.00287	96,827	278	96,690	5,092,639	52.60
28	29	0.00311	96,550	300	96,401	4,995,949	51.74
29	30	0.00332	96,249	320	96,091	4,899,548	50.90
30	31	0.00352	95,929	338	95,762	4,803,457	50.07
31	32	0.00375	95,591	358	95,414	4,707,695	49.25
32	33	0.00402	95,233	383	95,044	4,612,281	48.43
33	34	0.00435	94,851	412	94,647	4,517,237	47.62
34	35	0.00471	94,438	445	94,218	4,422,590	46.83
35	36	0.00511	93,993	480	93,756	4,328,371	46.05
36	37	0.00547	93,513	511	93,260	4,234,615	45.28

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
37	38	0.00573	93,002	533	92,737	4,141,356	44.53
38	39	0.00586	92,469	542	92,199	4,048,619	43.78
39	40	0.00589	91,928	541	91,657	3,956,420	43.04
40	41	0.00588	91,386	537	91,117	3,864,763	42.29
41	42	0.00589	90,849	535	90,581	3,773,646	41.54
42	43	0.00595	90,314	537	90,045	3,683,065	40.78
43	44	0.00608	89,776	546	89,504	3,593,019	40.02
44	45	0.00626	89,231	559	88,952	3,503,515	39.26
45	46	0.00646	88,672	572	88,387	3,414,563	38.51
46	47	0.00664	88,099	585	87,808	3,326,176	37.75
47	48	0.00682	87,515	596	87,218	3,238,368	37.00
48	49	0.00699	86,918	608	86,616	3,151,150	36.25
49	50	0.00716	86,311	618	86,003	3,064,534	35.51
50	51	0.00734	85,693	629	85,379	2,978,532	34.76
51	52	0.00753	85,063	641	84,744	2,893,153	34.01
52	53	0.00772	84,423	652	84,098	2,808,409	33.27
53	54	0.00792	83,771	664	83,440	2,724,311	32.52
54	55	0.00813	83,107	675	82,771	2,640,871	31.78
55	56	0.00839	82,432	691	82,087	2,558,101	31.03
56	57	0.00866	81,740	708	81,388	2,476,013	30.29
57	58	0.00887	81,032	718	80,674	2,394,626	29.55
58	59	0.00896	80,314	719	79,954	2,313,952	28.81
59	60	0.00900	79,595	716	79,236	2,233,998	28.07
60	61	0.00897	78,879	708	78,525	2,154,762	27.32
61	62	0.00907	78,171	709	77,818	2,076,237	26.56
62	63	0.00952	77,462	737	77,097	1,998,420	25.80
63	64	0.01045	76,725	802	76,330	1,921,322	25.04
64	65	0.01175	75,923	892	75,485	1,844,992	24.30
65	66	0.01323	75,031	992	74,543	1,769,507	23.58
66	67	0.01466	74,039	1,085	73,503	1,694,963	22.89
67	68	0.01592	72,954	1,161	72,379	1,621,460	22.23
68	69	0.01688	71,793	1,212	71,190	1,549,081	21.58
69	70	0.01762	70,581	1,243	69,962	1,477,891	20.94
70	71	0.01847	69,337	1,281	68,700	1,407,929	20.31
71	72	0.01946	68,057	1,324	67,397	1,339,229	19.68
72	73	0.02025	66,732	1,351	66,058	1,271,832	19.06
73	74	0.02074	65,381	1,356	64,703	1,205,774	18.44
74	75	0.02110	64,025	1,351	63,348	1,141,071	17.82
75	76	0.02109	62,675	1,322	62,012	1,077,722	17.20
76	77	0.02136	61,353	1,310	60,700	1,015,710	16.56
77	78	0.02301	60,043	1,382	59,362	955,010	15.91
78	79	0.02669	58,661	1,566	57,896	895,647	15.27
79	80	0.03192	57,095	1,823	56,207	837,751	14.67
80	81	0.03828	55,273	2,116	54,237	781,544	14.14
81	82	0.04449	53,157	2,365	51,991	727,307	13.68
82	83	0.04941	50,792	2,509	49,543	675,316	13.30
83	84	0.05189	48,283	2,505	47,025	625,773	12.96
84	85	0.05227	45,777	2,393	44,570	578,748	12.64
85	86	0.05163	43,385	2,240	42,253	534,178	12.31
86	87	0.05134	41,145	2,113	40,079	491,925	11.96

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
87	88	0.05178	39,032	2,021	38,017	451,846	11.58
88	89	0.05381	37,011	1,992	36,015	413,829	11.18
89	90	0.05728	35,020	2,006	34,018	377,814	10.79
90	91	0.06130	33,014	2,024	32,002	343,796	10.41
91	92	0.06509	30,990	2,017	29,980	311,793	10.06
92	93	0.06882	28,973	1,994	27,973	281,813	9.73
93	94	0.07215	26,979	1,946	26,001	253,840	9.41
94	95	0.07511	25,033	1,880	24,087	227,839	9.10
95	96	0.07812	23,152	1,809	22,242	203,752	8.80
96	97	0.08150	21,344	1,740	20,468	181,510	8.50
97	98	0.08512	19,604	1,669	18,764	161,042	8.21
98	99	0.08910	17,935	1,598	17,131	142,278	7.93
99	100	0.09347	16,337	1,527	15,568	125,147	7.66
100	101	0.09801	14,810	1,452	14,078	109,580	7.40

