Population and Municipal Water Demand Draft Projections for the 2026 Regional and 2027 State Water Plans

1. Population and municipal water demand projections overview

Municipal water demand projections are a function of population projections, baseline Gallons per Capita per Day ($GPCD_{base}$), and projected plumbing code savings. The following steps are involved in developing municipal water demand projections for Water User Groups (WUGs):

a) develop population projections,

b) determine $GPCD_{base}$ by WUG,

c) develop plumbing code savings projections by WUG, and

d) calculate municipal water demand projections.

Population projections and municipal water demand projections are aggregated by counties and Regional Water Planning Areas. The high-level steps are outlined here, while Sections 2 and 3 of this document go into more detail.

1.1 Foundational data and major assumptions

- Population projections are based on county-level projections from the Texas Demographic Center (TDC), which used migration rates between the 2010 and 2020 decennial Census to project future growth (Section 2.1).
- The Texas Water Development Board (TWDB) drafted WUG-level projections using the TDC's 1.0 migration scenario projections and provided 0.5 migration scenario projections for the planning groups' consideration.
- $GPCD_{base}$ values were drafted for each WUG (Section 3.1) and minimum GPCD values were imposed (Section 3.2).
- Projected plumbing code savings for each WUG assume passive water efficiency savings due to plumbing code laws related to residential toilets, showerheads, clothes washers, and commercial toilets and urinals. (Section 3.3). WUGs with high employment relative to the permanent residential population may have high projected plumbing code savings due the replacement of commercial fixtures.

1.2 Key changes from previous planning cycle's projection methodology

- The TWDB population projections for the regional and state water plans have always relied, initially, on county-level population projections from the TDC. In the past, the TWDB had altered the resulting regional plan population projections in certain counties – by holding them flat in future periods – to avoid projecting declining populations. For the 2026 Regional Water Plans (RWPs), the draft county population projections followed the trends projected by the TDC, including declines.
- Future savings from additional faucet and dishwasher replacements were not considered necessary for inclusion in the draft plumbing code savings projections for this current planning cycle. Based on the effective year of the relevant plumbing code standards and the useful life of

these items, the expected water efficiency savings by replacement and new growth would reasonably be fully realized by the first projected decade (2030).

2. Population

The population projection methodology is performed in two steps: first, projections at the county-level, and then, projections at the WUG-level.

2.1 County population projections

Draft county population projections are based on the TDC's 2022 county-level population projections.[1] Such projections are based on recent and projected demographic trends, including the birth rates, mortality rates, and net migration rates of population groups and defined by age, gender, and race/ethnicity. Population projections represent permanent residents, and not seasonal or transient populations. This method for developing population projections is known as the cohort component method and is performed by the TDC using a model.

The TDC generally develops county-level population projections under three migration scenarios:

- zero migration: no net migration (natural growth only),
- 1.0 migration: net migration rates of 2010 to 2020 ("full-migration scenario"), and
- 0.5 migration: 2010 to 2020 migration rates halved ("half-migration scenario").

While the TDC's projections extend to 2060, the 2027 State Water Plan requires projections to 2080. Therefore, the TWDB staff used the 1.0 migration scenario to extend the TDC's projections through 2080 and to develop WUG-level projections. Although, the TDC strongly recommends use of the half-migration scenario for long-term planning, the TWDB drafted population projections for all planning regions using one consistent scenario. For each county, the draft projection is based on the 1.0 migration scenario as the default, but the 0.5 migration scenario was provided through 2080 for Regional Water Planning Groups (RWPGs) to consider during the review process. The TWDB staff extended each region's projections to 2070 and 2080 using the region-level compounded annual growth rates (CAGR) from the 2050 to 2060 projections (see Table 1) and then sub-allocated to counties within the regions using the county's share of the region's decadal growth.

[1] Texas Demographic Center, 2022, Population Projections, https://demographics.texas.gov/Data/TPEPP/Projections/#2022prj

Table 1. Extending the TDC's thirty-year population projections through 2080

	Sum of TDC 1.0 Migration Scenario Projections				Extend two decades using Region-specific CAGR				
Region	**2030**	**2040**	**2050**	**2060**	**2050 to 2060 CAGR**	**2070**	**2080**	**2060 to 2070 CAGR**	**2070 to 2080 CAGR**
A	397,160	405,244	408,658	409,696	0.03%	410,735	411,779	0.03%	0.03%
B	189,639	182,637	172,769	162,203	-0.63%	152,283	142,971	-0.63%	-0.63%
C	8,866,884	10,093,722	11,297,108	12,440,777	0.97%	13,700,226	15,087,176	0.97%	0.97%
D	824,990	847,410	859,530	868,815	0.11%	878,201	887,689	0.11%	0.11%
E	931,194	960,699	969,203	963,018	-0.06%	956,873	950,768	-0.06%	-0.06%
F	778,553	879,271	982,649	1,071,087	0.87%	1,167,487	1,272,561	0.87%	0.87%
G	2,703,905	3,074,453	3,481,252	3,913,803	1.18%	4,400,096	4,946,811	1.18%	1.18%
H	8,369,431	9,477,092	10,583,689	11,611,062	0.93%	12,738,163	13,974,676	0.93%	0.93%
I	1,100,376	1,103,143	1,093,467	1,077,850	-0.14%	1,062,457	1,047,284	-0.14%	-0.14%
J	129,683	130,134	130,196	131,285	0.08%	132,384	133,493	0.08%	0.08%
K	2,125,830	2,481,504	2,827,373	3,204,245	1.26%	3,631,353	4,115,392	1.26%	1.26%
L	3,525,104	4,110,775	4,738,184	5,424,749	1.36%	6,210,796	7,110,741	1.36%	1.36%
M	1,778,329	1,831,384	1,842,992	1,818,702	-0.13%	1,794,734	1,771,082	-0.13%	-0.13%
N	585,222	586,642	580,190	569,474	-0.19%	558,956	548,631	-0.19%	-0.19%
O	553,026	587,260	620,752	665,214	0.69%	712,862	763,921	0.69%	0.69%
P	53,556	55,843	57,772	59,678	0.33%	61,648	63,682	0.33%	0.33%

