

Estimates of the Total Populations of Counties and Places in Texas  
for July 1, 2006 and January 1, 2007

produced by:

Population Estimates and Projections Program  
Texas State Data Center  
Office of the State Demographer  
Institute for Demographic and Socioeconomic Research  
The University of Texas at San Antonio

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The attached are estimates of the total population for counties and places in Texas for July 1, 2006 and January 1, 2007 completed by personnel from the Texas State Data Center offices in the Institute for Demographic and Socioeconomic Research at The University of Texas at San Antonio. In this brief report, the methodology used to prepare the estimates is described. Because of space limitations, only a summary of the methodology is presented. Those wishing to obtain a more complete description of the estimation procedures and of the historical and sensitivity analyses used to select the methods employed in these estimates should contact program personnel in the Texas State Data Center at The University of Texas at San Antonio.

## **Estimation Methodology**

### **Methodology for County Estimates**

The estimates reported for counties are the averages of estimates made using ratio-correlation, component-method II, and housing-unit methods. Ratio-correlation procedures utilize multiple regression techniques with the ratio of variable values for adjacent time periods rather than simply the variable values themselves being used as independent and dependent variables. After an extensive evaluation of the relative accuracy of alternative procedures (including difference-rate, ratio-correlation and rate-correlation methods) and an analysis of alternative variables, a simple ratio-correlation model was employed to complete the final estimates. This model used the variables of births, deaths, elementary school enrollment, vehicle registration, and voter registration.

The component-method II procedure employed utilizes data on births, deaths and elementary school enrollment to estimate population. In this method, migration of the school-age population is assumed to be indicative of migration in the total population (with adjustments being made for the historical differences between the school-age migration rate and the total population's rate of migration). Data on public school enrollment from the Texas Education Agency and data from the Texas State Data Center's survey of private schools in Texas are used to estimate change in the school-age population. Data on institutional populations were obtained from applicable institutions, while data on other special populations, such as the elderly population were obtained from the U.S. Bureau of the Census.

The housing-unit method used is of the standard form with change in the number of housing units in the housing stock of an area, from the base date (in this case, the 2000 Census) to the estimate date (in this case, July 1, 2006), being used to estimate population change. New housing additions and demolitions are taken from the U.S. Bureau of the Census survey of building permits and demolitions and the Texas State Data Center survey of counties and cities issuing permits for residential buildings and demolitions. Both the U.S. Census Bureau's building permit survey and the Texas State Data Center's survey can only collect data from permit issuing county and city jurisdictions (methods for dealing with non-permit issuing places are discussed later). Assumptions about vacancy rates and average household size are then used in conjunction with data on the number of housing units in an estimate area (including those in the area at the base date and the net number of units added to, or subtracted from, the base housing stock for the time period between the base date and the estimate date). Separate estimates are completed by type of structure with the types used being single-family structures, 2-to-4 unit structures, structures with 5 or more units, and mobile homes. For purposes of the 2006 estimates, 2000 vacancy rates and average household sizes for each of the housing structure types were assumed to prevail as of the estimate date of July 1, 2006. For 2006, the estimates of the number of new mobile homes added to an area's housing stock were obtained from the Texas

State Data Center's survey of building permits and demolitions. The sum of mobile homes from the survey was subtracted from the U.S. Bureau of the Census' estimate of the total number of mobile homes shipped to Texas. The difference was allocated to jurisdictions on the basis of the change in units in jurisdictions for other housing types from 2000 to the estimate date of July 1, 2006.

The average of the component-method II, ratio-correlation and housing-unit population estimates is used as the population estimate for July 1, 2006 with the total for all counties being controlled to the July 1, 2006 estimate for the State obtained from the U.S. Bureau of the Census. Prior to the release of these estimates, county estimates were evaluated for consistency and reasonableness by comparing them to those from other State and local agencies.

The January 1, 2007 estimates are obtained by adding births to, and subtracting deaths from July 1, 2006 through December 31, 2006, to the July 1, 2006 estimates and assuming that July 1, 2005 to July 1, 2006 rates of migration continue from July 1, 2006 to January 1, 2007. The State and county estimates are obtained using the same method with the sum of the county estimates controlled to the State estimate.

### **Methodology for Place Estimates**

For places, population estimates were made using the same three methods as used for county estimates. To complete the component-method II estimates for places for 2006, standard component procedures were applied to 2000 Census population counts for places. County-level birth and death data for 2000-06 from the Texas Department of State Health Services and 2000-06 data from the Texas Education Agency on public school enrollment and from the Texas State Data Center survey of private schools on enrollment in private schools were used in this procedure. In addition, data on Medicare enrollment is acquired from the Centers of Medicare and Medicaid Services and data on the net movement of persons from the military to the civilian population were obtained for counties from the U.S. Bureau of the Census. Values for each of these items were allocated from counties to places prior to the completion of the place estimates. Such allocation procedures were necessary because data items that were available for places (such as birth and death data) showed year-to-year fluctuations and reporting errors that made the direct use of place-level data problematic. The general allocation procedures used for these items involved population subgroups closely associated with the item being allocated (i.e., women of child-bearing age for fertility, school-age population for school enrollment, the total population for deaths, persons 65+ years of age for Medicare enrollment, and the population 14-17 years of age for net movement). The number in the appropriate subgroups for each place and the remainder of the county in each county in 2000 were survived (using state-level survival rates for 1999-2001) to July 1, 2006, and the sum of the survived groups in each place and the remainder of the county were controlled to the county total for the item as reported from the appropriate agency to obtain the value for each place. Place estimates were completed for July 1, 2006 and adjusted to account for population changes due to annexations or other boundary changes as obtained from the annual Texas State Data Center Boundary and Annexation Survey.

