

**Assessment of Municipal Population and Water Demand Projections in
Texas Regional and State Water Supply Planning**

**TWDB Contract Agreement 2500012881
Progress Report 01**

February 28, 2025

Submitted by:

Bridget R Scanlon
University of Texas Bureau of Economic Geology
Pickle Research Campus, Bldg. 130
10100 Burnet Rd., Austin, TX 78758
Ph: 512 471 8241; bridget.scanlon@beg.utexas.edu

Municipal Population and Water Demand Projections
TWDB Contract Agreement 2500012881
Progress Report ##
For Work Completed August 2024 to February 2025
Date Submitted:

Submitted to: Amanda Covington – Contract Manager, TWDB

Katie Dahlberg – Manager, Projections and Socioeconomics Analysis, TWDB

Submitted by: Bridget Scanlon, Research Professor, UTBEG

Progress Report

I. Project accomplishments to date.

Subtask 1. Projection Methodology Literature and Data Review

Subtask 1a. Literature Review

We downloaded water plans for all states where data are available online (~30 state water plans) and incorporated these references into a database. We also reviewed summary documents that described the status of state water plans by American Water Resources Association (17 state plans). We also began reviewing other agencies and organizations in Texas projection methodologies, including the Harris Galveston and Fort Bend Subsidence Districts, Dallas Water Utilities (2024), N Texas Municipal Water District, San Antonio Water System, (2024), Houston Public Works (2024), Region C Water Planning Group (2020), South Central Texas Regional Water Planning Group (2020), Region H Water Planning Group (2020), Lower Colorado Regional Water Planning Group (2020), and Brazos G Regional Water Plan (2020).

Subtask 2. Accuracy of both the draft and final, where available, population projections in regional water plans, and accuracy of Texas Demographic Center's population projections

- 1) Comparison of TDC projected population to population counts in 2000, 2010, and 2020 by the U.S. Census Bureau in the decennial Censuses for the whole state and each county.

We have combined the TDC and Census population information to create master lists for comparison at the state and county level and performed preliminary comparisons.

- 2) Comparison of draft Regional Water Plan projected population to population counts in 2000, 2010, and 2020 by the U.S. Census Bureau in the decennial Censuses for the whole state, regional water planning area, county, and select WUGs.

We have combined the draft TDC and SWP projections with the US Census data to create master listings at the state, RWPA, county levels and for all of the WUGs listed in the WUG_Bridge_2002-2022 list for which the information is available.

- 3) Comparison of final Regional Water Plan projected population to population counts in 2000, 2010, and 2020 by the U.S. Census Bureau in the decennial Censuses for the whole state, regional water planning area, county, and select WUGs.

We have combined the final TDC and SWP projections with the US Census data to create master listings at the state, RWPA, county levels and for all of the WUGs listed in the WUG_Bridge_2002-2022 list for which the information is available. Some of these data overlap with those from Subtask 2.2.

- 4) Geographic levels: State, regions, counties, select WUGs.

This item does not have specific deliverables but simply emphasizes the geographic levels for which we will be performing the various analyses under this task.

- 5) Accuracy of urban versus rural populations per TWDB's definition Texas Water Code Ch. 15.001(14):

- a) Counties where the population is less than 50,000.

- b) WUGs where the population is 10,000 or less and does not overlap an urban area, as defined by the U.S. Census Bureau in 41 CFR 102-83.80.

We have compiled the 2000 and 2010 US Census data place name populations from the Texas State Library and Archives Commission website here:

<https://www.tsl.texas.gov/ref/abouttx/popcity2000.html>

<https://www.tsl.texas.gov/ref/abouttx/popcity12010.html>

We were unable to locate the corresponding 2020 US Census data at the Texas site so we used data from the US Census site here:

census.gov/data/tables/time-series/demo/popest/2020s-total-cities-and-towns.html

- c) Other utility size thresholds as determined appropriate and in line with uniform reporting requirements across the state (small, medium, medium-large, large, and metropolitan categories¹).

For this task, we are using the 2020 Census place name populations as the reference value to categorize rural vs urban counties and WUGs (Tasks 2.5a and 2.5b) using the TWBD threshold populations for small (< 10,000), medium (10,000 -100,000) and large (> 100,000) systems. This avoids complicating analyses for counties and WUGs with populations that may have crossed over between threshold populations during the 2000-2020 period.

We have created comprehensive and separate WUG listings for each of the RWPAs and for the three counties identified by Amanda Covington's email of 18 Nov 2024 (Guadalupe, Rockwall, and Lubbock counties) and in the rural counties identified in the email (Jim Wells and Brown counties). We have not identified any further counties for similar comprehensive WUG analysis at this time. We are also working to identify specific WUGs and groupings of WUGs for analysis based on the General and Regional Criteria listed in Amanda's email, including targeting a minimum percentage of WUGs and multiple counties within the different RWPAs and also including major cities, with the intention of including rural and non-rural WUGs across the various population size categories.

- 6) Special focus on County-Other WUG population projections.

This item does not have specific deliverables but simply emphasizes the need to focus on the County-Other WUG projections under this task.

Subtask 3. Accuracy of state and regional water plans' municipal demand projections (with consideration of drought supply planning)

We are currently working to integrate the water use data for the same times and regions that are being examined for the various population analyses.

¹ https://www.twdb.texas.gov/publications/reports/special_legislative_reports/doc/Water-Use-of-Texas-Water-Utilities-87th-Legislative.pdf?d=7743.300000071526