

Projections of the Population of Texas and Counties in Texas by  
Age, Sex and Race/Ethnicity for 2000-2040

produced by:

Population Estimates and Projections Program  
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Office of the State Demographer  
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## Introduction

The Texas State Population Estimates and Projections Program's projections of the population of Texas and of each county in Texas were prepared by personnel from the Office of the State Demographer and the Texas State Data Center in the Institute for Demographic and Socioeconomic Research at the University of Texas at San Antonio. These projections, like all projections, involve the use of certain assumptions about future events that may or may not occur. Users of these projections should be aware that although the projections have been prepared with the use of detailed methodologies and with extensive attempts being made to account for existing demographic patterns, they may not accurately project the future population of the State or of particular counties in the State. These projections should be used only with full awareness of the inherent limitations of population projections in general and with particular and detailed knowledge of the procedures and assumptions delineated below which characterize the projections presented in this report.

These projections are of the population of the State and of all counties in the State for each year from 2000 through 2040. They are thus similar in form to those released by the program in previous years (see Texas Population Estimates and Projections Program 2000-2040 released in 2006) but have been revised using post-2000 census and other enhanced data bases. They are by single years of age for ages 0 through 85 years of age and older for males and females in each of four racial/ethnic groups--Anglos, Blacks, Hispanics, and persons from Other racial/ethnic groups. These four groups have been configured so that the total population is the sum of Anglos, Blacks, Hispanics, and persons of Other racial/ethnic groups.

This summary provides a relatively detailed description of the projection methodology and then discusses the bases for, and the assumptions used in, creating the alternative projection scenarios. It concludes with a description of the products available from the projection process.

## Projection Methodology

The projections were completed using a cohort-component projection technique. As the name implies, the basic characteristics of this technique are the use of separate cohorts--persons with one or more common characteristic--and the separate projection of each of the major components of population change--fertility, mortality and migration--or each of the cohorts. These projections of components for each cohort are then combined in the familiar demographic bookkeeping equation as follows:

$$P_{t_2} = P_{t_1} + B_{t_1-t_2} - D_{t_1-t_2} + M_{t_1-t_2}$$

Where:

- $P_{t_2}$  = the population projected at some future date  $t_1-t_2$  years hence
- $P_{t_1}$  = the population at the base year  $t_1$
- $B_{t_1-t_2}$  = the number of births that occur during the interval  $t_1-t_2$
- $D_{t_1-t_2}$  = the number of deaths that occur during the interval  $t_1-t_2$
- $M_{t_1-t_2}$  = the amount of net migration that takes place during the interval  $t_1-t_2$

When several cohorts are used,  $P_{t_2}$  may be seen as:

$$P_{t_2} = \sum_{i=1}^n P_{c_i, t_2}$$

Where:  $P_{t_2}$  is as in the equation above

$P_{c_i, t_2}$  = population of a given cohort at time  $t_2$  and

$$P_{c_i, t_2} = P_{c_i, t_1} + B_{c_i, t_1-t_2} - D_{c_i, t_1-t_2} + M_{c_i, t_1-t_2}$$

Where: all terms are as noted above but are specific to given cohorts  $c_i$

In this, as in any other use of the cohort-component technique at least four major steps must be completed:

1. The selection of a baseline set of cohorts for the projection area or areas of interest for the baseline time period (usually the last census and for other dates for which detailed base data are available);
2. The determination of appropriate baseline migration, mortality, and fertility measures for each cohort for the baseline time period;
3. The determination of a method for projecting trends in fertility, mortality and migration rates over the projection period;
4. The selection of a computational procedure for applying the rates to the baseline cohorts to project the population for the projection period.

Each of these steps as performed for the Texas State Population Estimates and Projections Program's projections are briefly discussed in the pages which follow.

## Selection of Baseline Cohorts

The baseline cohorts used in the projections are single-year-of-age cohorts for males and females of Anglo, Black, Hispanic and Other racial/ethnic groups extracted from the PL94-171 and Summary File data bases from the 2000 Census of Population and Housing (US Bureau of the Census 2001a,2001b). Population data for 2000 were used as the starting base because they provide the last complete count information available.

The development of 2000 Census-based baseline populations is essential if baseline rates of fertility, mortality, and especially migration are to be computed and the projections are to provide meaningful comparisons with population values for past time periods and projections. As described below, ensuring relative comparability of such baseline populations was more difficult than in the past.

The baseline populations for these projections consist of four groups. These are an Anglo, Black, Hispanic, and an Other population group. In general these consist of Non-Hispanic Whites (referred to hereafter as Anglos), Non-Hispanic Blacks or African Americans, Hispanics of all races, and persons in all other non-Hispanic racial groups referred to as the Other population group. However, because the 2000 Census allowed respondents to indicate more than one racial identity decisions had to be made about the classification of persons in 126 race categories (63 racial combinations each for Hispanic and Non-Hispanic ethnic groups). This required an extensive evaluation of several classification alternatives which are described in general terms below. A more complete description of this evaluation is provided in Appendix A.

In general, the results of the 2000 Census showed a relatively small percent of persons in Texas (about 2.5 percent) indicated they were members of 2 or more racial heritages suggesting that most persons (97.5 percent) identified with a single racial group. Similarly, an examination of Hispanic populations indicated that they showed racial identification patterns similar to those in 1990 (i.e. nearly all identified themselves as either White or in the Other racial group).

Given these patterns, Hispanics from all racial groups were placed in the single group of Hispanics of all races. Thus persons in 63 of the 126 categories were classified as Hispanic. Within the 63 non-Hispanic categories, more than 97.5 percent identified themselves as in one of the single racial/ethnic group of: Non-Hispanic White; Non-Hispanic Black; Non-Hispanic Asian; Non-Hispanic American Indian or Alaskan Native; Non-Hispanic Native Hawaiian or other Pacific Islander, or Non-Hispanic Other. Persons in these groups were classified as in previous projections with Non-Hispanic Whites being placed in the Anglo category, Non-Hispanic Blacks in the Black group, and all other persons placed in the Other population group. This allowed for classification of 6 of the 63 Non-Hispanic groups. Forty-two non-Hispanic categories consisted of persons indicating identification with 3 or more racial groups. Given that persons in these 42 groups accounted for less than one-tenth of one percent of the Texas population and that there is no agreed upon procedure for allocating these persons to single racial groups, they were allocated to the Other population category. The above procedures provided for the classification of persons in the 63 racial groupings in the Hispanic category and for persons in 48 of the 63 non-Hispanic racial groupings.

The remaining 15 non-Hispanic categories involved two-race combinations. Persons in the six two-group categories of the combination of base groups with the Other race category were allocated to the Other population category (i.e. that is persons in the American Indian or Alaskan Native and Asian; American Indian or Alaskan Native and Native Hawaiian or Pacific Islander; American Indian or Alaskan Native and Other; Asian and Native Hawaiian or Pacific Islander; Asian and Other; and Native Hawaiian or Pacific Islander and Other groups were allocated to the Other population category). Based on examinations of several alternatives as described in Appendix A and an assessment of other literature on racial/ethnic identification, all two race combinations involving Blacks (including persons who identified themselves as Black and White) were placed in the Black category and the remaining four two-race combinations involving Whites were placed in the White category.

The use of these classifications allowed for the creation of 4 mutually exclusive groups (i.e., Anglo, Black, Hispanic, and Other) that are quite comparable to those used in 1990. However it must be recognized that complete comparability between pre-2000 Census and 2000 Census data is not possible (again see Appendix A).

The potential projection of two other subgroups was examined but a decision made not to include separate projections for these groups in this set of projections. These were an Asian and a multi-race group. They were not included because of the small number of persons in these groups in many counties and, in the case of multiple race groups, a lack of historical data for rate computations. The creation of projections for these groups will be considered for future projections.

It was also necessary to adjust the base population for "special populations". Special populations are populations who reside in an area, usually in institutional settings, who do not generally experience the same demographic processes over time as the indigenous population in the area. Rather, they tend to come into and leave an area at fixed intervals. Examples of such populations are college populations, prison populations, military base populations, and other persons in institutional settings. Because their movement into and out of an area is a function of events (e.g., enrollment, graduation, incarceration) which are not determined by local socioeconomic conditions, special populations must be removed from the base populations of projection areas before birth, death and migration rates are applied to the base population. If special populations of substantial size are not removed, they will create distortions in age and other characteristics of the population that will remain in the population through the cohort aging process and create inaccuracies in the projections. Special populations are, therefore, generally removed from the cohort base, the base cohorts projected forward and a separate projection of the special population for the projection date is added to the projected base cohorts to obtain the projection of the total population.

In Texas, several continuing special population groups are especially large and must be removed from base populations. These are college and university populations, state prison populations, military populations, and populations in other State institutions. In the projections presented here, each of these groups was removed from the base population of the counties in which they are located by subtracting these special populations from the 2000 population reported in the Census for these counties. Since these special populations must be subtracted from base populations that are age, sex and race/ethnicity specific, it was necessary to obtain age, sex and racial/ethnic detail for the special populations. This was done for the college populations by obtaining information on college enrollment for each public college and university in the State for 2007 by age, sex and race/ethnicity from the Texas Higher Education Coordinating Board. For prisons, information on the age, sex and race/ethnicity of prisoners in each institution in 2007 was obtained from the Texas Department of Criminal Justice. For both college enrollments and prisons, the most recent projected values from the appropriate agencies (Texas Higher Education Coordinating Board and the Texas Department of Criminal Justice) for the periods after 2000 were incorporated in the projections. For other institutions, information on age, sex and race/ethnicity were obtained from the group quarters data from the 2000 Census and updated with post-2000 Census data.

Given the distributions of the special populations by age, sex and race/ethnicity, it was then possible to subtract the special populations from the baseline 2000 Census cohorts to obtain a baseline set of cohorts free from the influence of special populations. These procedures for baseline cohorts were completed for all counties in the State. However, following standard practice, special populations were removed from the base population only when they made up five percent or more of the population of the area. For counties with special populations of sufficient size, the baseline cohorts without special populations are projected forward and projections of special populations for the projection years are added to the projections for the baseline cohorts to obtain projections of the total population.

## **Determination of Baseline Fertility, Mortality and Migration Rates**

Baseline rates for fertility and mortality are identical to those used in the 2006 projections as are the migration rates for the 0.0, 0.5, and 1.0 scenarios. However, projection values under the 0.0, 0.5, and 1.0 scenario will differ slightly from those in the 2006 projections because of projected changes in special populations. Therefore, the rates are as described below.

### *Fertility Rates*

Age, sex and race/ethnicity specific fertility rates were computed using births by age, sex and race/ethnicity and place of residence of the mother. The numerators for such rates are the average number of births for 1999, 2000 and 2001 for mothers in each age, sex and race/ethnicity group and the denominators are the population counts by age, sex and race/ethnicity in 2000. Birth data to compute the rates were obtained from the Texas Department of Health and data on women by age (10-49 years) and race/ethnicity were obtained from the 2000 Census of Population. These data showed total fertility rates for Anglos, Blacks, Hispanics and the Other racial/ethnic group in 2000 that were 1.92, 2.05, 2.85 and 1.89 respectively.

### *Mortality Rates*

To obtain baseline mortality measures, survival rates by single years of age, for both sexes and for each of the racial/ethnic groups were needed. Survival rates for Anglos, Blacks, Hispanics, and the Other racial/ethnic category were computed using death data from the Texas Department of Health for 1999, 2000 and 2001.

### *Migration Rates*

Migration is the most difficult component process to project and for which to obtain baseline rates. For the Texas State Population Estimates and Projections Program's projections, rates were derived using a standard residual migration formula. Thus, births and deaths by age, sex and race/ethnicity cohort were added or subtracted (as appropriate) to the 1990 population to produce an expected 2000 and for post-2000 projections expected populations for later periods. This expected population was compared to the actual Census count to estimate net migration for 1990-2000 and subsequently for later post-2000 time periods.

## **Projection of Trends in Fertility, Mortality and Migration**

An examination of post-2000 patterns in 2004 revealed that the projections of future survival rates for persons 75 years of age or older were underestimated and fertility rates for Anglos and Hispanics were assumed to decline too rapidly. These (2008) projections show the same fertility and mortality (survival) rates for future periods as used in the 2004 projections. Long-term target levels remained as in the 2001 projections but fertility and survival levels found to prevail for 2000-2004 were assumed to continue to 2005 and trended linearly after that to targeted levels for 2030 and thereafter.

### *Projections of Fertility*

To project future rates of fertility, county and State-level projections were assumed to follow historical patterns and trends. Trends in fertility were based on 1990 to 2001 trends in fertility. Evaluation of these age and race/ethnicity-specific fertility rates in Texas showed patterns of slightly increased fertility among Anglos from 1990-2000. Rates for Blacks showed a decrease of nearly 14 percent from 1990 to 2000. Hispanics showed a decline of more than 6 percent in fertility from 1990 to 2000. Anglo total fertility rates were 1.80 in 1990 and increased to 1.92 by 2000. The rates of the Other racial/ethnic group decreased from a total fertility rate of 2.04 in 1990 to 1.89 in 2000. The Black total fertility rate decreased from 2.38 in

1990 to 2.05 by 2000. The total fertility rate of Hispanics showed a decline from 3.05 in 1990 to 2.85 in 2000.