**American Indian, Eskimo and Aleut Female**

0	1	0.00382	100,000	382	99,665	8,762,597	87.63
1	2	0.00060	99,618	60	99,588	8,662,933	86.96
2	3	0.00042	99,558	42	99,536	8,563,345	86.01
3	4	0.00032	99,516	32	99,499	8,463,809	85.05
4	5	0.00026	99,484	26	99,470	8,364,310	84.08
5	6	0.00021	99,458	20	99,447	8,264,840	83.10
6	7	0.00018	99,437	17	99,429	8,165,392	82.12
7	8	0.00015	99,420	15	99,412	8,065,964	81.13
8	9	0.00012	99,405	12	99,399	7,966,552	80.14
9	10	0.00008	99,393	8	99,389	7,867,153	79.15
10	11	0.00005	99,385	5	99,382	7,767,764	78.16
11	12	0.00004	99,380	4	99,378	7,668,382	77.16
12	13	0.00011	99,376	11	99,371	7,569,004	76.17
13	14	0.00027	99,365	26	99,353	7,469,632	75.17
14	15	0.00048	99,338	47	99,316	7,370,279	74.19
15	16	0.00073	99,291	72	99,257	7,270,963	73.23
16	17	0.00095	99,219	94	99,173	7,171,706	72.28
17	18	0.00106	99,125	105	99,073	7,072,533	71.35
18	19	0.00103	99,020	102	98,968	6,973,460	70.42
19	20	0.00090	98,918	89	98,872	6,874,492	69.50
20	21	0.00073	98,829	72	98,792	6,775,620	68.56
21	22	0.00060	98,757	59	98,726	6,676,828	67.61
22	23	0.00052	98,698	51	98,672	6,578,102	66.65
23	24	0.00053	98,647	52	98,621	6,479,430	65.68
24	25	0.00060	98,595	59	98,566	6,380,809	64.72
25	26	0.00068	98,535	67	98,502	6,282,243	63.76
26	27	0.00075	98,468	74	98,431	6,183,741	62.80
27	28	0.00084	98,393	83	98,353	6,085,310	61.85
28	29	0.00094	98,311	93	98,265	5,986,957	60.90
29	30	0.00105	98,218	103	98,167	5,888,692	59.96
30	31	0.00117	98,115	115	98,058	5,790,525	59.02
31	32	0.00129	98,000	127	97,937	5,692,466	58.09
32	33	0.00138	97,873	135	97,806	5,594,529	57.16
33	34	0.00144	97,738	140	97,668	5,496,723	56.24

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
34	35	0.00146	97,598	142	97,526	5,399,055	55.32
35	36	0.00147	97,455	144	97,384	5,301,529	54.40
36	37	0.00149	97,312	145	97,239	5,204,145	53.48
37	38	0.00152	97,166	148	97,093	5,106,906	52.56
38	39	0.00156	97,019	151	96,944	5,009,813	51.64
39	40	0.00160	96,868	155	96,791	4,912,869	50.72
40	41	0.00165	96,713	160	96,633	4,816,079	49.80
41	42	0.00171	96,553	165	96,471	4,719,445	48.88
42	43	0.00175	96,388	168	96,304	4,622,974	47.96
43	44	0.00176	96,220	170	96,135	4,526,670	47.05
44	45	0.00177	96,050	170	95,965	4,430,536	46.13
45	46	0.00178	95,879	171	95,794	4,334,571	45.21
46	47	0.00182	95,708	174	95,622	4,238,777	44.29
47	48	0.00191	95,534	182	95,444	4,143,155	43.37
48	49	0.00206	95,352	196	95,255	4,047,711	42.45
49	50	0.00227	95,156	216	95,050	3,952,455	41.54
50	51	0.00254	94,940	241	94,821	3,857,405	40.63
51	52	0.00283	94,699	268	94,567	3,762,584	39.73
52	53	0.00308	94,430	291	94,287	3,668,017	38.84
53	54	0.00326	94,139	307	93,987	3,573,731	37.96
54	55	0.00342	93,832	321	93,672	3,479,744	37.08
55	56	0.00355	93,511	332	93,346	3,386,072	36.21
56	57	0.00378	93,179	352	93,005	3,292,725	35.34
57	58	0.00427	92,826	396	92,633	3,199,720	34.47
58	59	0.00510	92,430	472	92,202	3,107,087	33.62
59	60	0.00619	91,959	569	91,682	3,014,885	32.79
60	61	0.00740	91,389	677	91,059	2,923,203	31.99
61	62	0.00857	90,712	777	90,332	2,832,143	31.22
62	63	0.00960	89,935	864	89,510	2,741,812	30.49
63	64	0.01041	89,072	927	88,613	2,652,302	29.78
64	65	0.01105	88,144	974	87,661	2,563,690	29.09
65	66	0.01163	87,171	1,014	86,667	2,476,029	28.40
66	67	0.01228	86,157	1,058	85,632	2,389,361	27.73
67	68	0.01297	85,099	1,104	84,551	2,303,730	27.07
68	69	0.01376	83,995	1,155	83,422	2,219,178	26.42
69	70	0.01460	82,840	1,209	82,240	2,135,757	25.78
70	71	0.01552	81,630	1,267	81,001	2,053,517	25.16
71	72	0.01639	80,364	1,318	79,708	1,972,515	24.54
72	73	0.01708	79,046	1,350	78,373	1,892,807	23.95
73	74	0.01749	77,696	1,359	77,017	1,814,434	23.35
74	75	0.01770	76,337	1,351	75,661	1,737,418	22.76
75	76	0.01776	74,986	1,331	74,319	1,661,757	22.16
76	77	0.01792	73,655	1,320	72,995	1,587,438	21.55
77	78	0.01851	72,335	1,339	71,669	1,514,443	20.94
78	79	0.01972	70,996	1,400	70,302	1,442,774	20.32
79	80	0.02142	69,596	1,491	68,858	1,372,472	19.72
80	81	0.02344	68,105	1,596	67,315	1,303,614	19.14
81	82	0.02537	66,508	1,688	65,671	1,236,299	18.59
82	83	0.02687	64,821	1,742	63,952	1,170,629	18.06
83	84	0.02764	63,079	1,744	62,206	1,106,677	17.54