The housing unit estimates for places were completed using the same general procedures delineated above (for counties) except that it was necessary to use procedures to allocate new housing units and demolitions to places that were not reporting jurisdictions. This was done by taking the difference between the county totals for new building permits and demolitions and the

sum of values for places for which data were reported for a county and proportionally allocating the difference to the nonreporting places. For the 2006 estimates, the allocation was done on the basis of the nonreporting places' proportions of county housing stocks as reported in the 2000 Census.

The third method used is the ratio-correlation method. Ratio correlation estimates were made to allocate county populations to places (and non-place areas) using births, deaths and housing units for places as estimation items.

The estimates for place populations from the three methods were averaged to provide a July 1, 2006 estimate of the total population for each place. The sum of the estimated populations for places in each county (and for that part of each county's population not living in places) were controlled to county totals to ensure consistency with the county estimates.

The January 1, 2007 place estimates are prepared using the same extrapolative procedures as described above for the State and county. Place estimates for each county for January 1, 2007 are controlled to the county estimate for January 1, 2007.

### **Comparisons to U.S. Census Bureau Estimates**

The estimates presented here differ from those from sources such as those periodically produced by the U.S. Census Bureau for several reasons. These estimates have been made using techniques that are different than those used by the Bureau. The Census Bureau uses only the distributive housing unit method to estimate place populations and the administrative records method to estimate county populations. Because the administrative records method uses income tax data that are not available to analysts outside the Census Bureau, this technique can not be used by other agencies. In addition, the estimates reported in the following pages utilize more recent data than those used by the U.S. Bureau of the Census. The Census Bureau's county estimates utilize 2005 birth and death data, whereas 2006 values were employed in the Texas State Data Center estimates reported here. Also, the Census Bureau utilizes birth and death data only in their county level estimates while the Texas State Data Center includes current births and deaths in both county and place level estimates. Finally, the Census Bureau estimates do not include information on annexation and boundary changes for places later than 2004 whereas information through 2006 was included in the estimates completed by the Texas program. Because of these differences, the population estimates presented here and those from the U.S. Bureau of the Census are not directly comparable.

If you have any questions concerning these estimates, please contact:

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Table 4

Texas State Data Center Population Estimates Program July 1, 2006 and January 1, 2007 Estimates of the Total Population of  
Councils of Governments and 2000-2006 and 2000-2007 Population Change for All Councils of Governments in Texas

Council of Governments	2000 Census Count	July 1, 2006 Population Estimate	January 1, 2007 Population Estimate	Numerical Change 2000-06	Numerical Change 2000-07	Percent Change 2000-06	Percent Change 2000-07
Alamo Area	1,807,868	2,041,711	2,070,722	233,843	262,854	12.9	14.5
Ark-Tex	270,468	280,405	281,688	9,937	11,220	3.7	4.1
Brazos Valley	267,085	288,235	291,720	21,150	24,635	7.9	9.2
Capital Area	1,346,833	1,628,754	1,660,876	281,921	314,043	20.9	23.3
Central Texas	374,518	410,981	415,966	36,463	41,448	9.7	11.1
Coastal Bend	549,012	558,894	559,624	9,882	10,612	1.8	1.9
Concho Valley	148,212	146,676	146,647	-1,536	-1,565	-1.0	-1.1
Deep East Texas	355,862	369,852	370,552	13,990	14,690	3.9	4.1
East Texas	745,180	796,519	802,803	51,339	57,623	6.9	7.7
Golden Crescent	183,905	187,987	188,408	4,082	4,503	2.2	2.4
Heart of Texas	321,536	337,119	338,314	15,583	16,778	4.8	5.2
Houston-Galveston	4,854,454	5,625,949	5,734,497	771,495	880,043	15.9	18.1
Lower Rio Grande Valley	924,772	1,118,690	1,139,581	193,918	214,809	21.0	23.2
Middle Rio Grande	154,381	161,429	161,272	7,048	6,891	4.6	4.5
Nortex	224,366	223,143	224,229	-1,223	-137	-0.5	-0.1
North Central Texas	5,309,277	6,161,799	6,258,112	852,522	948,835	16.1	17.9
Panhandle	402,862	414,473	416,129	11,611	13,267	2.9	3.3
Permian Basin	376,672	387,043	391,199	10,371	14,527	2.8	3.9
Rio Grande	704,318	769,270	777,528	64,952	73,210	9.2	10.4
South East Texas	385,090	380,367	379,709	-4,723	-5,381	-1.2	-1.4
South Plains	377,871	385,869	387,190	7,998	9,319	2.1	2.5
South Texas	264,177	316,145	319,768	51,968	55,591	19.7	21.0
Texoma	178,200	192,332	193,405	14,132	15,205	7.9	8.5
West Central Texas	324,901	324,141	324,267	-760	-634	-0.2	-0.2
State of Texas	20,851,820	23,507,783	23,834,206	2,655,963	2,982,386	12.7	14.3

Source: Texas State Data Center, Population Estimates and Projections Program