Given these patterns and the well established long-term pattern of decline in fertility in other developed nations (Frejka and Kingkade, 2001) and the decline in fertility among Black, Hispanics and Others from 1990 to 2000, rates were trended downward for the projection period with a lower limit set to be equal to the average fertility for low-fertility European counties in 2000, rates many believe are at levels unlikely to be reduced further (Frejka and Kingkade, 2001). For all groups 2000 rates were trended to 2000-2004 levels and were assumed to reach target levels indicated below. For Anglos, the 2000 total fertility rate of 1.92 was assumed to reach the total fertility levels of 1.60 by 2030, and remain at that level for the remainder of the projection period. For the Other population group, fertility is assumed to be reduced to 1.6 by 2030, and remain at that level. Black rates are assumed to show declines from a total fertility rate of 2.05 in 2000 to 1.60 in 2030 and later. Hispanic fertility is assumed to decline from 2.85 in 2000 to 2.35 in 2030, and 2.20 in 2040. Total fertility levels were interpolated for intermediate years between the target years and age and race/ethnicity specific rates for women 10-49 years of age developed for each TFR for each year assuming the age structure of fertility for 2000. This produced State-level age and race/ethnicity specific birth rates for each year from 2000 through 2040.

For the projections reported here, single-years of age, sex and race/ethnicity specific fertility rates and total fertility rates for 2000 were computed for counties using the data and procedures described above. The counties' trends in fertility for the projection period from 2000 to 2040 were then projected by assuming that the county's future fertility would follow the State trend.

Specifically, this involved computing a ratio between the age and race/ethnicity specific birth rate for each age and racial/ethnic group for each county and the comparable State age and race/ethnicity specific birth rate for 1999-2001. This ratio for each age and race/ethnicity specific birth rate for each county was then multiplied by the projected State rate for each of the projection years with the State rates used in the multiplication being those with the trends noted above.

#### *Projections of Mortality*

The projections of mortality for the projection period were made with county and state rates being assumed to follow national trends for the projection period and 1999-2001 county and state age, sex and race/ethnicity survival rates being ratioed to national age, sex, and race/ethnicity specific survival rates. The national rates were obtained from the Population Projections Branch of the U.S. Bureau of the Census and reflect recent longterm projections of mortality (Hollmann et al., 2000; U.S. Bureau of the Census, 1996; 2000).

Survival rates were ratioed to the projected survival rates for the Nation. The national projections used show a life expectancy for Anglo males of 73 in 1990, and 81 by 2050. For Anglo females the values were 80 and 86. The values for Black males were 66 and 71 and for females were 74 and 79. The life expectancies for Hispanics were 75 and 81 for Hispanic males and 83 and 87 for Hispanic females. For Others the values were 78 years for males for 1990 and 85 for 2050, and 85 and 91 for females. Life table survival rates for the State and counties for 2000 were ratioed to national rates for 2000 and these rates applied to projected national rates for each year from 2000 through 2040.

#### *Projections of Migration*

The migration component is the most difficult to project. For the Texas State Population Projection Program's projections, the age, sex and race/ethnicity specific net migration rates (calculated in the manner described above) were used to arrive at four alternative scenarios (described in the following pages) by systematically altering the assumptions related to the entire set of age, sex, and race/ethnicity specific net migration rates. No attempt was made to develop separate scenarios for specific age groups or to formulate scenarios using different assumptions for each of the racial/ethnic groups.

*Special Considerations in the Projection of Component Rates*

The computation and projection of fertility and migration rates at the county level is sometimes problematic for counties with small population bases. Given the use of 4 racial/ethnic groups, 2 sexes and 85 age groups, a total of 680 cells of data were employed for each county. In counties with small populations in which either the baseline population used as the denominator to compute rates and/or the number of events used in the numerator (i.e., births or net migrants) was too small to produce reliable and reasonable rates, it was necessary to develop a means of obtaining reasonable rates.

In order to obtain reasonable rates for counties for which problems were identified, rates for larger groupings of areas with characteristics similar to the counties for which alternative rates were necessary were used to develop homogenous groupings of areas. Council of Government Regions and county types within regions were used. All counties within Council of Government (COG) regions were thus divided into four groups--metropolitan central city counties, metropolitan suburban counties, nonmetropolitan counties that are adjacent to metropolitan counties, and nonmetropolitan counties that are not adjacent to metropolitan counties. The rates for these groupings were used because analyses across time have indicated that the rates for these 4 types show substantial homogeneity across areas within each grouping but substantial differences among the groupings. Rates were completed for each of these four county types within each region and for the four types for the State as a whole (by using the aggregate populations of counties within each type within each region and/or the total State population by type).

For counties with problematic rates, rates for the county type of which the county was a member for the COG region where the county was located were substituted only for the problematic rates for those age, sex, and race/ethnicity groups for which the rates computed with the county's own population data were deemed to be problematic. For a few regions for a few racial/ethnic groups, even the COG rates were problematic. In such cases, the State rate for the county type was substituted for the county rate. Finally, in a very few cases even the state-level status was not acceptable and the overall state rate for the racial/ethnic group was used. It is important to stress that this procedure does not result in the rates for all age and sex groups for a given racial/ethnic group being replaced by regional or State averages. Rather, replacements are made for only those rates for age, sex, and racial/ethnic cohorts within counties which had problematic values. Thus, county-level differentials in demographic patterns are maintained in the population projections.

Counties were deemed to have unreasonable age-specific fertility rates if they exceeded the mean rates for an age race/ethnicity group for the county type of which they were a part by more than two standard deviations or were greater than 25 percent for any single year for any age, sex and race/ethnicity group. State-level age specific fertility rates for the county types were used for substitutions for fertility because of instability even in COG level rates. In addition, data on the fertility levels of women in the Other group indicated that only a few counties had age-specific rates that were sufficiently stable to be used in the projections. For all other counties, the age and race/ethnicity specific rates used for the Other racial/ethnic group were the State-level age, sex and race/ethnicity specific rates for the Other race/ethnicity group.

Migration rates are more variable across areas such that the use of means was not possible and would have improperly altered rates for rapidly and slow growing areas. Limits were used instead of statistical means. These limits were based on the upper and lower limits seen as feasible for migration. Unreasonable migration rates were designated as those in which per-person-per-year rates were 0.10 or greater (a rate that allows up to 10% migration per single-year age group per year). Since migration rates can have either positive or negative values, this allowed migration rates to vary between -0.10 and 0.10 per-person-per-year for each age, sex and race/ethnicity cohort. The counties identified as having problematic fertility and/or migration rates were largely nonmetropolitan, most with relatively small populations.

Although the procedure described above was generally adequate for rate adjustments, for some counties the migration rates were problematic in yet another manner. The use of historical rates often resulted in substantially higher rates of net migration for one sex than the other. Such an imbalance

cannot be expected to continue over the entire projection period. The ratio of male rates relative to female rates for each age was examined by computing means for each ratio and analyzing standard deviations for such means. From this analysis, it was decided that a ratio greater than 2 should result in a replacement of the migration rate. Given this, rates were adjusted to be no larger than twice the ratio of male to female rates or visa versa at the COG and State levels within county types for the same age, sex, and race/ethnicity group (i.e., metropolitan central city, metropolitan suburban, nonmetropolitan adjacent, and nonmetropolitan nonadjacent). If the ratio of male to female migration rates for a county of a given type for any age exceeded this limit for the COG type, its rate for that age, sex, and race/ethnicity was replaced with that for the county type for the COG. If the COG's rate for the county type was still problematic, the rate for that county type for the State as a whole was substituted for the county rate. Again, as for fertility and mortality rates, for a very few rates for a few areas even state-level county-type specific rates were unacceptable and state-level rates by age, sex, and race/ethnicity were used. The use of this procedure resulted in substantially more balanced sex ratios in the final projections.

### **The Computation and Selection of Future Projection Scenarios**

In this section, both the assumptions underlying the projection scenarios and the final computational procedures are described. For both, the emphasis is placed on the logic underlying the scenarios and procedures rather than on the detailed computational processes. Those interested in greater detail may consult several readily available references on the subject (Murdock et al., 1987; Pittenger, 1976; Murdock and Ellis, 1991; Smith, Tayman and Swanson, 2001) or may contact the personnel involved in the Projection Program in the State Demographer's Office in the Institute for Demographic and Socioeconomic Research at the University of Texas at San Antonio.

#### *The Projection Scenarios*

Four projection scenarios which produce four alternative sets of population values for the State and each county are presented in these projections. These scenarios assume the same set of mortality and fertility assumptions in each scenario but differ in their assumptions relative to net migration. The net migration assumptions made for three scenarios are derived from 1990-2000 patterns which have been altered relative to expected future population trends. This is done by systematically and uniformly altering the adjusted (as noted above) 1990-2000 net migration rates by age, sex and race/ethnicity. The scenarios so produced are referred to as the zero migration (0.0) scenario, the one-half 1990-2000 (0.5) scenario, and the 1990-2000 (1.0) scenario. The fourth scenario uses 2000 to 2007 estimates of net migration with the 2007 population values being taken from the Texas State Data Center age, sex and race/ethnicity estimates.

#### *The Zero Migration (0.0) Scenario*

The zero scenario is a scenario which assumes that immigration and outmigration are equal (i.e., net migration is zero) resulting in growth only through natural increase (the excess or deficit of births relative to deaths). This scenario is commonly used as a base in population projections and is useful in indicating what an area's indigenous growth (growth due only to natural increase) will be over time. In general, this scenario produces the lowest population projection for counties with historical patterns of population growth through net immigration and the highest population projection for counties with historical patterns of population decline through net outmigration.

#### *The One-Half 1990-2000 Migration (0.5) Scenario*

This scenario has been prepared as an approximate average of the zero (0.0) and 1990-2000 (1.0) scenarios. It assumes rates of net migration one-half of those of the 1990s. The reason for including this scenario is that many counties in the State are unlikely to continue to experience the overall levels of relative extensive growth of the 1990s. A scenario which projects rates of population growth that are

approximately an average of the zero and the 1990-2000 scenarios is one that suggests slower than 1990-2000 but steady growth.

#### *The 1990-2000 Migration (1.0) Scenario*

The 1990-2000 scenario assumes that the trends in the age, sex and race/ethnicity net migration rates of the 1990s will characterize those occurring in the future of Texas. The 1990s was a period characterized by rapid growth. It is seen here as the high growth alternative because its overall total decade pattern is one of substantial growth (i.e., 22.8% for the 1990-2000 decade for the State). Because growth was so extensive during the 1990s it is likely to be unsustainable over time and thus this scenario is presented here as a high growth alternative. For counties that experienced net outmigration during the 1990s, this scenario produces continued decline.

#### *The 2000-2004 Migration Scenario*

The 2000-2004 migration scenario was produced in 2006 and takes account of migration trends between 2000-2004. Because migration in the 2000-2007 period was influenced by the one-time event of substantially elevated migration after Hurricane Katrina struck the Central Gulf Coast in 2005, The Office of the State Demographer has decided to retain the 2000-2004 migration scenario as an alternative to the 2000-2007 scenario that may more accurately convey trends in the state and in impacted counties in the first decade in the century. An analysis of substantial differences between the two scenarios will be posted on this website shortly.

#### *The 2000-2007 Migration Scenario*

The 2000-2007 projection scenario provides a scenario that takes into account post-2000 population trends. In the State overall and in some counties the post-2000 period has resulted in reduced levels of net migration. In other counties post-2000 net migration rates have been greater than those of the 1990s. Under this scenario the 2000-2007 age, sex and race/ethnicity specific migration rates are assumed to prevail from 2000 through 2040. This scenario allows those users who believe that the 2000-2007 period has produced fundamental long-term changes in population patterns to ascertain the likely future size and characteristics of the population.

#### *Computation of Future Populations*

Given the projected rates and scenarios noted above, the computation of the projected population was completed using standard cohort-component techniques as described above with all computations being completed on an individual year and age basis for each sex and racial/ethnic group. Base population values for 2000 were used as the starting values and populations were projected for each year from 2001-2040. Because of the need to ensure that the sum of county projections produces reasonable future populations for the State as a whole, the State's future population by age, sex and race/ethnicity was first independently projected under each of the scenarios described above. County base cohorts were projected to the projection date and projected special populations added to the projected base populations for the appropriate counties. Projected populations of colleges and universities for future years were taken from projections by the Texas Higher Education Coordinating Board (2007), values for existing prison populations and correspondence concerning plans for future prison facilities were acquired as of August 2008 from the Texas Department of Criminal Justice. All other institutions were maintained at 2000 levels as indicated in the 2000 Census. The State-level projections were then used as control totals for the sum of county projections for each age, sex and racial/ethnic group. The projections so produced and controlled for each scenario are those provided here as projections of the population of the State and of each county in the State.

### *Recommended Scenario*

Many users want to know which projection scenario to use for various forms of analysis and thus we generally recommend a specific scenario for use in most counties. At the same time, it is important to note that other scenarios may be more appropriate for a given county for a given period of time.

From our analyses of these projection scenarios, we believe that the 0.5 scenario continues to be the most appropriate scenario for most counties for use in long-term planning. This recommendation is made for several reasons.

First, the 1990-2000 period was one of expansive growth in the Texas economy. The early years of the 21<sup>st</sup> century have been far more varied. A general slowdown in the U.S. and Texas economies between 2000 and 2005 slowed population growth in many parts of the state. Between 2005 and 2008, Texas again became a national leader in both job and population growth. The Texas economy performed exceptionally well as the nation's economy faltered in 2007 and early 2008, contributing to high rates of domestic in-migration to the state in these years. At this writing in December 2008, the immediate future of job growth and consequent population growth is far from clear. It seems unwise to use the rapid growth of the 1990s as the baseline for the future given this evidence of more erratic growth in the post-census period.

Second, the 2000 Census count showed a substantially larger U.S. and Texas population than was anticipated. One of these reasons was an apparent small net overcount of total population in census 2000, compared to a net undercount in the 1990 Census (U.S. Bureau of the Census 2003). Since residual migration measures assign coverage improvement to the migration component, it is likely that the migration rates for some groups, for some periods, and for some counties for the 1990 to 2000 period are too high. This consideration would suggest the advisability of use of a more moderate rate of growth scenario than the 1.0 scenario.