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
84	85	0.02786	61,335	1,709	60,477	1,044,471	17.03
85	86	0.02786	59,627	1,661	58,793	983,994	16.50
86	87	0.02813	57,965	1,630	57,149	925,201	15.96
87	88	0.02892	56,335	1,629	55,522	868,052	15.41
88	89	0.03056	54,706	1,672	53,875	812,530	14.85
89	90	0.03294	53,034	1,747	52,167	758,655	14.31
90	91	0.03552	51,287	1,822	50,382	706,488	13.78
91	92	0.03815	49,465	1,887	48,528	656,106	13.26
92	93	0.04127	47,578	1,964	46,603	607,578	12.77
93	94	0.04496	45,615	2,051	44,597	560,975	12.30
94	95	0.04913	43,564	2,140	42,502	516,379	11.85
95	96	0.05414	41,424	2,243	40,310	473,877	11.44
96	97	0.05945	39,181	2,329	38,021	433,567	11.07
97	98	0.06387	36,852	2,354	35,673	395,546	10.73
98	99	0.06652	34,498	2,295	33,343	359,873	10.43
99	100	0.06763	32,203	2,178	31,103	326,529	10.14
100	101	0.06733	30,025	2,022	29,002	295,427	9.84

**Asian and Pacific Islander Male**

0	1	0.00215	100,000	215	99,811	8,556,131	85.56
1	2	0.00024	99,785	24	99,773	8,456,320	84.75
2	3	0.00017	99,761	17	99,752	8,356,548	83.77
3	4	0.00013	99,744	13	99,737	8,256,796	82.78
4	5	0.00010	99,731	10	99,726	8,157,059	81.79
5	6	0.00008	99,721	8	99,717	8,057,333	80.80
6	7	0.00007	99,713	7	99,709	7,957,616	79.81
7	8	0.00006	99,706	6	99,703	7,857,907	78.81
8	9	0.00005	99,700	5	99,698	7,758,204	77.82
9	10	0.00004	99,695	4	99,693	7,658,506	76.82
10	11	0.00003	99,691	3	99,690	7,558,813	75.82
11	12	0.00004	99,688	4	99,687	7,459,123	74.82
12	13	0.00007	99,685	7	99,682	7,359,436	73.83
13	14	0.00013	99,678	13	99,672	7,259,754	72.83
14	15	0.00022	99,665	22	99,654	7,160,082	71.84
15	16	0.00033	99,643	33	99,627	7,060,428	70.86
16	17	0.00042	99,610	42	99,589	6,960,801	69.88
17	18	0.00047	99,567	47	99,544	6,861,212	68.91
18	19	0.00046	99,520	46	99,497	6,761,668	67.94
19	20	0.00040	99,474	40	99,454	6,662,171	66.97
20	21	0.00033	99,434	33	99,418	6,562,717	66.00
21	22	0.00028	99,402	28	99,388	6,463,300	65.02
22	23	0.00026	99,374	26	99,361	6,363,912	64.04
23	24	0.00029	99,348	29	99,334	6,264,551	63.06
24	25	0.00036	99,320	36	99,302	6,165,216	62.07
25	26	0.00044	99,284	43	99,263	6,065,914	61.10
26	27	0.00051	99,241	51	99,216	5,966,651	60.12
27	28	0.00060	99,190	59	99,161	5,867,435	59.15
28	29	0.00070	99,131	70	99,097	5,768,274	58.19
29	30	0.00082	99,061	81	99,021	5,669,177	57.23
30	31	0.00094	98,980	93	98,935	5,570,156	56.28

