



Preliminary

**Estimates of the Total Populations of Counties in Texas
for July 1, 2016**

Produced by:

Dr. Helen You
Dr. Lloyd Potter
and

The Population Estimates and Projections Program
Texas Demographic Center
The University of Texas at San Antonio

May 2018

Introduction

The estimates of the total population for counties in Texas for July 1, 2016 are completed by personnel from the Texas Demographic Center 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 Demographic Center at The University of Texas at San Antonio.

Methodology for County Estimates

Population estimates for counties are completed using three methods, including: ratio-correlation, component-method II, and housing-unit methods. These methods and the types of data used for each are discussed below.

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 Demographic 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 for 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, 2016), being used to estimate population change. New housing additions and demolitions are taken from the U.S. Census Bureau survey of building permits and demolitions and the Texas Demographic Center's 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 Demographic

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 manufactured HUD inspected/mobile homes. For purposes of the 2016 estimates, vacancy rates and average household sizes for each of the housing structure types from the U.S. Census Bureau's American Community Survey (ACS) 2015 5-year Summary File were used. For 2016, the estimates of the number of new manufactured HUD inspected/mobile homes added to an area's housing stock were obtained from the Texas Demographic Center's survey of building permits and demolitions. The sum of manufactured HUD inspected/mobile homes from the survey was subtracted from the U.S. Census Bureau's estimate of the total number of manufactured HUD inspected/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, 2016.

Prior to the release of these estimates, county estimates are evaluated for consistency and reasonableness by the Texas Demographic Center and external reviewers from other State and local agencies. While generally the housing-unit population estimate is used as the population estimate for July 1, 2016, when estimates appeared to be inconsistent with other indicators of population and population change, an estimate produced using another method (i.e., component-method II, ratio-correlation method, or an average of methods) could be selected as the estimate for July 1, 2016. The total of all county estimates are then controlled to the July 1, 2016 estimate for the State obtained from the U.S. Census Bureau.

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 Census 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. Census Bureau. The Census Bureau's county estimates utilize 2015 birth and death data, whereas 2016 values were employed in the Texas Demographic Center estimates reported here. Finally, the Census Bureau estimates include legal boundary updates reported before January 1, 2016 but do not include more recent information for places, whereas information on annexation and boundary changes through the 2016 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. Census Bureau are not directly comparable.

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

Dr. Helen You or Dr. Lloyd Potter

Texas Demographic Center
The University of Texas at San Antonio
501 W. César E. Chávez Blvd.
San Antonio, Texas 78207-4415

Ph: 210-458-6530

Fx: 210-458-6540

tdc@utsa.edu

<http://demographics.texas.gov>