Third, although the scenarios use trends in births and deaths, they assume constant levels of migration. Such an assumption is used because of the lack of historical data of sufficient specificity to trend these rates over time. Our analyses of such rates suggest that it is unlikely that such trends (especially in some key groups) will continue at the level of the 1990s. At the same time, the overall direction of trends and differences among racial/ethnic groups seem likely to continue suggesting the need for the use of a scenario that is based on 1990-2000 trends in migration but shows slower growth—the 0.5 scenario.

As noted above, we recommend the 0.5 scenario for the long-term planning purposes for which these projections are produced. However, for those who intend to use the projections for relatively short-term (i.e., 3-10 year) planning purposes or who believe that the more recent period is indicative of long-term trends, either the 2000-2004 or the 2000-2007 scenario may be preferable.

The 2000 to 2004 scenario derives its migration factors from population trends from a period of relatively slow job growth in many areas of the state. For the period from 2004 to 2007, by contrast, domestic migration to the state was relatively strong, reflecting the influence of both the generally robust employment growth in the state in this period, and increased migration from the Gulf Coast states impacted by Hurricane Katrina after August 2005. Katrina-related migration led to modest increases in population in the state, particularly in the largest metropolitan counties of Harris, Dallas, and Bexar. Precise storm-related impacts are difficult to quantify and localize. The impact of migration factors influenced by Katrina-induced population growth on the later years of the 2000-2007 scenario compared to the 2000-2004 scenario on these counties may be substantial. The 2000-2004 scenario may be considered as an alternate to the 2000-2007 scenario where a shorter-term projection is needed.

### Data Available from the Projections

The data produced in the process of completing the projections presented here and the data summarizing the projections themselves are extensive. The amount of data available for the State and each of 254 counties for three scenarios of growth, for each year from 2000 through 2040 for each of 85 age groups for 2 sexes and 4 racial/ethnic groups is too voluminous to be provided in its entirety in printed form. Thus, data are provided in several different forms to address the needs of different user groups.

This publication describes the projection methodology and provides several appendices showing the base populations for the State for 2000, and the base rates for fertility, mortality and migration for 2000 for the State. Due to the volume of data involved, rates for other years and areas will be provided only on request.

Because of the volume of data, printed data are provided only on request. The fully detailed projections of the population in each age, sex and racial/ethnic group for each county and the State for each year from 2000 through 2040 are available in electronic forms for the State and all counties in the State.

To obtain the printed copy of this report or to obtain computerized forms of the data users should contact:

Office of the State Demographer  
Texas State Data Center  
Institute for Demographic and Socioeconomic Research  
The University of Texas at San Antonio  
One UTSA Circle  
San Antonio, TX 78249-0704  
(210) 458-6530

E-mail: [txsdc@utsa.edu](mailto:txsdc@utsa.edu)  
URL: <http://txsdc.utsa.edu/>

All data are available on a cost-recovery basis.

## References

- Frejka, Tomas and W. Ward Kingkade  
 2001 **Why is American Fertility So High?** Paper presented at the Conference of the U.S. Bureau of the Census. "The Direction of Fertility in the United States", October 2-3, 2001, Alexandria, VA.
- Hollmann, Frederick W., Tammany J. Mulder, and Jeffrey E. Kallan  
 2000 **Methodology and Assumptions for the Population Projections of the United States: 1999 to 2100.** Population Division Working Paper No. 38. Washington, D.C.: U.S. Bureau of the Census.
- Murdock, Steve H., and David R. Ellis  
 1991 **Applied Demography: An Introduction to Basic Concepts, Methods and Data.** Boulder, Colorado: Westview Press.
- Murdock, Steve H., Rita R. Hamm, Sean-Shong Hwang, and Kenneth Backman  
 1987 **Population Projections: A Review of Basic Principles, Practices and Methods.** College Station: Texas Agricultural Experiment Station.
- Pittenger, Donald  
 1976 **Projecting State and Local Populations.** Cambridge, MA: Ballinger Publishing Company.
- Smith, Stanley, Jeff Tayman, and David A Swanson  
 2001 **State and Local Population Projections: Methodology and Analysis.** New York, NY: Kluwer Academic/Plenum Publishers.
- Texas Department of Criminal Justice  
 2005 Personal Communication with Information Technology Division, Texas Department of Criminal Justice, Huntsville, Texas.
- Texas Higher Education Coordinating Board  
 2007 **Participation and Forecast, 2005-2020.** Austin, Texas: Texas Higher Education Coordinating Board.
- Texas Population Estimates and Projections Program  
 2001 **Projections of the Population of Texas and Counties in Texas by Age, Sex and Race/Ethnicity for 2000-2040.** Austin: Texas State Data Center, Texas A&M University System.
- Texas Population Estimates and Projections Program  
 2004 **Projections of the Population of Texas and Counties in Texas by Age, Sex and Race/Ethnicity for 2000-2040.** San Antonio: Texas State Data Center, The University of Texas at San Antonio.
- Texas Population Estimates and Projections Program  
 2006 **Projections of the Population of Texas and Counties in Texas by Age, Sex and Race/Ethnicity for 2000-2040.** San Antonio: Texas State Data Center, The University of Texas at San Antonio.
- United States Bureau of the Census  
 2001a Census 2000 **Redistricting Data (Public Law 94-171)** [machine-readable data files]. Prepared by the U.S. Census Bureau.

2001b **Summary File 1** [machine-readable data files]. Prepared by the U.S. Census Bureau.

2003 Decision on Intercensal Population Estimates. March 12, 2003 <http://www.census.gov/dmd/www/dipe.html>

United States Bureau of the Census, Population Divisions, Population Projections Branch

1996 **Population Projections of the United States by Age, Sex, Race, and Hispanic Origin: 1995 to 2050.** Washington, D.C.: U.S. Bureau of the Census.

2000 **Methodology and Assumptions for the Population Projections of the United States: 1999 to 2100.** Population Division Working Paper No. 38. Washington, D.C.: U.S. Bureau of the Census.

## Appendices

- Appendix A: Comparing Race/Ethnicity Between the 2000 Census and Earlier Censuses
- Appendix B: Baseline Population by Age, Sex and Race/Ethnicity for 2000 for the State of Texas
- Appendix C: Baseline Survival Rates by Age, Sex and Race/Ethnicity for 1999-2001 for the State of Texas
- Appendix D: Baseline Fertility Rates by Age and Race/Ethnicity for 1999-2001 for the State of Texas
- Appendix E: Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 1990-2000 for the State of Texas
- Appendix F: Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 2000-2004 for the State of Texas
- Appendix G: Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 2000-2007 for the State of Texas

## **Appendix A**

Comparing Race/Ethnicity Between the  
2000 Census and Earlier Censuses

# Comparing Race/Ethnicity Between the 2000 Census and Earlier Censuses

## Introduction

The 2000 Census provides the most complete data ever made available for examining the racial and ethnic diversity of the population of the United States. By allowing respondents to mark **one or more** racial categories on the census questionnaire, it allowed respondents for the first time in decennial census history to indicate multiple racial backgrounds. It thus provides an essential set of data for bench marking the racial and ethnic diversity of the U.S. population.

For those who wish to assess changes in racial/ethnic groups between 2000 and earlier censuses, the data present certain challenges, however. The difficulty lies in knowing how to combine 2000 race/ethnicity categories so that they are comparable to those used for earlier periods. This arises because the combinations of the six racial groups used in the 2000 Census result in 63 separate racial categories and, if these are divided into those of Hispanic and those not of Hispanic origin, there are 126 combinations of race/ethnicity. This is a substantially larger number of categories than the 10 racial/ethnic categories available from the 1990 Census. It is impossible to make the results of the 2000 racial/ethnic categories completely comparable to those for earlier censuses because the census did not ask respondents indicating membership in multiple racial groups in 2000 to indicate how they responded to the race question in earlier censuses. **In attempting to compare race/ethnicity data from the 2000 Census to those for earlier periods it is thus essential to realize that any comparisons to periods before 2000 will be approximations with greater or lesser degrees of comparability. Absolute comparability is not possible.**

Despite this we believe it is possible in most areas in Texas to construct categories that are at least roughly comparable to those for earlier decades. In this brief writeup, we present alternatives for combining 2000 categories to produce historically comparable values and the assumptions underlying the alternatives presented. We also present our recommendation regarding which of the alternatives we believe is the best for most areas in Texas. In so doing, we realize that not all analysts will agree with the assumptions we have made (and describe below) in arriving at this recommendation and we thus present the data necessary for users to construct alternative categories.

## 2000 Census Data on Race and Ethnicity for Texas

Before examining the implications of using alternative assumptions to allocate populations in racial groups to categories which allow for comparisons between the 2000 and earlier censuses, it is useful to examine 2000 Census data to determine the distribution of the Texas population among the 63 racial categories (for Hispanics and non-Hispanics, a total of 126 categories) used in the 2000 Census. **Table 1** shows data on the total number of persons in each of the 63 race categories for persons of Hispanic Origin and Not of Hispanic Origin for the State of Texas from the 2000 Census. Overall, an examination of these data for the total population show substantial concentration of the Texas population in a relatively few racial/ethnic groups, most of which are single race groups. Thus of the total population of Texas in 2000, 97.5 percent is accounted for by the six single race groups of White; Black; American Indian and Alaska Native; Asian; Native

Hawaiian and Pacific Islander; and Some Other Race. The 15 categories of two-race combinations account for only 2.4 percent of the Texas population and the 42 categories involving three or more races account for only 0.09 percent of the population. Examined alternatively, although there are one or more persons in 62 of the 63 categories, however, there are 500 or fewer persons (0.02 percent of the population) in 36 of these categories and less than 10,000 persons (10,000 being equal to 0.05 percent of the population) in 51 categories. The Texas population is therefore substantially concentrated in a few racial groups.

### **Assumptions Underlying Allocation Alternatives**

Our analyses for several years has examined four large mutually exclusive race/ethnicity groups--Anglos (non-Hispanic Whites), Blacks (non-Hispanic Blacks), Hispanics (of all races), and an Other category which consists of non-Hispanic persons from all other racial categories, with a majority of this group consisting of Asians. Although this categorization results in a lack of detailed data for some groups, it has allowed for comparisons across time that are based on sufficiently large numbers of persons to allow meaningful comparisons to be made and provides totals across race and Hispanic Origin groups that equal the total population. In the analysis reported here we attempt to maintain comparability with these categories. To do so it is necessary to make certain assumptions about how specific multi-race categories of persons should be allocated and these assumptions are noted below. It is necessary to make specific allocation assumptions about:

1. The Hispanic population;
2. The population of non-Hispanic persons indicating three or more racial groups;
3. The population of non-Hispanic persons in single race groupings;
4. The population of non-Hispanic persons in categories involving two racial groups.

### **Assumptions About the Hispanic Population**

In our historical analyses we have used Hispanics as a category such that all Hispanics, no matter what their race, were placed in the Hispanic group. This decision was made based on the fact that Hispanics are relatively concentrated in just a few racial groups and most indicate Mexican or Mexican-American, Puerto Rican or Cuban origins, persons for whom Hispanic Identification is generally dominant. For example, in 1990, 57.2 percent of Hispanics were White, 41.1 percent were members of the Other racial group, 1.0 percent were Black, and about 0.3 percent were of American Indian heritage and 0.4 percent of Asian or Pacific Islander heritage. More than 90 percent were Mexican American, Puerto Rican or Cuban.

In 2000, the patterns for persons of Hispanic Origin are similar to those in 1990. An examination of the Hispanic Origin subsection of **Table 1** indicates that the three categories of White and Some Other Race, alone and in combination with each other, account for 97.7 percent of all Hispanics. Only 0.7 percent indicate they are American Indian or Alaska Natives, 0.6 percent indicate that they are Black, 0.1 percent Asian, and 0.06 percent indicate that they are Native Hawaiian and Pacific Islander. That is a total of 99.2 percent of all Hispanics are in these seven categories. Only 0.8 percent are in the remaining 56 categories. Similarly, other analyses not shown here, indicates that 77.5 percent are of Mexican American, Puerto Rican or Cuban heritage. The two largest groups of Hispanics outside of the White and Some Other Race Groups

(with which Hispanics have traditionally identified) are Hispanics of Black and those of Native American heritage. The proportion and number of Black Hispanics are lower than in 1990 and the proportion of Hispanics who identify as American Indian or Alaskan Native is relatively small and American Indian is a traditional racial identification for many Mexican Americans. In addition, other analysis not shown here indicates that roughly 90.0 percent of American Indians of Hispanic Origin and 90.0 percent of Blacks of Hispanic Origin in 2000 indicate that they are Mexican American, Puerto Rican or Cuban. Given the similarity in the race identification of Hispanics between 1990 and 2000 and the high concentration of Hispanics in groups with traditionally high levels of identification with Hispanics, we have chosen to again use Hispanics as a single group with all persons of Hispanic origin of all races being considered Hispanics for purposes of cross time, longitudinal, comparisons.

### **Assumptions about Non-Hispanic Population Racial Groups**

Given the decision to use all Hispanics as a group, assumptions still must be made about race combinations for the non-Hispanic population. The assumptions related to this are described below.

#### **Assumptions about Non-Hispanic Populations Indicating Membership in Three or More Race Groups**

Forty-two of the 63 racial groups involve persons who identify themselves as members of 3 or more racial/ethnic groups. However, in Texas only 0.093 percent of the non-Hispanic population (and, as noted above, only 0.09 percent of the total population) was in such groups. These groups are very diverse and cannot be easily allocated to any of the Hispanic, Anglo or Black groups. In addition any attempt to allocate parts of these groups to the subcategories leads to extensive difficulties in using such data for other purposes. For example, if parts of a three-race subgroup are allocated to different race groups, then any data on other characteristics will require similar allocations that may be extremely difficult to actuate. Given the small size and diversity of these groups, we allocate persons in all of these three or more racial group categories of non-Hispanics to the Other category.