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
31	32	0.00105	98,887	104	98,836	5,471,221	55.33
32	33	0.00117	98,783	115	98,726	5,372,385	54.39
33	34	0.00127	98,668	125	98,606	5,273,658	53.45
34	35	0.00136	98,543	134	98,476	5,175,052	52.52
35	36	0.00145	98,408	143	98,338	5,076,576	51.59
36	37	0.00154	98,265	151	98,190	4,978,238	50.66
37	38	0.00160	98,114	157	98,036	4,880,048	49.74
38	39	0.00164	97,956	160	97,876	4,782,013	48.82
39	40	0.00165	97,796	161	97,716	4,684,136	47.90
40	41	0.00165	97,635	161	97,555	4,586,421	46.98
41	42	0.00165	97,474	161	97,394	4,488,866	46.05
42	43	0.00167	97,314	162	97,233	4,391,472	45.13
43	44	0.00170	97,151	165	97,069	4,294,239	44.20
44	45	0.00176	96,986	170	96,901	4,197,170	43.28
45	46	0.00182	96,816	176	96,728	4,100,269	42.35
46	47	0.00189	96,639	183	96,549	4,003,541	41.43
47	48	0.00194	96,457	187	96,364	3,906,992	40.51
48	49	0.00196	96,270	188	96,176	3,810,628	39.58
49	50	0.00196	96,082	189	95,988	3,714,452	38.66
50	51	0.00198	95,893	190	95,799	3,618,465	37.73
51	52	0.00203	95,704	194	95,607	3,522,666	36.81
52	53	0.00212	95,510	203	95,409	3,427,059	35.88
53	54	0.00227	95,307	217	95,200	3,331,650	34.96
54	55	0.00248	95,090	236	94,974	3,236,450	34.04
55	56	0.00271	94,855	257	94,728	3,141,476	33.12
56	57	0.00297	94,598	281	94,460	3,046,747	32.21
57	58	0.00330	94,317	311	94,164	2,952,288	31.30
58	59	0.00371	94,006	349	93,835	2,858,123	30.40
59	60	0.00419	93,657	392	93,465	2,764,288	29.51
60	61	0.00474	93,265	442	93,048	2,670,823	28.64
61	62	0.00531	92,823	493	92,581	2,577,775	27.77
62	63	0.00585	92,330	540	92,064	2,485,194	26.92
63	64	0.00632	91,790	580	91,503	2,393,131	26.07
64	65	0.00675	91,210	616	90,905	2,301,627	25.23
65	66	0.00723	90,594	655	90,270	2,210,722	24.40
66	67	0.00780	89,939	702	89,593	2,120,452	23.58
67	68	0.00850	89,238	758	88,864	2,030,859	22.76
68	69	0.00935	88,479	827	88,072	1,941,995	21.95
69	70	0.01035	87,652	907	87,205	1,853,923	21.15
70	71	0.01145	86,745	993	86,256	1,766,718	20.37
71	72	0.01266	85,752	1,086	85,217	1,680,462	19.60
72	73	0.01407	84,666	1,191	84,079	1,595,245	18.84
73	74	0.01571	83,474	1,311	82,829	1,511,166	18.10
74	75	0.01757	82,163	1,443	81,452	1,428,337	17.38
75	76	0.01953	80,720	1,577	79,943	1,346,884	16.69
76	77	0.02165	79,143	1,714	78,298	1,266,942	16.01
77	78	0.02409	77,429	1,866	76,510	1,188,644	15.35
78	79	0.02693	75,564	2,035	74,561	1,112,134	14.72
79	80	0.03012	73,529	2,214	72,437	1,037,573	14.11
80	81	0.03359	71,314	2,395	70,131	965,136	13.53

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
81	82	0.03720	68,919	2,564	67,650	895,005	12.99
82	83	0.04083	66,356	2,709	65,012	827,354	12.47
83	84	0.04436	63,647	2,823	62,243	762,343	11.98
84	85	0.04784	60,823	2,910	59,375	700,099	11.51
85	86	0.05146	57,913	2,980	56,429	640,724	11.06
86	87	0.05531	54,933	3,038	53,418	584,296	10.64
87	88	0.05931	51,895	3,078	50,359	530,877	10.23
88	89	0.06346	48,817	3,098	47,269	480,519	9.84
89	90	0.06776	45,719	3,098	44,170	433,250	9.48
90	91	0.07241	42,621	3,086	41,076	389,080	9.13
91	92	0.07728	39,535	3,055	38,004	348,004	8.80
92	93	0.08195	36,480	2,989	34,978	310,000	8.50
93	94	0.08609	33,491	2,883	32,039	275,022	8.21
94	95	0.08972	30,607	2,746	29,222	242,983	7.94
95	96	0.09297	27,861	2,590	26,553	213,761	7.67
96	97	0.09626	25,271	2,433	24,042	187,208	7.41
97	98	0.09996	22,838	2,283	21,685	163,166	7.14
98	99	0.10460	20,555	2,150	19,470	141,482	6.88
99	100	0.11027	18,405	2,030	17,380	122,012	6.63
100	101	0.11652	16,376	1,908	15,411	104,632	6.39

**Asian and Pacific Islander Female**

0	1	0.00139	100,000	139	99,878	9,091,418	90.91
1	2	0.00024	99,861	24	99,849	8,991,540	90.04
2	3	0.00017	99,837	17	99,828	8,891,691	89.06
3	4	0.00013	99,821	13	99,814	8,791,862	88.08
4	5	0.00010	99,808	10	99,803	8,692,048	87.09
5	6	0.00008	99,798	8	99,794	8,592,246	86.10
6	7	0.00006	99,790	6	99,787	8,492,452	85.10
7	8	0.00005	99,784	5	99,782	8,392,665	84.11
8	9	0.00005	99,779	5	99,777	8,292,884	83.11
9	10	0.00006	99,774	6	99,771	8,193,107	82.12
10	11	0.00007	99,769	7	99,765	8,093,336	81.12
11	12	0.00008	99,762	8	99,758	7,993,570	80.13
12	13	0.00010	99,754	10	99,749	7,893,812	79.13
13	14	0.00011	99,744	11	99,739	7,794,063	78.14
14	15	0.00013	99,733	13	99,727	7,694,324	77.15
15	16	0.00015	99,720	15	99,713	7,594,597	76.16
16	17	0.00017	99,706	17	99,697	7,494,884	75.17
17	18	0.00017	99,689	17	99,680	7,395,187	74.18
18	19	0.00016	99,672	16	99,664	7,295,506	73.20
19	20	0.00014	99,656	14	99,649	7,195,843	72.21
20	21	0.00011	99,642	11	99,636	7,096,194	71.22
21	22	0.00009	99,631	9	99,626	6,996,558	70.22
22	23	0.00008	99,621	8	99,617	6,896,932	69.23
23	24	0.00008	99,613	8	99,609	6,797,315	68.24
24	25	0.00009	99,605	9	99,601	6,697,705	67.24
25	26	0.00010	99,597	10	99,592	6,598,104	66.25
26	27	0.00011	99,587	11	99,582	6,498,512	65.25
27	28	0.00013	99,576	13	99,570	6,398,930	64.26

