Estimates of the Total Populations of Counties and Places in Texas for July 1, 2011 and January 1, 2012

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Introduction

The estimates of the total population for counties and places in Texas for July 1, 2011 and January 1, 2012 are 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.

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, utilize Medicare enrollment acquired from the Centers of Medicare and Medicaid Services in the U.S. Department of Health and Human Services.

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 2010 Census) to the estimate date (in this case, July 1, 2011), 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 2011 estimates, 2010 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, 2011. For 2011, 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 through 2010, to estimate the distribution for July 1, 2011.

The average of the component-method II, ratio-correlation and housing-unit population estimates is used as the population estimate for July 1, 2011 with the total for all counties being controlled to the July 1, 2011 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, 2012 estimates are obtained by adding births to, and subtracting deaths from July 1, 2011 through December 31, 2011, to the July 1, 2011 estimates and assuming that July 1, 2010 to July 1, 2011 rates of migration continue from July 1, 2011 to January 1, 2012. 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 2011, standard component procedures were applied to 2010 Census population counts for places. County level birth and death data for 2010-11 from the Texas Department of State Health Services and 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 childbearing 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 ap-propriate   subgroups for each place and the remainder of the county in each county in 2010 were survived (using state-level survival rates for 2009-2011) to July 1, 2011, 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, 2011 and adjusted to account for popula-tion 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 2011 estimates, the allocation was done on the basis of the nonreporting places' proportions of county housing stocks as reported in the 2010 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, 2011 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, 2012 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, 2012 are controlled to the county estimate for January 1, 2012.

Comparisons to U.S. Census Bureau Estimates

The estimates presented here differ from those from other 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 cannot 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 2010 birth and death data, whereas 2011 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 include legal boundary updates reported before January 1, 2011 but do not include more recent information for places, whereas information on annexation and boundary changes through the 2011 calendar year were 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 3

Texas State Data Center Population Estimates Program July 1, 2011 and January 1, 2012 Estimates of the Total Population of
Metropolitan Statistical Areas and 2010-2011 and 2010-2012 Population Change for All Metropolitan Statistical Areas in Texas

Metropolitan Statistical Area*	2010 Census Count	July 1, 2011 Population Estimate	January 1, 2012 Population Estimate	Numerical Change 2010-11	Numerical Change 2010-12	Percent Change 2010-11	Percent Change 2010-12
Abilene	165,252	166,185	166,534	933	1,282	0.6	0.8
Amarillo	251,933	256,494	258,328	4,561	6,395	1.8	2.5
Austin-Round Rock	1,716,289	1,769,045	1,790,173	52,756	73,884	3.1	4.3
Beaumont-Port Arthur	403,190	405,199	405,880	2,009	2,690	0.5	0.7
Brownsville-Harlingen	406,220	414,348	417,514	8,128	11,294	2.0	2.8
College Station-Bryan	228,660	232,801	234,367	4,141	5,707	1.8	2.5
Corpus Christi	428,185	434,648	437,174	6,463	8,989	1.5	2.1
Dallas-Fort Worth-Arlington	6,426,214	6,571,761	6,629,104	145,547	202,890	2.3	3.2
El Paso	804,123	825,025	833,401	20,902	29,278	2.6	3.6
Houston-The Woodlands-Sugar Land	5,920,416	6,057,425	6,111,419	137,009	191,003	2.3	3.2
Killeen-Temple	405,300	414,000	417,337	8,700	12,037	2.1	3.0
Laredo	250,304	259,539	263,269	9,235	12,965	3.7	5.2
Longview	214,369	216,896	217,900	2,527	3,531	1.2	1.6
Lubbock	290,805	295,152	296,845	4,347	6,040	1.5	2.1
McAllen-Edinburg-Mission	774,769	798,286	807,655	23,517	32,886	3.0	4.2
Midland	141,671	145,279	146,712	3,608	5,041	2.5	3.6
Odessa	137,130	139,259	140,084	2,129	2,954	1.6	2.2
San Angelo	111,823	112,642	112,957	819	1,134	0.7	1.0
San Antonio-New Braunfels	2,142,508	2,197,139	2,219,044	54,631	76,536	2.5	3.6
Sherman-Denison	120,877	121,800	122,150	923	1,273	0.8	1.1
Texarkana	92,565	93,275	93,596	710	1,031	0.8	1.1
Tyler	209,714	213,578	215,085	3,864	5,371	1.8	2.6
Victoria	94,003	94,693	94,923	690	920	0.7	1.0
Waco	252,772	256,237	257,650	3,465	4,878	1.4	1.9
Wichita Falls	151,306	151,299	151,303	-7	-3	0.0	0.0
State of Texas	25,145,561	25,674,681	25,883,305	529,120	737,744	2.1	2.9

Source: Texas State Data Center, Population Estimates and Projections Program
* Metropolitan Statistical Areas (MSAs) utilize the 2013 definition specified by the Office of Management and Budget.