#### **Assumptions About Single Race Groups of Non-Hispanics**

The six single race groups included in the 2000 Census are: White, Black, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and persons from Some Other Race. Consistent with 1990 we allocate these single race non-Hispanics to the four racial/ethnic groups we have used historically as follows: non-Hispanic Whites are allocated to the Anglo; Non-Hispanic Blacks to the Black category; and Non-Hispanic persons of American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or Some Other Race to the Other category.

#### **Assumptions About Non-Hispanic Populations Indicating Membership in Two Race Groups Only**

To summarize, to this point, Hispanics have been considered as a single group, all persons with three or more racial group identities have been placed in the Other category and all of the single race categories allocated as noted above. All 63 racial categories of Hispanics and 6 single race

and 42 three or more race groups of Hispanics have thus been allocated.

This leaves 15 categories of two-race combinations of non-Hispanics to be allocated to one of the four groups (Anglo, Black, Hispanic, or Other). These 15 categories include:

- (1) White and Some Other Race;
- (2) Black and Some Other Race;
- (3) American Indian and Alaskan Native and Some Other Race;
- (4) Asian and Some Other Race;
- (5) Native Hawaiian and Other Pacific Islander and Some Other Race;
- (6) White/Black;
- (7) White/American Indian or Alaska Native;
- (8) White/Asian;
- (9) White/Native Hawaiian or Other Pacific Islander;
- (10) Black/American Indian or Alaska Native;
- (11) Black/Asian;
- (12) Black/Native Hawaiian or Other Pacific Islander;
- (13) American Indian and Alaska Native and Asian;
- (14) American Indian and Alaska Native and Native Hawaiian and Other Pacific Islander;
- (15) Asian and Native Hawaiian and Other Pacific Islander.

Although these 15 categories include only 2.4 percent of Texas residents, we believe that it is the allocation of these groups that represent the major challenges for those wishing to compare 2000 race/ethnicity data to those for earlier periods. The assumptions made in regard to these groups differentiate the four alternatives presented in this analysis. These assumptions are described below.

### **Assumptions Underlying Allocation Alternatives for Historical Comparisons**

In the analysis of alternatives for providing data appropriate for historical comparisons we present four allocation alternatives that we believe reflect logical assumptions for allocating racial groups of non-Hispanics to the Anglo, Black, Hispanic, and Other race/ethnicity categories. The assumptions made for Hispanics and each of the 63 racial groups of non-Hispanics under each of the 4 alternatives is shown in **Table 2**. These alternatives are clearly not all of the combinations that can be examined, but we believe they are among the most useful. Given the relatively small number of persons in the multiple race categories, the examination of a large number of alternatives does not seem merited. Similarly, as noted above, the allocation of parts of multiple race groups to different single race groups leads to allocation difficulties that are not easily resolved as one attempts to examine data on demographic or socioeconomic characteristics for the groups selected (e.g., there are extensive difficulties in using such allocation schemes with age-sex groupings and other demographic and socioeconomic data). Although we have examined the use of these and numerous other procedures prior to selecting Alternatives I-IV for display here, we believe that the examination of these alternatives in conjunction with the complete data shown in **Table 1** provides a useful, yet measured, attempt to arrive at racial/ethnic categories that are useful for historical comparisons. Although this writeup provides data for only the State as a whole, our analysis was based on an examination of data for all counties. Results for counties can be examined at our website (<http://txsdc.utsa.edu>).

### **Assumptions Underlying Alternative I**

In Alternative I, we make several major assumptions. We assume that: (1) Hispanics of all races can be used as a single group; (2) only non-Hispanic persons indicating a race of White alone are categorized as Anglo; (3) only non-Hispanic persons indicating a race of Black alone are categorized as Black; and (4) non-Hispanics of all other single and multiple racial groups alone or in combination can be categorized as Other. This assumption places all persons in the 15 two-race categories noted above and all other multi-racial groups into a single category along with persons who are in the single race combinations of American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, and Some Other Race. This alternative allocates all persons in these groups to the Other category. To allow the user to separate the data for the single race groups in the Other category from the multi-racial groups, separate values for three single race groups within the Other category are shown along with data for a multi-racial category. Because the 1990 Asian and Pacific Islander category is inclusive of the two 2000 categories of Asian and Native Hawaiian and Other Pacific Islander, the values shown are for this combined category. **Table 3** presents the data for this alternative.

### **Assumptions Underlying Alternative II**

Alternative II makes one alternative allocation assumption about the two-race categories. Under this assumption, persons in the two-race categories (1)-(5) of the 15 two-race groups noted above are allocated to one of the 5 groups in which persons indicated two races with one being one of the first five of the six major single race groups (excluding the Some Other Race Alone Category) and the second being Some Other Race. That is, we assume that persons who indicated that they were non-Hispanic White and Some Other Race can be categorized as non-Hispanic White; those indicating they were non-Hispanic Black and Some Other race can be categorized as non-Hispanic Black; those indicating they were non-Hispanic Asian and Some Other Race can be considered as non-Hispanic Asians, etc. The assumption is that persons who indicate a major race identification and Some Other Race are likely to indicate the major race group if they were asked to indicate a single race. These groups all contain relatively small numbers of people with the sum of all such groups accounting for only 0.4 percent of the total non-Hispanic population in Texas.

Given the above, we allocate the 5 Single in combination with Some Other Race categories of non-Hispanics among the four categories of Anglo, Black, Hispanic, and Other as follows: person in the category of non-Hispanic White and Some Other Race were considered to be Anglo; persons who are non-Hispanic Black and Some Other Race are categorized as Black; and non-Hispanic persons in the American Indian or Alaska Native, Asian, Native Hawaiian and Pacific Islander, and Some Other Race were placed in the Other racial/ethnic group category. All other two and three race combinations of non-Hispanics are also placed in the Other non-Hispanic category. All Hispanics are again allocated to the category of Hispanic. The data for this alternative are shown in **Table 4**. Again the values for the subcategories of Asians and Native Hawaiian and Other Pacific Islanders, American Indians and Alaska Natives, combined with Some Other Race and the Some Other Race totals are shown along with a remaining multi-race category of persons.

### **Assumptions for Alternative III**

Alternative III uses identical assumptions to those in Alternative II with one exception. The two-race combination of White/Black is allocated from the Other category to the Black category. The assumption here is that Black is a dominant identification relative to White in American Society.

Overall, then, this alternative allocates all Hispanics to the Hispanic category; non-Hispanic Whites alone or with Some Other Race to Anglo; non-Hispanic Blacks alone or with Some Other race and persons identifying themselves as Black and White to the Black category, and persons in all other categories to the Other category. Again persons in the Asian and Native Hawaiian and Other Pacific Islander, and American Indian and Alaska Native, in Combination with Some Other Race are shown as separate totals within the Other category, as well as a Some Other Race Alone total, and an all Others in a two or more races multi-racial category. The results for this alternative are shown in **Table 5**.

#### **Assumptions for Alternative IV**

In Alternative IV, all of the assumptions in Alternative III are retained except that persons in the two race combinations including White, that is categories (7), (8), and (9) shown above are included in the Anglo category while those in (10), (11), (12) as well as (6) are included in the Black category. This assumes that within two-race categories that include Whites or Blacks, White and Black are dominant in terms of identification and that Black identification is dominant in the White/Black Combination. The results of this analysis are shown in **Table 6**.

#### **Recommendations Regarding Allocation Alternatives**

The four alternatives have different advantages and disadvantages. Alternative I requires no assumptions about multi-racial groups except the assumption that Hispanics of all races can be included as a group. Alternative II-IV involve increasing amounts of allocation which allow the user to discern the level of allocation they believe feasible. Strictly for purposes of making comparisons between the four categories of Anglo, Black, Hispanic, and Other from 1990 to 2000, we believe that Alternative IV is to be recommended for most uses. This recommendation is based on the fact that it appears to provide values that are most reasonable relative to population change in the Anglo, Black, and Hispanic groups and within the Other group. As shown in **Table 7**, when one examines 1990-2000 change in the American Indian, and Asian and Pacific Islander groups (the latter obtained by comparing 1990 values to 2000 sums for the Asian and Native Hawaiian and Pacific Islander categories) and compares the rates of change in these to that for the remainder of the Other category, the values shown are most reasonable under Alternative IV. For example, the percentage change in the remaining multi-racial and Some Other Race category is 1,042 percent for Alternative I, 753 percent for Alternative II, 595 percent for Alternative III, and 76 percent for Alternative IV. We believe that the very high percentage growth rates for the Remaining multi-racial and Some Other Race category for the first three alternatives are likely to indicate changes in categorizations rather than true numerical increases. The values for Alternative IV seem more reasonable for all groups. We have also examined the four alternatives relative to their variation from expected historical patterns and Alternative IV again appears to be the most reasonable. Clearly other reasonable values could be obtained by other combinations but we believe Alternative IV represents a logical alternative for many uses.

#### **Conclusion**

It is important to again acknowledge that the assumptions made in this analysis are only some of numerous alternative sets of assumptions that might be made. We believe those employed here are reasonable and produce a measured set of values with high levels of comparability to data for past periods. However, the advantage of the detailed data provided in the 2000 Census is that it allows users to examine numerous alternatives representing different assumptions about racial

identification. Therefore, users who disagree with the assumptions made here have, in the data provided in **Table 1**, the information necessary to examine numerous other sets of alternatives for allocating racial groups.

**Appendix B**

Baseline Population by Age, Sex and  
Race/Ethnicity for 2000 for the  
State of Texas

Appendix B: Baseline Population by Age, Sex and Race/Ethnicity for 2000 for the State of Texas

Age	Total			Anglo			Black			Hispanic			Other		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	330,770	169,077	161,693	129,702	66,683	63,019	40,315	20,399	19,916	150,359	76,610	73,749	10,394	5,385	5,009
1	325,393	166,153	159,240	130,504	66,867	63,637	40,632	20,710	19,922	144,077	73,456	70,621	10,180	5,120	5,060
2	321,275	164,562	156,713	129,298	66,586	62,712	40,743	20,645	20,098	140,967	72,197	68,770	10,267	5,134	5,133
3	321,979	164,457	157,522	131,469	67,433	64,036	40,527	20,413	20,114	139,470	71,319	68,151	10,513	5,292	5,221
4	325,211	166,496	158,715	133,820	68,617	65,203	41,591	21,279	20,312	139,411	71,292	68,119	10,389	5,308	5,081
5	323,669	165,607	158,062	134,137	68,789	65,348	41,940	21,340	20,600	137,612	70,381	67,231	9,980	5,097	4,883
6	327,755	167,251	160,504	136,805	70,212	66,593	43,511	22,089	21,422	137,391	69,823	67,568	10,048	5,127	4,921
7	332,544	169,729	162,815	139,458	71,458	68,000	45,202	22,909	22,293	137,913	70,290	67,623	9,971	5,072	4,899
8	334,736	171,051	163,685	144,005	74,140	69,865	44,925	22,744	22,181	136,037	69,150	66,887	9,769	5,017	4,752
9	335,480	171,321	164,159	146,798	75,319	71,479	45,538	22,996	22,542	133,519	68,051	65,468	9,625	4,955	4,670
10	335,067	171,516	163,551	149,513	76,801	72,712	45,844	23,319	22,525	130,074	66,424	63,650	9,636	4,972	4,664
11	324,729	166,177	158,552	147,280	75,673	71,607	43,812	22,397	21,415	123,739	63,021	60,718	9,898	5,086	4,812
12	324,495	165,866	158,629	148,464	76,264	72,200	43,303	21,786	21,517	123,045	62,935	60,110	9,683	4,881	4,802
13	322,343	164,768	157,575	148,794	76,153	72,641	42,548	21,648	20,900	121,605	62,145	59,460	9,396	4,822	4,574
14	324,558	166,199	158,359	151,833	77,811	74,022	42,563	21,618	20,945	120,633	61,918	58,715	9,529	4,852	4,677
15	323,719	165,762	157,957	151,054	77,425	73,629	41,993	21,415	20,578	120,933	61,874	59,059	9,739	5,048	4,691
16	321,759	166,153	155,606	148,833	76,383	72,450	41,261	21,090	20,171	121,777	63,607	58,170	9,888	5,073	4,815
17	331,277	172,588	158,689	150,786	77,664	73,122	42,119	21,705	20,414	128,203	67,896	60,307	10,169	5,323	4,846
18	328,769	171,473	157,296	148,302	76,271	72,031	41,664	21,357	20,307	128,445	68,576	59,869	10,358	5,269	5,089
19	330,708	171,486	159,222	148,868	75,938	72,930	42,180	21,184	20,996	129,037	68,852	60,185	10,623	5,512	5,111
20	323,645	167,509	156,136	143,599	73,009	70,590	41,199	20,716	20,483	128,184	68,263	59,921	10,663	5,521	5,142
21	305,288	157,886	147,402	134,403	67,924	66,479	38,326	18,970	19,356	121,886	65,398	56,488	10,673	5,594	5,079
22	301,030	155,602	145,428	132,250	66,468	65,782	36,209	17,974	18,235	122,156	65,781	56,375	10,415	5,379	5,036
23	303,091	155,747	147,344	131,919	66,305	65,614	35,400	17,301	18,099	124,287	66,186	58,101	11,485	5,955	5,530
24	306,350	158,055	148,295	132,021	66,996	65,025	35,623	17,264	18,359	126,286	67,450	58,836	12,420	6,345	6,075
25	311,930	160,384	151,546	135,754	68,641	67,113	35,862	17,545	18,317	127,084	67,520	59,564	13,230	6,678	6,552
26	303,476	154,991	148,485	132,287	66,898	65,389	36,189	17,511	18,678	121,562	63,742	57,820	13,438	6,840	6,598
27	314,043	160,279	153,764	138,334	69,601	68,733	37,813	18,484	19,329	123,642	65,056	58,586	14,254	7,138	7,116
28	324,600	164,832	159,768	149,744	75,615	74,129	38,805	18,800	20,005	121,526	63,214	58,312	14,525	7,203	7,322
29	337,473	170,479	166,994	161,619	81,205	80,414	40,315	19,280	21,035	120,712	62,571	58,141	14,827	7,423	7,404
30	335,077	170,709	164,368	161,327	81,841	79,486	39,258	18,851	20,407	119,654	62,638	57,016	14,838	7,379	7,459
31	312,853	158,766	154,087	150,882	76,008	74,874	36,444	17,557	18,887	111,454	58,103	53,351	14,073	7,098	6,975
32	306,471	155,966	150,505	146,932	74,464	72,468	37,042	17,828	19,214	109,424	57,129	52,295	13,073	6,545	6,528
33	303,179	153,804	149,375	147,728	74,703	73,025	37,091	17,859	19,232	106,006	55,147	50,859	12,354	6,095	6,259
34	312,981	158,806	154,175	153,327	76,906	76,421	38,884	18,797	20,087	107,788	56,554	51,234	12,982	6,549	6,433