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: 2050**

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28	29	0.00018	99,563	18	99,555	6,299,360	63.27
29	30	0.00024	99,545	23	99,534	6,199,805	62.28
30	31	0.00030	99,522	30	99,508	6,100,271	61.30
31	32	0.00036	99,492	36	99,475	6,000,763	60.31
32	33	0.00041	99,456	41	99,436	5,901,289	59.34
33	34	0.00045	99,415	45	99,393	5,801,852	58.36
34	35	0.00048	99,370	48	99,347	5,702,459	57.39
35	36	0.00051	99,323	50	99,298	5,603,113	56.41
36	37	0.00053	99,272	53	99,246	5,503,815	55.44
37	38	0.00056	99,219	56	99,192	5,404,569	54.47
38	39	0.00059	99,163	59	99,134	5,305,377	53.50
39	40	0.00062	99,105	62	99,074	5,206,243	52.53
40	41	0.00066	99,043	65	99,011	5,107,169	51.57
41	42	0.00069	98,978	68	98,944	5,008,158	50.60
42	43	0.00071	98,910	70	98,875	4,909,214	49.63
43	44	0.00072	98,839	71	98,804	4,810,339	48.67
44	45	0.00072	98,768	71	98,733	4,711,536	47.70
45	46	0.00074	98,697	73	98,661	4,612,803	46.74
46	47	0.00078	98,624	77	98,586	4,514,143	45.77
47	48	0.00080	98,547	79	98,508	4,415,557	44.81
48	49	0.00082	98,468	80	98,428	4,317,049	43.84
49	50	0.00083	98,388	82	98,347	4,218,621	42.88
50	51	0.00083	98,306	82	98,265	4,120,274	41.91
51	52	0.00088	98,224	87	98,182	4,022,009	40.95
52	53	0.00107	98,137	105	98,087	3,923,828	39.98
53	54	0.00144	98,032	142	97,965	3,825,741	39.03
54	55	0.00195	97,891	191	97,800	3,727,775	38.08
55	56	0.00253	97,700	248	97,581	3,629,976	37.15
56	57	0.00308	97,452	301	97,306	3,532,395	36.25
57	58	0.00352	97,152	342	96,983	3,435,089	35.36
58	59	0.00379	96,810	366	96,628	3,338,106	34.48
59	60	0.00393	96,443	379	96,255	3,241,478	33.61
60	61	0.00405	96,064	389	95,871	3,145,223	32.74
61	62	0.00423	95,676	404	95,475	3,049,352	31.87
62	63	0.00448	95,271	427	95,060	2,953,877	31.00
63	64	0.00485	94,844	460	94,617	2,858,817	30.14
64	65	0.00532	94,384	502	94,137	2,764,200	29.29
65	66	0.00584	93,882	548	93,612	2,670,064	28.44
66	67	0.00638	93,334	596	93,040	2,576,452	27.60
67	68	0.00691	92,738	641	92,421	2,483,412	26.78
68	69	0.00740	92,097	682	91,760	2,390,991	25.96
69	70	0.00790	91,415	722	91,058	2,299,232	25.15
70	71	0.00839	90,694	761	90,317	2,208,174	24.35
71	72	0.00898	89,933	808	89,534	2,117,857	23.55
72	73	0.00980	89,125	874	88,695	2,028,323	22.76
73	74	0.01093	88,251	965	87,777	1,939,628	21.98
74	75	0.01230	87,287	1,073	86,760	1,851,851	21.22
75	76	0.01384	86,214	1,193	85,627	1,765,091	20.47
76	77	0.01540	85,021	1,309	84,375	1,679,464	19.75
77	78	0.01686	83,711	1,411	83,013	1,595,089	19.05

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
78	79	0.01812	82,300	1,491	81,560	1,512,076	18.37
79	80	0.01927	80,809	1,557	80,035	1,430,516	17.70
80	81	0.02043	79,252	1,619	78,448	1,350,480	17.04
81	82	0.02178	77,633	1,691	76,794	1,272,033	16.39
82	83	0.02342	75,942	1,779	75,060	1,195,239	15.74
83	84	0.02545	74,163	1,888	73,229	1,120,179	15.10
84	85	0.02785	72,275	2,013	71,279	1,046,950	14.49
85	86	0.03041	70,263	2,137	69,205	975,670	13.89
86	87	0.03313	68,126	2,257	67,008	906,465	13.31
87	88	0.03623	65,869	2,386	64,688	839,457	12.74
88	89	0.03980	63,483	2,527	62,232	774,770	12.20
89	90	0.04383	60,956	2,671	59,632	712,538	11.69
90	91	0.04819	58,285	2,809	56,891	652,906	11.20
91	92	0.05282	55,476	2,930	54,020	596,015	10.74
92	93	0.05770	52,546	3,032	51,037	541,995	10.31
93	94	0.06280	49,513	3,109	47,964	490,958	9.92
94	95	0.06809	46,404	3,160	44,828	442,994	9.55
95	96	0.07409	43,244	3,204	41,645	398,166	9.21
96	97	0.08053	40,040	3,225	38,427	356,521	8.90
97	98	0.08641	36,816	3,181	35,218	318,093	8.64
98	99	0.09091	33,635	3,058	32,093	282,875	8.41
99	100	0.09406	30,577	2,876	29,122	250,782	8.20
100	101	0.09599	27,701	2,659	26,353	221,660	8.00

**Hispanic Origin Male**

0	1	0.00371	100,000	371	99,675	8,099,537	81.00
1	2	0.00032	99,629	32	99,613	7,999,863	80.30
2	3	0.00022	99,597	22	99,585	7,900,250	79.32
3	4	0.00017	99,574	17	99,566	7,800,665	78.34
4	5	0.00014	99,557	14	99,550	7,701,099	77.35
5	6	0.00012	99,543	12	99,537	7,601,549	76.36
6	7	0.00011	99,531	11	99,526	7,502,012	75.37
7	8	0.00011	99,520	10	99,515	7,402,486	74.38
8	9	0.00008	99,510	8	99,505	7,302,971	73.39
9	10	0.00005	99,501	5	99,499	7,203,466	72.40
10	11	0.00002	99,497	1	99,496	7,103,967	71.40
11	12	0.00001	99,495	1	99,495	7,004,472	70.40
12	13	0.00006	99,494	6	99,492	6,904,977	69.40
13	14	0.00019	99,488	19	99,480	6,805,485	68.41
14	15	0.00037	99,469	37	99,452	6,706,005	67.42
15	16	0.00059	99,431	59	99,404	6,606,554	66.44
16	17	0.00079	99,373	78	99,335	6,507,150	65.48
17	18	0.00090	99,294	90	99,250	6,407,815	64.53
18	19	0.00091	99,205	90	99,159	6,308,565	63.59
19	20	0.00083	99,115	82	99,073	6,209,406	62.65
20	21	0.00073	99,032	72	98,996	6,110,333	61.70
21	22	0.00067	98,960	66	98,927	6,011,337	60.75
22	23	0.00067	98,894	66	98,861	5,912,411	59.79
23	24	0.00075	98,828	74	98,792	5,813,549	58.82
24	25	0.00090	98,754	89	98,711	5,714,757	57.87

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
25	26	0.00106	98,665	105	98,614	5,616,046	56.92
26	27	0.00122	98,560	120	98,502	5,517,432	55.98
27	28	0.00140	98,440	138	98,373	5,418,930	55.05
28	29	0.00161	98,303	158	98,225	5,320,557	54.12
29	30	0.00184	98,144	181	98,056	5,222,332	53.21
30	31	0.00208	97,963	204	97,863	5,124,276	52.31
31	32	0.00232	97,759	227	97,648	5,026,413	51.42
32	33	0.00252	97,532	246	97,411	4,928,766	50.53
33	34	0.00267	97,287	259	97,158	4,831,355	49.66
34	35	0.00277	97,027	269	96,893	4,734,197	48.79
35	36	0.00286	96,758	277	96,620	4,637,304	47.93
36	37	0.00296	96,481	285	96,339	4,540,683	47.06
37	38	0.00305	96,196	293	96,050	4,444,344	46.20
38	39	0.00313	95,903	301	95,753	4,348,294	45.34
39	40	0.00322	95,602	308	95,449	4,252,541	44.48
40	41	0.00329	95,295	314	95,138	4,157,092	43.62
41	42	0.00337	94,981	320	94,821	4,061,954	42.77
42	43	0.00344	94,661	326	94,498	3,967,133	41.91
43	44	0.00353	94,335	333	94,169	3,872,635	41.05
44	45	0.00362	94,002	341	93,832	3,778,466	40.20
45	46	0.00372	93,661	348	93,488	3,684,633	39.34
46	47	0.00381	93,313	355	93,136	3,591,146	38.48
47	48	0.00391	92,958	363	92,777	3,498,009	37.63
48	49	0.00401	92,595	371	92,410	3,405,233	36.78
49	50	0.00411	92,224	379	92,035	3,312,823	35.92
50	51	0.00424	91,844	390	91,650	3,220,788	35.07
51	52	0.00438	91,455	401	91,255	3,129,138	34.22
52	53	0.00449	91,054	408	90,850	3,037,882	33.36
53	54	0.00454	90,646	411	90,440	2,947,032	32.51
54	55	0.00457	90,234	412	90,028	2,856,592	31.66
55	56	0.00459	89,822	412	89,616	2,766,564	30.80
56	57	0.00467	89,410	417	89,203	2,676,947	29.94
57	58	0.00488	88,993	434	88,778	2,587,745	29.08
58	59	0.00527	88,559	467	88,329	2,498,967	28.22
59	60	0.00581	88,092	512	87,840	2,410,638	27.37
60	61	0.00643	87,580	563	87,303	2,322,798	26.52
61	62	0.00706	87,017	614	86,715	2,235,495	25.69
62	63	0.00767	86,403	663	86,076	2,148,780	24.87
63	64	0.00823	85,741	705	85,391	2,062,704	24.06
64	65	0.00876	85,035	745	84,666	1,977,313	23.25
65	66	0.00936	84,290	789	83,900	1,892,647	22.45
66	67	0.01006	83,501	840	83,086	1,808,747	21.66
67	68	0.01080	82,661	893	82,220	1,725,661	20.88
68	69	0.01159	81,769	948	81,300	1,643,442	20.10
69	70	0.01246	80,821	1,007	80,323	1,562,142	19.33
70	71	0.01345	79,814	1,074	79,283	1,481,819	18.57
71	72	0.01461	78,740	1,150	78,172	1,402,537	17.81
72	73	0.01596	77,590	1,238	76,978	1,324,365	17.07
73	74	0.01755	76,351	1,340	75,690	1,247,386	16.34
74	75	0.01941	75,011	1,456	74,293	1,171,696	15.62