## Appendix B, continued

Age	Total			Anglo			Black			Hispanic			Other		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
35	334,726	169,093	165,633	170,084	85,290	84,794	41,721	19,911	21,810	110,004	57,385	52,619	12,917	6,507	6,410
36	335,533	168,329	167,204	177,401	88,424	88,977	40,475	19,040	21,435	104,563	54,276	50,287	13,094	6,589	6,505
37	339,443	171,002	168,441	182,885	91,350	91,535	41,076	19,755	21,321	102,627	53,420	49,207	12,855	6,477	6,378
38	337,767	169,411	168,356	186,441	93,119	93,322	40,439	19,227	21,212	98,982	51,173	47,809	11,905	5,892	6,013
39	341,414	171,435	169,979	189,480	95,035	94,445	41,473	19,869	21,604	98,381	50,602	47,779	12,080	5,929	6,151
40	346,400	175,011	171,389	195,071	98,353	96,718	41,705	20,231	21,474	97,448	50,546	46,902	12,176	5,881	6,295
41	325,766	163,468	162,298	187,390	94,250	93,140	39,344	18,846	20,498	87,550	44,925	42,625	11,482	5,447	6,035
42	330,754	165,851	164,903	192,393	96,642	95,751	39,047	18,764	20,283	87,679	44,852	42,827	11,635	5,593	6,042
43	320,357	159,953	160,404	187,818	93,997	93,821	38,173	18,572	19,601	83,019	42,046	40,973	11,347	5,338	6,009
44	310,078	155,051	155,027	182,625	91,510	91,115	36,531	17,657	18,874	79,640	40,483	39,157	11,282	5,401	5,881
45	310,329	155,038	155,291	185,773	93,201	92,572	36,337	17,502	18,835	77,128	39,062	38,066	11,091	5,273	5,818
46	290,321	143,577	146,744	176,222	87,461	88,761	32,806	15,670	17,136	71,099	35,579	35,520	10,194	4,867	5,327
47	284,810	141,197	143,613	174,251	87,137	87,114	31,681	15,149	16,532	68,452	34,058	34,394	10,426	4,853	5,573
48	269,597	133,383	136,214	166,760	83,257	83,503	29,878	14,109	15,769	63,480	31,583	31,897	9,479	4,434	5,045
49	261,121	128,861	132,260	158,959	79,183	79,776	29,453	13,933	15,520	63,000	31,239	31,761	9,709	4,506	5,203
50	261,515	128,550	132,965	161,557	80,356	81,201	28,822	13,617	15,205	61,317	30,018	31,299	9,819	4,559	5,260
51	246,999	121,486	125,513	156,146	77,511	78,635	26,029	12,193	13,836	55,957	27,595	28,362	8,867	4,187	4,680
52	249,674	122,869	126,805	162,953	81,111	81,842	24,354	11,501	12,853	54,032	26,341	27,691	8,335	3,916	4,419
53	244,277	120,387	123,890	163,630	81,633	81,997	22,173	10,466	11,707	50,844	24,724	26,120	7,630	3,564	4,066
54	192,494	94,470	98,024	122,098	60,635	61,463	18,738	8,714	10,024	45,182	21,983	23,199	6,476	3,138	3,338
55	195,197	95,139	100,058	127,389	62,837	64,552	18,742	8,557	10,185	42,836	20,768	22,068	6,230	2,977	3,253
56	192,035	93,806	98,229	129,464	64,215	65,249	17,352	7,939	9,413	39,470	18,791	20,679	5,749	2,861	2,888
57	184,136	89,874	94,262	125,490	62,050	63,440	16,863	7,879	8,984	36,254	17,159	19,095	5,529	2,786	2,743
58	167,119	81,357	85,762	112,867	55,793	57,074	15,598	7,233	8,365	33,717	15,950	17,767	4,937	2,381	2,556
59	158,034	75,929	82,105	106,355	51,888	54,467	14,891	6,736	8,155	32,182	15,037	17,145	4,606	2,268	2,338
60	151,229	72,887	78,342	101,612	49,705	51,907	14,343	6,414	7,929	30,966	14,639	16,327	4,308	2,129	2,179
61	143,780	68,959	74,821	97,875	47,654	50,221	13,251	6,123	7,128	28,727	13,324	15,403	3,927	1,858	2,069
62	140,895	67,284	73,611	95,598	46,429	49,169	12,952	5,817	7,135	28,535	13,193	15,342	3,810	1,845	1,965
63	132,835	62,982	69,853	89,753	43,528	46,225	12,378	5,379	6,999	27,207	12,386	14,821	3,497	1,689	1,808
64	132,930	62,583	70,347	90,497	43,577	46,920	12,302	5,451	6,851	26,854	12,082	14,772	3,277	1,473	1,804
65	133,380	62,674	70,706	90,975	43,489	47,486	12,531	5,508	7,023	26,822	12,205	14,617	3,052	1,472	1,580
66	121,081	56,625	64,456	83,149	39,568	43,581	11,327	5,017	6,310	23,887	10,774	13,113	2,718	1,266	1,452
67	120,735	55,868	64,867	83,831	39,678	44,153	11,630	4,932	6,698	22,495	10,042	12,453	2,779	1,216	1,563
68	117,831	54,526	63,305	82,621	38,970	43,651	10,191	4,378	5,813	22,631	10,094	12,537	2,388	1,084	1,304

Appendix B, continued

Age	Total			Anglo			Black			Hispanic			Other		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
69	117,405	53,824	63,581	82,868	38,843	44,025	10,155	4,301	5,854	21,923	9,616	12,307	2,459	1,064	1,395
70	117,129	52,561	64,568	82,295	37,815	44,480	10,322	4,209	6,113	22,194	9,552	12,642	2,318	985	1,333
71	108,757	48,916	59,841	77,304	35,513	41,791	9,430	3,858	5,572	19,986	8,635	11,351	2,037	910	1,127
72	105,385	46,709	58,676	75,631	34,153	41,478	8,847	3,580	5,267	19,099	8,194	10,905	1,808	782	1,026
73	101,852	44,414	57,438	74,175	32,816	41,359	8,310	3,299	5,011	17,722	7,623	10,099	1,645	676	969
74	99,053	42,365	56,688	72,104	31,291	40,813	8,319	3,204	5,115	17,069	7,251	9,818	1,561	619	942
75	96,299	40,396	55,903	70,756	30,081	40,675	7,837	3,064	4,773	16,328	6,679	9,649	1,378	572	806
76	89,651	37,557	52,094	66,694	28,010	38,684	7,003	2,720	4,283	14,689	6,306	8,383	1,265	521	744
77	83,456	34,854	48,602	62,337	26,064	36,273	6,534	2,447	4,087	13,402	5,843	7,559	1,183	500	683
78	81,366	33,376	47,990	61,723	25,311	36,412	6,171	2,403	3,768	12,452	5,200	7,252	1,020	462	558
79	73,262	29,154	44,108	56,212	22,365	33,847	5,490	2,086	3,404	10,638	4,318	6,320	922	385	537
80	68,141	26,809	41,332	51,638	20,398	31,240	5,614	2,071	3,543	10,067	4,010	6,057	822	330	492
81	57,335	21,857	35,478	45,142	17,280	27,862	4,454	1,517	2,937	7,106	2,793	4,313	633	267	366
82	52,864	19,758	33,106	41,407	15,392	26,015	4,085	1,416	2,669	6,755	2,703	4,052	617	247	370
83	46,821	16,770	30,051	37,087	13,280	23,807	3,552	1,155	2,397	5,652	2,130	3,522	530	205	325
84	42,789	14,948	27,841	33,782	11,732	22,050	3,218	995	2,223	5,316	2,040	3,276	473	181	292
85+	237,940	68,220	169,720	184,299	51,141	133,158	21,035	5,867	15,168	30,403	10,412	19,991	2,203	800	1,403
Total															
Population	20,851,820	10,352,910	10,498,910	11,074,716	5,449,392	5,625,324	2,421,653	1,168,061	1,253,592	6,669,666	3,396,208	3,273,458	685,785	339,249	346,536

## **Appendix C**

Baseline Survival Rates by Age, Sex and  
Race/Ethnicity for 1999-2001 for the  
State of Texas

Appendix C: Baseline Survival Rates by Age, Sex, and Race/Ethnicity for 1999-2001 for the State of Texas

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
0	0.9942276	0.9956047	0.9871810	0.9894939	0.9940251	0.9950918	0.9971833	0.9971471
1	0.9995031	0.9994503	0.9988412	0.9990580	0.9994360	0.9994450	0.9997525	0.9998901
2	0.9996592	0.9996584	0.9995497	0.9995417	0.9995367	0.9996865	0.9997620	0.9995779
3	0.9995522	0.9997625	0.9995102	0.9997376	0.9997528	0.9997130	0.9997074	0.9998773
4	0.9997015	0.9997396	0.9995798	0.9998756	0.9998014	0.9998137	0.9997602	0.9999034
5	0.9997666	0.9998626	0.9997421	0.9997835	0.9997879	0.9998881	0.9996933	0.9999029
6	0.9997962	0.9998219	0.9997829	0.9996822	0.9998006	0.9998984	0.9998558	0.9997240
7	0.9997842	0.9998579	0.9998215	0.9998512	0.9998627	0.9998813	0.9999755	0.9998215
8	0.9998694	0.9998625	0.9998000	0.9998456	0.9998251	0.9998003	0.9999265	0.9999745
9	0.9998523	0.9998477	0.9997043	0.9997920	0.9998368	0.9998457	0.9998761	0.9997151
10	0.9998126	0.9998762	0.9998032	0.9998491	0.9998670	0.9998715	0.9998746	0.9999735
11	0.9998521	0.9998648	0.9997301	0.9997559	0.9998141	0.9998896	0.9998237	0.9998125
12	0.9997508	0.9998562	0.9997211	0.9997667	0.9997740	0.9998512	0.9997508	0.9996834
13	0.9997350	0.9998209	0.9995926	0.9996797	0.9996764	0.9998386	0.9997241	0.9998700
14	0.9996194	0.9997756	0.9995510	0.9998526	0.9997201	0.9998014	0.9998454	0.9999467
15	0.9995047	0.9996505	0.9992140	0.9997610	0.9994276	0.9996826	0.9996382	0.9997568
16	0.9992703	0.9994225	0.9992676	0.9996146	0.9991798	0.9996476	0.9991413	0.9996530
17	0.9989463	0.9995190	0.9989762	0.9994784	0.9990513	0.9995947	0.9992094	0.9995266
18	0.9986360	0.9994692	0.9986907	0.9993900	0.9987351	0.9996307	0.9988695	0.9997153
19	0.9986674	0.9993850	0.9982805	0.9994596	0.9986052	0.9995610	0.9996222	0.9998238
20	0.9985882	0.9995152	0.9982471	0.9992492	0.9985036	0.9996480	0.9993273	0.9998039
21	0.9985840	0.9994355	0.9979096	0.9992886	0.9986206	0.9995878	0.9993881	0.9996098
22	0.9985586	0.9995731	0.9980451	0.9991651	0.9986130	0.9996671	0.9994150	0.9995731
23	0.9986763	0.9995066	0.9981984	0.9992215	0.9986975	0.9996079	0.9995214	0.9995798
24	0.9986416	0.9995318	0.9979569	0.9993667	0.9985821	0.9996352	0.9992277	0.9992901
25	0.9987990	0.9993836	0.9976543	0.9987447	0.9987475	0.9996600	0.9991460	0.9996337
26	0.9987902	0.9994095	0.9978934	0.9989359	0.9987082	0.9995713	0.9991357	0.9998218
27	0.9988299	0.9993715	0.9979225	0.9991413	0.9988299	0.9995548	0.9993524	0.9996578
28	0.9986311	0.9994574	0.9976148	0.9990064	0.9986502	0.9996005	0.9993917	0.9996536
29	0.9985512	0.9992456	0.9978788	0.9988936	0.9986289	0.9995529	0.9995989	0.9995844
30	0.9987557	0.9993721	0.9975418	0.9988176	0.9986495	0.9994803	0.9992648	0.9997623