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
75	76	0.02126	73,555	1,564	72,783	1,097,404	14.92
76	77	0.02334	71,992	1,680	71,164	1,024,621	14.23
77	78	0.02626	70,312	1,846	69,405	953,457	13.56
78	79	0.03033	68,465	2,077	67,448	884,052	12.91
79	80	0.03533	66,389	2,346	65,239	816,604	12.30
80	81	0.04115	64,043	2,635	62,748	751,365	11.73
81	82	0.04707	61,408	2,891	59,980	688,617	11.21
82	83	0.05236	58,517	3,064	56,995	628,637	10.74
83	84	0.05632	55,453	3,123	53,893	571,642	10.31
84	85	0.05914	52,330	3,095	50,779	517,749	9.89
85	86	0.06152	49,236	3,029	47,716	466,970	9.48
86	87	0.06429	46,207	2,971	44,717	419,254	9.07
87	88	0.06765	43,236	2,925	41,771	374,537	8.66
88	89	0.07215	40,311	2,909	38,856	332,766	8.25
89	90	0.07779	37,403	2,910	35,947	293,910	7.86
90	91	0.08416	34,493	2,903	33,040	257,963	7.48
91	92	0.09077	31,590	2,867	30,152	224,923	7.12
92	93	0.09763	28,723	2,804	27,314	194,771	6.78
93	94	0.10442	25,919	2,706	24,556	167,457	6.46
94	95	0.11115	23,212	2,580	21,911	142,901	6.16
95	96	0.11845	20,632	2,444	19,399	120,990	5.86
96	97	0.12658	18,188	2,302	17,025	101,591	5.59
97	98	0.13496	15,886	2,144	14,800	84,566	5.32
98	99	0.14326	13,742	1,969	12,742	69,766	5.08
99	100	0.15137	11,773	1,782	10,866	57,024	4.84
100	101	0.15885	9,991	1,587	9,181	46,158	4.62

**Hispanic Origin Female**

0	1	0.00300	100,000	300	99,737	8,734,583	87.35
1	2	0.00025	99,700	25	99,687	8,634,846	86.61
2	3	0.00018	99,675	18	99,665	8,535,159	85.63
3	4	0.00014	99,657	13	99,650	8,435,493	84.65
4	5	0.00011	99,644	11	99,638	8,335,843	83.66
5	6	0.00009	99,633	9	99,628	8,236,205	82.67
6	7	0.00007	99,624	7	99,620	8,136,577	81.67
7	8	0.00006	99,617	6	99,614	8,036,957	80.68
8	9	0.00006	99,610	6	99,607	7,937,343	79.68
9	10	0.00005	99,605	5	99,602	7,837,736	78.69
10	11	0.00005	99,600	4	99,598	7,738,134	77.69
11	12	0.00005	99,595	5	99,593	7,638,536	76.70
12	13	0.00008	99,590	7	99,587	7,538,943	75.70
13	14	0.00012	99,583	12	99,577	7,439,356	74.71
14	15	0.00018	99,571	18	99,562	7,339,779	73.71
15	16	0.00026	99,552	26	99,540	7,240,217	72.73
16	17	0.00032	99,527	32	99,511	7,140,677	71.75
17	18	0.00035	99,495	35	99,477	7,041,166	70.77
18	19	0.00033	99,460	33	99,443	6,941,688	69.79
19	20	0.00028	99,427	28	99,413	6,842,245	68.82
20	21	0.00021	99,399	21	99,388	6,742,833	67.84
21	22	0.00016	99,378	16	99,370	6,643,444	66.85

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: 2050**

<i>Age at Beginning of Interval</i>	<i>Age at End of Interval</i>	<i>Proportion of Persons Dying During Interval</i>	<i>Persons Alive at Beginning of Interval</i>	<i>Persons Dying Within Interval</i>	<i>Person-Yrs Lived Within Interval</i>	<i>Total Person-Yrs Lived After Beginning of Age Interval</i>	<i>Life Expectancy: Years of Life Remaining at Interval Start</i>
22	23	0.00014	99,362	14	99,356	6,544,074	65.86
23	24	0.00015	99,349	15	99,342	6,444,719	64.87
24	25	0.00020	99,334	20	99,324	6,345,377	63.88
25	26	0.00025	99,314	25	99,302	6,246,053	62.89
26	27	0.00030	99,289	30	99,274	6,146,751	61.91
27	28	0.00035	99,259	35	99,242	6,047,477	60.93
28	29	0.00041	99,224	40	99,204	5,948,236	59.95
29	30	0.00046	99,183	46	99,161	5,849,032	58.97
30	31	0.00052	99,138	51	99,112	5,749,871	58.00
31	32	0.00058	99,086	57	99,058	5,650,758	57.03
32	33	0.00062	99,029	61	98,999	5,551,700	56.06
33	34	0.00064	98,968	63	98,936	5,452,702	55.10
34	35	0.00065	98,905	64	98,873	5,353,765	54.13
35	36	0.00065	98,841	64	98,809	5,254,892	53.17
36	37	0.00066	98,776	65	98,744	5,156,084	52.20
37	38	0.00066	98,712	65	98,679	5,057,340	51.23
38	39	0.00067	98,646	66	98,613	4,958,661	50.27
39	40	0.00068	98,580	67	98,546	4,860,048	49.30
40	41	0.00070	98,513	69	98,478	4,761,502	48.33
41	42	0.00072	98,444	71	98,408	4,663,023	47.37
42	43	0.00074	98,373	73	98,336	4,564,615	46.40
43	44	0.00076	98,300	74	98,263	4,466,279	45.44
44	45	0.00077	98,225	76	98,187	4,368,016	44.47
45	46	0.00080	98,149	79	98,110	4,269,829	43.50
46	47	0.00084	98,071	83	98,030	4,171,719	42.54
47	48	0.00092	97,988	90	97,944	4,073,689	41.57
48	49	0.00104	97,898	102	97,848	3,975,745	40.61
49	50	0.00119	97,796	116	97,739	3,877,897	39.65
50	51	0.00137	97,680	134	97,614	3,780,158	38.70
51	52	0.00157	97,546	154	97,470	3,682,544	37.75
52	53	0.00178	97,392	174	97,307	3,585,074	36.81
53	54	0.00200	97,218	194	97,123	3,487,767	35.88
54	55	0.00222	97,024	216	96,918	3,390,644	34.95
55	56	0.00247	96,808	239	96,691	3,293,726	34.02
56	57	0.00276	96,570	266	96,439	3,197,034	33.11
57	58	0.00311	96,303	300	96,157	3,100,595	32.20
58	59	0.00356	96,004	342	95,836	3,004,439	31.30
59	60	0.00408	95,662	391	95,471	2,908,603	30.41
60	61	0.00465	95,271	443	95,054	2,813,132	29.53
61	62	0.00525	94,828	498	94,583	2,718,078	28.66
62	63	0.00586	94,330	553	94,058	2,623,495	27.81
63	64	0.00647	93,777	606	93,479	2,529,437	26.97
64	65	0.00709	93,171	660	92,845	2,435,958	26.15
65	66	0.00773	92,511	715	92,158	2,343,112	25.33
66	67	0.00843	91,796	774	91,414	2,250,955	24.52
67	68	0.00920	91,022	837	90,609	2,159,541	23.73
68	69	0.01006	90,185	907	89,737	2,068,932	22.94
69	70	0.01100	89,277	982	88,793	1,979,195	22.17
70	71	0.01203	88,295	1,062	87,771	1,890,402	21.41
71	72	0.01310	87,233	1,143	86,668	1,802,631	20.66

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: 2050**

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72	73	0.01414	86,090	1,217	85,487	1,715,963	19.93
73	74	0.01510	84,873	1,281	84,237	1,630,476	19.21
74	75	0.01603	83,591	1,340	82,926	1,546,239	18.50
75	76	0.01698	82,251	1,397	81,558	1,463,313	17.79
76	77	0.01808	80,854	1,462	80,130	1,381,755	17.09
77	78	0.01946	79,392	1,545	78,628	1,301,626	16.39
78	79	0.02121	77,847	1,651	77,031	1,222,998	15.71
79	80	0.02330	76,196	1,775	75,319	1,145,967	15.04
80	81	0.02560	74,421	1,905	73,479	1,070,648	14.39
81	82	0.02804	72,515	2,033	71,510	997,169	13.75
82	83	0.03066	70,482	2,161	69,412	925,659	13.13
83	84	0.03346	68,322	2,286	67,189	856,247	12.53
84	85	0.03647	66,036	2,408	64,841	789,058	11.95
85	86	0.03965	63,627	2,523	62,375	724,217	11.38
86	87	0.04311	61,105	2,634	59,797	661,841	10.83
87	88	0.04708	58,471	2,753	57,105	602,044	10.30
88	89	0.05173	55,718	2,882	54,288	544,940	9.78
89	90	0.05702	52,836	3,013	51,340	490,652	9.29
90	91	0.06297	49,823	3,137	48,264	439,312	8.82
91	92	0.06934	46,686	3,237	45,074	391,048	8.38
92	93	0.07588	43,448	3,297	41,803	345,975	7.96
93	94	0.08230	40,151	3,305	38,498	304,172	7.58
94	95	0.08868	36,847	3,268	35,209	265,674	7.21
95	96	0.09563	33,579	3,211	31,968	230,465	6.86
96	97	0.10335	30,368	3,139	28,791	198,497	6.54
97	98	0.11126	27,229	3,029	25,704	169,706	6.23
98	99	0.11902	24,200	2,880	22,746	144,002	5.95
99	100	0.12662	21,320	2,700	19,954	121,256	5.69
100	101	0.13421	18,620	2,499	17,354	101,301	5.44