## Appendix C, continued

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
31	0.9986392	0.9993306	0.9974595	0.9987625	0.9988012	0.9995722	0.9994931	0.9994617
32	0.9987131	0.9992191	0.9980613	0.9984784	0.9985850	0.9994472	0.9993264	0.9997748
33	0.9984771	0.9992243	0.9972420	0.9986470	0.9984454	0.9994556	0.9994501	0.9994630
34	0.9984132	0.9990735	0.9974043	0.9984188	0.9985249	0.9993794	0.9990307	0.9998435
35	0.9981764	0.9990293	0.9971117	0.9981864	0.9981453	0.9993778	0.9989712	0.9997045
36	0.9979745	0.9988706	0.9966309	0.9985009	0.9983529	0.9991813	0.9994827	0.9992991
37	0.9980222	0.9988138	0.9964834	0.9979057	0.9979205	0.9991980	0.9991790	0.9993417
38	0.9978034	0.9988831	0.9961600	0.9981385	0.9981525	0.9992006	0.9993493	0.9997282
39	0.9977426	0.9987132	0.9964785	0.9974939	0.9980886	0.9992215	0.9988476	0.9997982
40	0.9974196	0.9985451	0.9953625	0.9972525	0.9976542	0.9989900	0.9991747	0.9994451
41	0.9971215	0.9983890	0.9953691	0.9970305	0.9977284	0.9989248	0.9987295	0.9993168
42	0.9971183	0.9983645	0.9955241	0.9970117	0.9974544	0.9988461	0.9988738	0.9993306
43	0.9966320	0.9981945	0.9943160	0.9962804	0.9971642	0.9986680	0.9985046	0.9990682
44	0.9963930	0.9980016	0.9944735	0.9961820	0.9968914	0.9984567	0.9989016	0.9991491
45	0.9961546	0.9978431	0.9937845	0.9956637	0.9963467	0.9983888	0.9991150	0.9990955
46	0.9958981	0.9977765	0.9937514	0.9961792	0.9964488	0.9982601	0.9983600	0.9990380
47	0.9956442	0.9975529	0.9923126	0.9955009	0.9959800	0.9979901	0.9980260	0.9988104
48	0.9949656	0.9975121	0.9919013	0.9952440	0.9956111	0.9980312	0.9983267	0.9989673
49	0.9948258	0.9971420	0.9909731	0.9938313	0.9953890	0.9975993	0.9980061	0.9983979
50	0.9942703	0.9969364	0.9902380	0.9932595	0.9950621	0.9975935	0.9975086	0.9987302
51	0.9942989	0.9965873	0.9901017	0.9940087	0.9945756	0.9971460	0.9963542	0.9987087
52	0.9934331	0.9963606	0.9886713	0.9926254	0.9945177	0.9968278	0.9981098	0.9982133
53	0.9931142	0.9958877	0.9890550	0.9926182	0.9939257	0.9962697	0.9965398	0.9981300
54	0.9931238	0.9961193	0.9866586	0.9920790	0.9938508	0.9964345	0.9972199	0.9984070
55	0.9926253	0.9952350	0.9842093	0.9917412	0.9916677	0.9957394	0.9971242	0.9983777
56	0.9908993	0.9942004	0.9851778	0.9896232	0.9920931	0.9954673	0.9958224	0.9975323
57	0.9902837	0.9940203	0.9824050	0.9882887	0.9916294	0.9951982	0.9950225	0.9973506
58	0.9897577	0.9936915	0.9812437	0.9875779	0.9900536	0.9947493	0.9945394	0.9967982
59	0.9888976	0.9929911	0.9788779	0.9882047	0.9895854	0.9932825	0.9935453	0.9962680
60	0.9871350	0.9923249	0.9791078	0.9876690	0.9891718	0.9928581	0.9909366	0.9954985

## Appendix C, continued

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
61	0.9864046	0.9910712	0.9772124	0.9852070	0.9876069	0.9914033	0.9927975	0.9952307
62	0.9850694	0.9905653	0.9751578	0.9845825	0.9873837	0.9921087	0.9938971	0.9958120
63	0.9838623	0.9896813	0.9737785	0.9826112	0.9841172	0.9903420	0.9939755	0.9950304
64	0.9822495	0.9885633	0.9714098	0.9810795	0.9843648	0.9905198	0.9941799	0.9946862
65	0.9801381	0.9870417	0.9668738	0.9790941	0.9836493	0.9889073	0.9911048	0.9922927
66	0.9798555	0.9865146	0.9671382	0.9802108	0.9807640	0.9880944	0.9907036	0.9926585
67	0.9773340	0.9856644	0.9655688	0.9772064	0.9786229	0.9877871	0.9919355	0.9930400
68	0.9747311	0.9841218	0.9627602	0.9733416	0.9807625	0.9853789	0.9907014	0.9937583
69	0.9719725	0.9822279	0.9592937	0.9731758	0.9740709	0.9845489	0.9874495	0.9899388
70	0.9709137	0.9804603	0.9559971	0.9683899	0.9734043	0.9825261	0.9867433	0.9880886
71	0.9683366	0.9795237	0.9518109	0.9680618	0.9704789	0.9805584	0.9831530	0.9905869
72	0.9647180	0.9772536	0.9442695	0.9681214	0.9679260	0.9790726	0.9833732	0.9881584
73	0.9599500	0.9736520	0.9432393	0.9657769	0.9663565	0.9782068	0.9847988	0.9884400
74	0.9578586	0.9713774	0.9430505	0.9599148	0.9633739	0.9747920	0.9778967	0.9861286
75	0.9541889	0.9678310	0.9331007	0.9567768	0.9577226	0.9732342	0.9696554	0.9841835
76	0.9504536	0.9648361	0.9345906	0.9536855	0.9543536	0.9681315	0.9664673	0.9812410
77	0.9458020	0.9615212	0.9259425	0.9526557	0.9489333	0.9685927	0.9627213	0.9822533
78	0.9405881	0.9580649	0.9216746	0.9474103	0.9487163	0.9628353	0.9692807	0.9828682
79	0.9350822	0.9542535	0.9138735	0.9442101	0.9423807	0.9613519	0.9667107	0.9743694
80	0.9317422	0.9480807	0.9108158	0.9398375	0.9348497	0.9543206	0.9608905	0.9730921
81	0.9237878	0.9456240	0.9132328	0.9278515	0.9350188	0.9556439	0.9489286	0.9664363
82	0.9172030	0.9377642	0.9030821	0.9333520	0.9311002	0.9520012	0.9509888	0.9703967
83	0.9064233	0.9296368	0.9046975	0.9249294	0.9232227	0.9358198	0.9486540	0.9588520
84	0.8987567	0.9221801	0.8910993	0.9173520	0.9172989	0.9383129	0.9328783	0.9434862
85+	0.8510258	0.8665703	0.8507003	0.8697367	0.8733374	0.8859095	0.9183452	0.9385226

## **Appendix D**

Baseline Fertility Rates by Age and  
Race/Ethnicity for 1999-2001  
for the State of Texas

Appendix D: Baseline Fertility Rates by Age and Race/Ethnicity for 1999-2001  
for the State of Texas

Age	Anglo	Black	Hispanic	Other
10	0.0000077	0.0000579	0.0000603	0.0000077
11	0.0000077	0.0000623	0.0000055	0.0000317
12	0.0000139	0.0004338	0.0002385	0.0002133
13	0.0002019	0.0026797	0.0019847	0.0002188
14	0.0015899	0.0094703	0.0098849	0.0014266
15	0.0064341	0.0244302	0.0322026	0.0045515
16	0.0172880	0.0452021	0.0674697	0.0094228
17	0.0357765	0.0749409	0.1029720	0.0181054
18	0.0605847	0.1073482	0.1394290	0.0293684
19	0.0834347	0.1359305	0.1682974	0.0409258
20	0.0942576	0.1548293	0.1760989	0.0482699
21	0.1033761	0.1583500	0.1865886	0.0617426
22	0.1040103	0.1553603	0.1850112	0.0665095
23	0.1037177	0.1375926	0.1765659	0.0735987
24	0.1055646	0.1231510	0.1700880	0.0848433
25	0.1065474	0.1110755	0.1629777	0.0907848
26	0.1141899	0.1026639	0.1605021	0.1099721
27	0.1136836	0.0914621	0.1503918	0.1200630
28	0.1122083	0.0876383	0.1420542	0.1270277
29	0.1069623	0.0777525	0.1296514	0.1360743
30	0.1061349	0.0720588	0.1191535	0.1334608
31	0.1023380	0.0684677	0.1115488	0.1377475
32	0.0920311	0.0569963	0.0979156	0.1247961
33	0.0792767	0.0532854	0.0877543	0.1143827
34	0.0670464	0.0434660	0.0746712	0.0928271
35	0.0528220	0.0367000	0.0615173	0.0793683
36	0.0433209	0.0316342	0.0524242	0.0645162
37	0.0336970	0.0260650	0.0427013	0.0527767
38	0.0260963	0.0194567	0.0325702	0.0404456
39	0.0191215	0.0147984	0.0245529	0.0311316
40	0.0130053	0.0104169	0.0180820	0.0223111
41	0.0087695	0.0067006	0.0129279	0.0156439
42	0.0050486	0.0041419	0.0077062	0.0095521
43	0.0028711	0.0026192	0.0048980	0.0037752
44	0.0015953	0.0018016	0.0025370	0.0025527
45	0.0007815	0.0005310	0.0011472	0.0020069
46	0.0003718	0.0003113	0.0005819	0.0005636
47	0.0001875	0.0001008	0.0002423	0.0001197
48	0.0000599	0.0000211	0.0001359	0.0004629
49	0.0000878	0.0000215	0.0000840	0.0003847

## **Appendix E**

Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 1990-2000 for the State of Texas

Appendix E: Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 1990-2000 for the State of Texas

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
0	0.0001139	0.0001139	0.0013866	0.0006933	0.0001139	0.0001139	0.0001139	0.0001139
1	0.0002278	0.0002278	0.0039553	0.0028179	0.0002278	0.0002278	0.0002278	0.0002278
2	0.0003417	0.0003417	0.0049621	0.0050655	0.0003417	0.0003417	0.0003417	0.0004108
3	0.0004556	0.0004556	0.0063453	0.0060863	0.0004556	0.0004556	0.0025778	0.0012889
4	0.0005695	0.0005695	0.0099748	0.0082439	0.0018181	0.0012470	0.0106058	0.0140508
5	0.0006833	0.0006833	0.0066253	0.0071465	0.0036982	0.0036844	0.0132926	0.0151923
6	0.0007972	0.0007972	0.0078565	0.0065082	0.0052232	0.0057022	0.0197874	0.0220197
7	0.0009111	0.0009111	0.0069263	0.0073637	0.0091019	0.0081812	0.0280826	0.0276779
8	0.0010250	0.0010250	0.0061562	0.0065934	0.0121528	0.0123227	0.0315396	0.0314843
9	0.0011389	0.0011389	0.0075435	0.0076811	0.0157409	0.0153052	0.0370299	0.0400690
10	0.0031315	0.0034855	0.0156867	0.0145320	0.0283900	0.0261147	0.0500000	0.0500000
11	0.0040522	0.0040421	0.0162512	0.0136014	0.0283994	0.0291680	0.0500000	0.0500000
12	0.0049283	0.0050625	0.0140744	0.0163268	0.0290177	0.0291438	0.0500000	0.0500000
13	0.0050183	0.0053424	0.0171743	0.0147530	0.0292399	0.0303488	0.0500000	0.0500000
14	0.0043896	0.0045228	0.0160133	0.0144100	0.0275320	0.0266803	0.0500000	0.0500000
15	0.0051456	0.0045302	0.0159890	0.0145197	0.0323080	0.0294898	0.0500000	0.0500000
16	0.0048511	0.0047298	0.0173816	0.0150457	0.0367271	0.0293125	0.0500000	0.0500000
17	0.0039150	0.0035107	0.0175088	0.0135811	0.0429964	0.0312359	0.0500000	0.0500000
18	0.0086079	0.0078986	0.0228123	0.0189703	0.0500000	0.0382658	0.0500000	0.0500000
19	0.0011589	0.0005795	0.0108066	0.0125667	0.0437594	0.0298658	0.0500000	0.0500000
20	0.0000919	0.0000459	0.0104086	0.0111455	0.0480048	0.0344330	0.0500000	0.0500000
21	0.0005403	0.0002701	0.0090731	0.0128166	0.0500000	0.0368311	0.0500000	0.0500000
22	0.0000934	0.0000467	0.0064622	0.0093160	0.0500000	0.0375935	0.0500000	0.0500000
23	0.0016979	0.0008490	0.0065594	0.0123045	0.0500000	0.0416957	0.0500000	0.0500000
24	0.0047058	0.0066053	0.0059597	0.0029799	0.0500000	0.0437584	0.0500000	0.0500000
25	0.0068575	0.0087960	0.0072497	0.0139254	0.0500000	0.0438600	0.0500000	0.0500000
26	0.0059653	0.0075777	0.0065536	0.0032768	0.0500000	0.0432893	0.0500000	0.0500000
27	0.0053666	0.0085933	0.0069923	0.0137397	0.0472552	0.0421502	0.0500000	0.0500000
28	0.0069216	0.0095755	0.0038215	0.0019107	0.0479654	0.0436572	0.0500000	0.0500000
29	0.0021305	0.0036289	0.0022866	0.0011433	0.0386183	0.0357515	0.0500000	0.0500000
30	0.0073578	0.0057937	0.0100147	0.0136500	0.0453523	0.0397686	0.0500000	0.0500000

## Appendix E, continued

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
31	0.0064702	0.0066414	0.0067812	0.0114805	0.0387132	0.0359056	0.0500000	0.0500000
32	0.0091384	0.0069180	0.0120835	0.0167743	0.0382461	0.0381964	0.0500000	0.0500000
33	0.0070551	0.0050523	0.0098066	0.0125267	0.0308410	0.0318344	0.0500000	0.0500000
34	0.0039425	0.0038061	0.0107465	0.0099693	0.0304046	0.0296472	0.0500000	0.0500000
35	0.0068663	0.0051982	0.0121113	0.0151349	0.0289261	0.0307369	0.0500000	0.0500000
36	0.0043795	0.0039208	0.0083420	0.0120550	0.0243264	0.0253663	0.0500000	0.0500000
37	0.0035080	0.0026856	0.0111643	0.0098056	0.0224583	0.0224449	0.0500000	0.0500000
38	0.0080844	0.0070059	0.0140256	0.0159504	0.0274701	0.0278350	0.0500000	0.0500000
39	-0.0004160	-0.0002080	0.0073709	0.0042864	0.0156034	0.0170021	0.0500000	0.0500000
40	0.0035927	0.0019254	0.0127892	0.0082848	0.0223516	0.0204933	0.0500000	0.0500000
41	0.0018291	0.0009146	0.0091257	0.0078446	0.0178176	0.0159452	0.0470112	0.0500000
42	0.0029980	0.0022992	0.0088336	0.0061993	0.0185620	0.0177340	0.0500000	0.0497336
43	0.0026919	0.0022895	0.0118253	0.0059126	0.0170351	0.0166689	0.0478228	0.0478622
44	-0.0002061	-0.0001140	0.0048018	0.0024009	0.0131251	0.0128803	0.0417531	0.0437573
45	0.0036004	0.0031512	0.0101170	0.0064786	0.0164151	0.0138778	0.0461070	0.0450455
46	0.0014570	0.0014353	0.0079573	0.0045451	0.0141047	0.0127334	0.0419303	0.0415277
47	0.0029854	0.0026186	0.0086258	0.0051989	0.0127634	0.0118103	0.0382621	0.0401962
48	0.0079381	0.0074547	0.0137000	0.0103115	0.0172604	0.0164466	0.0415290	0.0420727
49	-0.0007433	-0.0003995	0.0044141	0.0022070	0.0092465	0.0095170	0.0345852	0.0308931
50	0.0042731	0.0030286	0.0110318	0.0062839	0.0133098	0.0134307	0.0401076	0.0391483
51	0.0028025	0.0025469	0.0092957	0.0046833	0.0134851	0.0103493	0.0373237	0.0367621
52	0.0040632	0.0027379	0.0115194	0.0062668	0.0131049	0.0131168	0.0392568	0.0388313
53	0.0033944	0.0032929	0.0083208	0.0041604	0.0088921	0.0076003	0.0312736	0.0359442
54	0.0014727	0.0017229	0.0079133	0.0059282	0.0146562	0.0144501	0.0407221	0.0351964
55	0.0031857	0.0029603	0.0088533	0.0064487	0.0113324	0.0108998	0.0351379	0.0375476
56	0.0054884	0.0039891	0.0109578	0.0066631	0.0126626	0.0130800	0.0444276	0.0385704
57	0.0023742	0.0023209	0.0087509	0.0043754	0.0077960	0.0092891	0.0359600	0.0301162
58	0.0094883	0.0076786	0.0172081	0.0096330	0.0167045	0.0166349	0.0408103	0.0491177
59	-0.0005501	-0.0002750	0.0052498	0.0028373	0.0048752	0.0076472	0.0235967	0.0303233
60	0.0030882	0.0023988	0.0128425	0.0079954	0.0121505	0.0119133	0.0369894	0.0391381

## Appendix E, continued

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
61	0.0041162	0.0035784	0.0144914	0.0072457	0.0104532	0.0108528	0.0417080	0.0476887
62	0.0056356	0.0043773	0.0145079	0.0080409	0.0131955	0.0129502	0.0500000	0.0500000
63	0.0053054	0.0045317	0.0163512	0.0092736	0.0145149	0.0135878	0.0464673	0.0500000
64	0.0050251	0.0034163	0.0155852	0.0077926	0.0115293	0.0116469	0.0339091	0.0439657
65	0.0060035	0.0052625	0.0138965	0.0098377	0.0147730	0.0141421	0.0500000	0.0440292
66	0.0047133	0.0033264	0.0189708	0.0094854	0.0142039	0.0126831	0.0455303	0.0438831
67	0.0061646	0.0045907	0.0124224	0.0114286	0.0096408	0.0065176	0.0495695	0.0500000
68	0.0110065	0.0089042	0.0255881	0.0127940	0.0207705	0.0184072	0.0500000	0.0450375
69	0.0036809	0.0024790	0.0126211	0.0063106	0.0089755	0.0074938	0.0500000	0.0413479
70	0.0071215	0.0057663	0.0164315	0.0132031	0.0154181	0.0142009	0.0467958	0.0500000
71	0.0079324	0.0041676	0.0140408	0.0092969	0.0118523	0.0081872	0.0474878	0.0433566
72	0.0054300	0.0034260	0.0074113	0.0044416	0.0112707	0.0076295	0.0398748	0.0420907
73	0.0063694	0.0057369	0.0146681	0.0073471	0.0103507	0.0078951	0.0429402	0.0386266
74	0.0062153	0.0043144	0.0112094	0.0056047	0.0101143	0.0050571	0.0265849	0.0321066
75	0.0050093	0.0044609	0.0110537	0.0055269	0.0058141	0.0076292	0.0330233	0.0232238
76	0.0058619	0.0042499	0.0063740	0.0031870	0.0047162	0.0036985	0.0318584	0.0307287
77	0.0056249	0.0044969	-0.0000408	-0.0000204	0.0053927	0.0026964	0.0329349	0.0349975
78	0.0065726	0.0048249	0.0137246	0.0068623	0.0054342	0.0028216	0.0358297	0.0192205
79	0.0029696	0.0046242	0.0103120	0.0051560	-0.0009406	-0.0004703	0.0181120	0.0193226
80	0.0075675	0.0082468	0.0089438	0.0044719	0.0066206	0.0067128	0.0141623	0.0264781
81	0.0054751	0.0049929	0.0019486	0.0009743	-0.0087844	-0.0073867	0.0042885	0.0021442
82	0.0055764	0.0071370	0.0046563	0.0023282	0.0051337	0.0025668	0.0159251	0.0267123
83	0.0103080	0.0100801	0.0027574	0.0013787	-0.0051236	-0.0035071	-0.0014406	-0.0007203
84	0.0078509	0.0088406	0.0096970	0.0048485	-0.0023453	-0.0011727	0.0124224	0.0181818
85+	-0.0077194	-0.0038597	-0.0105235	-0.0053833	-0.0212163	-0.0194889	-0.0020801	-0.0010401

## **Appendix F**

Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 2000-2004 for the State of Texas

Appendix F: Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 2000-2004 for the State of Texas

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
0	0.0000194	0.0000194	0.0000194	0.0000194	0.0000194	0.0000194	0.0000194	0.0000194
1	0.0000388	0.0000388	0.0000388	0.0000388	0.0000388	0.0000388	0.0000388	0.0000388
2	0.0000582	0.0000582	0.0000582	0.0000582	0.0000582	0.0000582	0.0000582	0.0000582
3	0.0000776	0.0000776	0.0000776	0.0000776	0.0000776	0.0000776	0.0000776	0.0000776
4	0.0000970	0.0000970	0.0007027	0.0008786	0.0000970	0.0000970	0.0000970	0.0000970
5	0.0001165	0.0001165	0.0030046	0.0025897	0.0001165	0.0001165	0.0020433	0.0031733
6	0.0001359	0.0001359	0.0035808	0.0031360	0.0001359	0.0001359	0.0067017	0.0081009
7	0.0001553	0.0001553	0.0041193	0.0034545	0.0007472	0.0005653	0.0125137	0.0135825
8	0.0001747	0.0001747	0.0034109	0.0032775	0.0030384	0.0029060	0.0171809	0.0180819
9	0.0001941	0.0001941	0.0033904	0.0034423	0.0058159	0.0057449	0.0234014	0.0246799
10	0.0002135	0.0002135	0.0049559	0.0050507	0.0109344	0.0102156	0.0306646	0.0317913
11	0.0002329	0.0002329	0.0068875	0.0063798	0.0156876	0.0151616	0.0368544	0.0371113
12	0.0002523	0.0002523	0.0089842	0.0085238	0.0198630	0.0193262	0.0417978	0.0420256
13	0.0004740	0.0006227	0.0112921	0.0102366	0.0230121	0.0228097	0.0458082	0.0456638
14	0.0008074	0.0009561	0.0112653	0.0101520	0.0230786	0.0233579	0.0474097	0.0477957
15	0.0011199	0.0011368	0.0111772	0.0106740	0.0246033	0.0240356	0.0453080	0.0469108
16	0.0011553	0.0010887	0.0119259	0.0103369	0.0264433	0.0242939	0.0455685	0.0447363
17	0.0010126	0.0007928	0.0123936	0.0102273	0.0298787	0.0245347	0.0466788	0.0467640
18	0.0016109	0.0012769	0.0137219	0.0108400	0.0355434	0.0272303	0.0482767	0.0471703
19	0.0011312	0.0007519	0.0130413	0.0107470	0.0402931	0.0277715	0.0475690	0.0478837
20	0.0002223	-0.0002594	0.0119190	0.0102636	0.0448176	0.0297988	0.0487185	0.0474332
21	-0.0007192	-0.0011927	0.0094166	0.0097489	0.0451073	0.0303917	0.0469870	0.0487538
22	-0.0024221	-0.0026653	0.0059669	0.0082521	0.0448441	0.0307509	0.0484258	0.0475744
23	-0.0028243	-0.0030623	0.0044028	0.0073012	0.0454504	0.0328034	0.0475005	0.0468835
24	-0.0021307	-0.0019849	0.0030868	0.0055450	0.0448718	0.0337487	0.0470503	0.0459122
25	-0.0006705	-0.0003352	0.0024083	0.0012042	0.0464330	0.0369585	0.0455108	0.0461343
26	0.0008037	0.0004019	0.0025400	0.0042969	0.0470459	0.0400786	0.0500000	0.0500000
27	0.0018146	0.0035058	0.0030066	0.0046389	0.0469535	0.0401863	0.0500000	0.0500000
28	0.0025133	0.0047562	0.0026408	0.0045634	0.0456574	0.0398714	0.0497585	0.0500000
29	0.0015810	0.0007905	0.0015221	0.0022448	0.0410358	0.0370203	0.0484113	0.0480842
30	0.0017073	0.0033910	0.0021156	0.0034727	0.0412411	0.0366097	0.0486756	0.0498350

## Appendix F, continued

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
31	0.0023487	0.0031869	0.0020969	0.0037019	0.0385856	0.0349814	0.0477471	0.0487385
32	0.0030328	0.0026398	0.0037582	0.0063777	0.0364064	0.0335615	0.0479321	0.0474284
33	0.0036762	0.0022807	0.0053247	0.0086889	0.0343963	0.0318776	0.0467194	0.0467461
34	0.0027122	0.0016966	0.0053408	0.0079962	0.0292215	0.0284677	0.0450020	0.0441711
35	0.0026499	0.0014351	0.0068774	0.0091959	0.0272414	0.0275454	0.0430922	0.0434302
36	0.0020833	0.0010416	0.0066503	0.0087403	0.0242514	0.0250801	0.0432497	0.0442618
37	0.0013824	0.0006912	0.0070779	0.0082453	0.0229574	0.0232750	0.0484429	0.0471110
38	0.0023412	0.0012827	0.0079748	0.0097716	0.0220582	0.0228961	0.0473744	0.0469259
39	0.0010250	0.0005125	0.0065485	0.0073151	0.0182250	0.0190974	0.0470733	0.0471103
40	0.0004041	-0.0003688	0.0072249	0.0059290	0.0173031	0.0173854	0.0459224	0.0461561
41	-0.0000368	-0.0000184	0.0067478	0.0052914	0.0160164	0.0159012	0.0422528	0.0443660
42	-0.0010838	-0.0018921	0.0062549	0.0036905	0.0146556	0.0141307	0.0448739	0.0467884
43	-0.0008139	-0.0004070	0.0066649	0.0033324	0.0144690	0.0132602	0.0447590	0.0471668
44	-0.0015304	-0.0020021	0.0047486	0.0023743	0.0114755	0.0109882	0.0407132	0.0435045
45	-0.0012832	-0.0015799	0.0048829	0.0024414	0.0115648	0.0109478	0.0430520	0.0427455
46	-0.0015428	-0.0016603	0.0048551	0.0024276	0.0105024	0.0097772	0.0400392	0.0409292
47	-0.0015473	-0.0016630	0.0041049	0.0020525	0.0096310	0.0084932	0.0386677	0.0382544
48	-0.0000338	-0.0000169	0.0052369	0.0026184	0.0100444	0.0089347	0.0372073	0.0376966
49	-0.0005379	-0.0005392	0.0039688	0.0019844	0.0084703	0.0081830	0.0334026	0.0332252
50	-0.0000433	-0.0000216	0.0049142	0.0024571	0.0084052	0.0083252	0.0336953	0.0344132
51	0.0000276	0.0000138	0.0053527	0.0026763	0.0084240	0.0077675	0.0314703	0.0310490
52	-0.0006960	-0.0012634	0.0060525	0.0030263	0.0084148	0.0076411	0.0336434	0.0327242
53	-0.0000271	-0.0000136	0.0069365	0.0034683	0.0079441	0.0070500	0.0334770	0.0341912
54	-0.0003688	-0.0001844	0.0049771	0.0024885	0.0076260	0.0064451	0.0307019	0.0301184
55	-0.0001520	-0.0000760	0.0045849	0.0022925	0.0072269	0.0071229	0.0304288	0.0302416
56	0.0000606	0.0000303	0.0047435	0.0023717	0.0070891	0.0069644	0.0308287	0.0299408
57	-0.0014759	-0.0015839	0.0042364	0.0021182	0.0065155	0.0066770	0.0303521	0.0260994
58	0.0006300	0.0003150	0.0068213	0.0034107	0.0071291	0.0075623	0.0319917	0.0312690
59	0.0012226	0.0006113	0.0064096	0.0032048	0.0057940	0.0070891	0.0307735	0.0299571
60	0.0001543	-0.0002866	0.0076943	0.0038472	0.0054522	0.0066057	0.0290260	0.0308648

Appendix F, continued

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
61	-0.0001540	-0.0000770	0.0073499	0.0036749	0.0063271	0.0063586	0.0260388	0.0335520
62	-0.0005974	-0.0009136	0.0075980	0.0037990	0.0065381	0.0062970	0.0305083	0.0347457
63	0.0003828	-0.0005050	0.0101673	0.0050836	0.0077471	0.0071297	0.0369400	0.0384481
64	0.0010040	0.0005020	0.0103213	0.0051607	0.0072747	0.0074425	0.0352438	0.0411792
65	0.0012731	0.0006366	0.0104680	0.0052340	0.0089085	0.0086473	0.0385255	0.0414007
66	0.0010373	0.0005187	0.0103600	0.0051800	0.0095578	0.0087929	0.0372899	0.0387101
67	0.0020561	0.0010281	0.0120727	0.0064158	0.0084905	0.0073684	0.0374943	0.0400222
68	0.0031163	0.0016780	0.0151509	0.0075755	0.0111022	0.0079157	0.0446109	0.0384291
69	0.0016867	0.0008434	0.0120638	0.0060319	0.0085565	0.0068689	0.0404646	0.0391410
70	0.0031488	0.0015744	0.0129997	0.0075665	0.0072192	0.0068691	0.0429000	0.0458989
71	0.0040280	0.0020140	0.0107055	0.0053527	0.0098156	0.0072631	0.0398190	0.0375639
72	0.0033783	0.0016892	0.0077632	0.0039400	0.0080321	0.0052818	0.0404063	0.0412575
73	0.0025374	0.0012687	0.0071139	0.0061785	0.0077663	0.0060906	0.0398444	0.0402691
74	0.0018591	0.0009295	0.0077801	0.0038900	0.0057396	0.0030752	0.0335414	0.0340117
75	0.0022210	0.0011105	0.0073144	0.0036572	0.0052802	0.0026401	0.0245667	0.0281422
76	0.0027982	0.0013991	0.0048497	0.0024249	0.0027306	0.0018118	0.0193992	0.0252441
77	0.0016931	0.0008466	0.0041801	0.0020901	0.0001441	0.0000720	0.0226607	0.0257433
78	0.0016018	0.0011297	0.0039712	0.0019856	0.0006256	0.0003128	0.0255754	0.0231790
79	0.0011130	0.0011333	0.0000521	0.0000521	-0.0000857	-0.0000429	0.0246942	0.0214182
80	0.0013616	0.0009628	0.0009478	0.0009478	-0.0017158	-0.0022144	0.0237880	0.0183082
81	0.0033048	0.0030811	0.0047142	0.0047142	-0.0021446	-0.0017048	0.0090909	0.0100362
82	0.0017208	0.0033391	-0.0006413	-0.0006413	-0.0027832	-0.0025647	0.0084034	0.0140002
83	0.0023473	0.0031940	0.0041280	0.0020640	-0.0008499	-0.0004250	0.0071518	0.0099490
84	-0.0007323	-0.0003662	-0.0025477	-0.0025477	-0.0090169	-0.0095660	0.0034225	0.0017112
85+	-0.0098797	-0.0054104	-0.0045466	-0.0045466	-0.0201060	-0.0198320	-0.0057919	-0.0028959

## **Appendix G**

Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 2000-2007 for the State of Texas

**Appendix G: Baseline Migration Rates (per person per year) by Age, Sex and Race/Ethnicity for 2000-2007 for the State of Texas**

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
0	0.0000180	0.0000183	0.0000180	0.0000180	0.0000180	0.0000180	0.0000180	0.0000180
1	0.0000370	0.0000365	0.0000370	0.0000370	0.0009870	0.0012360	0.0000370	0.0000370
2	0.0006710	0.0006707	0.0074150	0.0042760	0.0004460	0.0004460	0.0006710	0.0006710
3	0.0000730	0.0001035	0.0074880	0.0053050	0.0000730	0.0001030	0.0000730	0.0001030
4	0.0000910	0.0000913	0.0071660	0.0057340	0.0000910	0.0000910	0.0000910	0.0000910
5	0.0001100	0.0001095	0.0074350	0.0068020	0.0001100	0.0001100	0.0001100	0.0001100
6	0.0001280	0.0001278	0.0062710	0.0069480	0.0001280	0.0001280	0.0001280	0.0001280
7	0.0001460	0.0001461	0.0075980	0.0074120	0.0001460	0.0001460	0.0044770	0.0056780
8	0.0001640	0.0001643	0.0088280	0.0083160	0.0001640	0.0001640	0.0118780	0.0131880
9	0.0001830	0.0001826	0.0091990	0.0087970	0.0017390	0.0015780	0.0181160	0.0189830
10	0.0002010	0.0002008	0.0105700	0.0100150	0.0053150	0.0048820	0.0246670	0.0256790
11	0.0002190	0.0002191	0.0116920	0.0110930	0.0091350	0.0087280	0.0304400	0.0314880
12	0.0002370	0.0002373	0.0130110	0.0124740	0.0129510	0.0128480	0.0372110	0.0384450
13	0.0003380	0.0004145	0.0144660	0.0141650	0.0168960	0.0166280	0.0423910	0.0431460
14	0.0008840	0.0009758	0.0156140	0.0150290	0.0194990	0.0194200	0.0462940	0.0459300
15	0.0013280	0.0014888	0.0172460	0.0162490	0.0223400	0.0217120	0.0499670	0.0500000
16	0.0021620	0.0020660	0.0191330	0.0174540	0.0251520	0.0235720	0.0500000	0.0500000
17	0.0020260	0.0019427	0.0191860	0.0168460	0.0271320	0.0242130	0.0500000	0.0500000
18	0.0043810	0.0046642	0.0204980	0.0186300	0.0318700	0.0264390	0.0500000	0.0500000
19	0.0056130	0.0054376	0.0195720	0.0178970	0.0349650	0.0274290	0.0500000	0.0500000
20	0.0017170	0.0010223	0.0178840	0.0159920	0.0378000	0.0274990	0.0500000	0.0500000
21	0.0002930	0.0002928	0.0153840	0.0152850	0.0419520	0.0292990	0.0500000	0.0500000
22	0.0004200	0.0004199	0.0144580	0.0144690	0.0463720	0.0305150	0.0500000	0.0500000
23	0.0004380	0.0004382	0.0127380	0.0142860	0.0500000	0.0333280	0.0500000	0.0500000
24	0.0004560	0.0004564	0.0113340	0.0131620	0.0495940	0.0345410	0.0500000	0.0500000
25	0.0004750	0.0004747	0.0086080	0.0126000	0.0488440	0.0359900	0.0500000	0.0500000
26	0.0004930	0.0004929	0.0084180	0.0111310	0.0490490	0.0376130	0.0500000	0.0500000
27	0.0007860	0.0007857	0.0077700	0.0107460	0.0477640	0.0374960	0.0500000	0.0500000
28	0.0015780	0.0015780	0.0064680	0.0096000	0.0488860	0.0400190	0.0500000	0.0500000
29	0.0019400	0.0019400	0.0062380	0.0087850	0.0478930	0.0416530	0.0500000	0.0500000
30	0.0019790	0.0036755	0.0061800	0.0086950	0.0471290	0.0408550	0.0500000	0.0500000
31	0.0023740	0.0043232	0.0076220	0.0096420	0.0447390	0.0393860	0.0500000	0.0500000
32	0.0029590	0.0041370	0.0080540	0.0109300	0.0406280	0.0370700	0.0500000	0.0500000
33	0.0032650	0.0040771	0.0088540	0.0121610	0.0394370	0.0362350	0.0500000	0.0500000
34	0.0037410	0.0037437	0.0093470	0.0123710	0.0358360	0.0340050	0.0500000	0.0500000
35	0.0040220	0.0032610	0.0108540	0.0138460	0.0330420	0.0319300	0.0500000	0.0500000
36	0.0038170	0.0027890	0.0112550	0.0148620	0.0303980	0.0294760	0.0500000	0.0500000

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
37	0.0030140	0.0021957	0.0107860	0.0138240	0.0256580	0.0258330	0.0490300	0.0489080
38	0.0030210	0.0022202	0.0120630	0.0149800	0.0241240	0.0249610	0.0472690	0.0484560
39	0.0024510	0.0016054	0.0119050	0.0138350	0.0214090	0.0224990	0.0478120	0.0500000
40	0.0018830	0.0012217	0.0130470	0.0132430	0.0207390	0.0211010	0.0500000	0.0500000
41	0.0019070	0.0010485	0.0128350	0.0134670	0.0191630	0.0196090	0.0500000	0.0500000
42	0.0009850	0.0009848	0.0118340	0.0117080	0.0164440	0.0166710	0.0500000	0.0500000
43	0.0006460	0.0006458	0.0126920	0.0104500	0.0155550	0.0152200	0.0500000	0.0500000
44	0.0001820	0.0001821	0.0108700	0.0095460	0.0138060	0.0138330	0.0466540	0.0492950
45	-0.0000940	-0.0001535	0.0109660	0.0085790	0.0128600	0.0125010	0.0496440	0.0500000
46	-0.0007860	-0.0007864	0.0115030	0.0077840	0.0121040	0.0110800	0.0476890	0.0500000
47	-0.0004020	-0.0004778	0.0102300	0.0077660	0.0096770	0.0093190	0.0438770	0.0464810
48	0.0004240	0.0003341	0.0110580	0.0084270	0.0102270	0.0098130	0.0457420	0.0460610
49	0.0001630	0.0002023	0.0108430	0.0078940	0.0090720	0.0087420	0.0425720	0.0432290
50	0.0001840	0.0000954	0.0103240	0.0075210	0.0085730	0.0079110	0.0422090	0.0408360
51	0.0007290	0.0004525	0.0110050	0.0078540	0.0083420	0.0075640	0.0405360	0.0393010
52	0.0004920	0.0003730	0.0102270	0.0076840	0.0073950	0.0072010	0.0374610	0.0366940
53	0.0006860	0.0006857	0.0116350	0.0075950	0.0073740	0.0068310	0.0380370	0.0385490
54	0.0005190	0.0005190	0.0113170	0.0077860	0.0071320	0.0066210	0.0359910	0.0350210
55	-0.0000380	-0.0000378	0.0119390	0.0074190	0.0071870	0.0066690	0.0380790	0.0371560
56	0.0003680	0.0003676	0.0119210	0.0074240	0.0070120	0.0066760	0.0401350	0.0386400
57	0.0001570	0.0001568	0.0106510	0.0065690	0.0060090	0.0056510	0.0360620	0.0335330
58	0.0009430	0.0009429	0.0110620	0.0069130	0.0063000	0.0068510	0.0356250	0.0351450
59	0.0007470	0.0007472	0.0098150	0.0065870	0.0057110	0.0061140	0.0338670	0.0340200
60	-0.0008430	-0.0010582	0.0086250	0.0060000	0.0048550	0.0054640	0.0316110	0.0313420
61	-0.0000260	-0.0000255	0.0111250	0.0073420	0.0050070	0.0053750	0.0337870	0.0361090
62	0.0007830	0.0007830	0.0123860	0.0069210	0.0051050	0.0055460	0.0363530	0.0364300
63	0.0005990	0.0005986	0.0138730	0.0074170	0.0050140	0.0054510	0.0376990	0.0397570
64	0.0000990	0.0000992	0.0132230	0.0079570	0.0058500	0.0059320	0.0336720	0.0417080
65	-0.0003560	-0.0003565	0.0132120	0.0079730	0.0062950	0.0060220	0.0383170	0.0411320
66	-0.0001940	-0.0001944	0.0158440	0.0086690	0.0069210	0.0065090	0.0431800	0.0426710
67	0.0002780	0.0002782	0.0144320	0.0078290	0.0061060	0.0060300	0.0422470	0.0459550
68	0.0014440	0.0007343	0.0155290	0.0095780	0.0080920	0.0071190	0.0467150	0.0467650
69	0.0005060	0.0005058	0.0151030	0.0097730	0.0076400	0.0066750	0.0449670	0.0446030
70	0.0011240	0.0011240	0.0178160	0.0094010	0.0079040	0.0064530	0.0435620	0.0463230
71	0.0015930	0.0015933	0.0182360	0.0091350	0.0088510	0.0058720	0.0500000	0.0435740
72	0.0002330	0.0002335	0.0093960	0.0093960	0.0054060	0.0039760	0.0434490	0.0446970
73	0.0010970	0.0010966	0.0131920	0.0082100	0.0043210	0.0037170	0.0463250	0.0500000
74	0.0016120	0.0016123	0.0081530	0.0081530	0.0071350	0.0042600	0.0423730	0.0415670
75	0.0011640	0.0011640	0.0090470	0.0058100	0.0053160	0.0031820	0.0410260	0.0431800

Age	Anglo		Black		Hispanic		Other	
	Male	Female	Male	Female	Male	Female	Male	Female
76	0.0007020	0.0007023	0.0089980	0.0074220	0.0036300	0.0030870	0.0391490	0.0397490
77	-0.0004460	-0.0004465	0.0057040	0.0057040	-0.0000980	-0.0000980	0.0331750	0.0340460
78	0.0004270	0.0004267	0.0043630	0.0043630	-0.0007980	-0.0007980	0.0268000	0.0309780
79	0.0010690	0.0006795	0.0050050	0.0025830	-0.0014960	-0.0012580	0.0236390	0.0279490
80	0.0005080	0.0007917	0.0063750	0.0046310	-0.0028450	-0.0020990	0.0266880	0.0287840
81	0.0009360	0.0009359	0.0050970	0.0029160	-0.0042840	-0.0034170	0.0193830	0.0220340
82	0.0004290	0.0004290	0.0015550	0.0015550	-0.0037330	-0.0045430	0.0169280	0.0227200
83	0.0001950	0.0001954	0.0033550	0.0033550	-0.0044140	-0.0053690	0.0171980	0.0187980
84	0.0022220	0.0022223	0.0073550	0.0073550	-0.0036310	-0.0036890	0.0059970	0.0109950
85+	-0.0140240	-0.0070372	-0.0159480	-0.0084740	-0.0229170	-0.0218190	0.0015750	0.0015750