2.2 Water user groups

The regional and state water plans require population projections and municipal water demand projections for individual WUGs (31 TAC § 357.31(a)). Before projections can be developed, a list of municipal WUGs with associated data must first be created.

2.2.1 WUG criteria

Defined in the Texas Administrative Code (31 TAC § 357.10(43 A-E)), municipal WUGs are composites of public water systems, grouped by utilities, developed at the beginning of each regional water planning cycle. Per *First Amended General Guidelines for Development of the 2026 Regional Water Plans (Exhibit C)*, RWPGs reviewed and provided input on the draft WUG list for the 2026 RWPs. Municipal WUGs generally include:

- utilities providing more than 100 acre-feet of municipal water per year;
- collections of utilities with a common water supplier or water supplies (Collective Reporting Units or 'CRU'); and
- remaining public water systems and self-supplied population summarized as "County-Other".

For the 2026 RWPs, the draft municipal WUG list was developed by carrying over all municipal WUGs from the 2021 RWPs with active, community public water systems. Additional new WUGs were evaluated based on the utility water use meeting the criteria listed in 31 TAC § 357.10(43 A-E).

2.2.2 Historical WUG populations

The historical WUG populations are a critical step in developing WUG population projections. Following the development of the WUG list, the 2010 and 2020 population estimates were developed based on the

decennial Census.[2] Public water system boundaries were gathered from the TWDB's Texas Water Service Boundary Viewer application and grouped by WUG. Using ESRI Geographic Information Systems, WUG boundaries were then overlayed with the Census Blocks and population was counted. Because some boundaries contain inaccuracies (e.g., water lines shown as boundaries instead of the actual service area of the water provider) self-reported population estimates from the TWDB Water Use Survey were cross-referenced to determine the final WUG population estimates. The sum of the WUG populations were reconciled to the decennial Census population count. The number of households per WUG were estimated using the 2020 decennial Census data by county and persons per household were then estimated using the previously calculated population.

2.3 Projection methodology

Projections for individual WUGs are developed by sub-allocating the population from the region-county projections to the WUGs. The methods of allocating future populations from the county total to the sub-county areas include:

- share of growth: applying the WUG's historical (2010 to 2020) share of the region-county's growth to future growth,
- share of population: applying the WUG's 2020 share of the region-county's 2020 population to the region-county's projected population each decade, and
- constant population: applied to military bases, universities, and other WUGs that are primarily group quarter population. Also, any WUGs that indicated buildout in the 2021 RWPs were held constant at or near their buildout population from the previous planning cycle.

Over a fifty-year planning period, it can be expected that WUGs may grow at different rates within counties, therefore, the share of growth method was prioritized; however, an extensive review was completed by the TWDB staff to ensure that the projected growth rate was in line with the historical growth. If the projected growth rate was not similar to either the WUG's historical growth rate or the region-county growth rate, then the share of population method may have been used. The share of population method maintains the WUG's 2020 proportion of the region-county population throughout the planning horizon. The sum of all WUG population projections within a region-county was reconciled to the total region-county projection prior to the finalization of draft projections.

3. Municipal water demands

Draft municipal water demand projections utilize the permanent residential population projections and a decade-specific per person water use volume for each WUG, including County-Other WUGs. GPCD represents the entire utility's water use (including residential, commercial, and institutional water use). For each municipal WUG, the initial baseline GPCD ($GPCD_{base}$) value minus the incremental anticipated plumbing code savings for each future decade was multiplied by the projected population to develop the municipal water demand projections (see Section 3.4 for the formula).

[2] U.S. Census Bureau, 2020, Decennial Census, P.L. 94-171 Redistricting Data, https://www.census.gov/programs-surveys/decennial-census/about/rdo/summary-files.html

3.1 Baseline Gallons per Capita per Day

For the 2026 RWPs, the baseline GPCDs represent historical 'dry-year' water use minus accumulated plumbing code savings ($GPCD_{base}$). The GPCD was drafted for WUGs by carrying over the GPCD from the 2021 RWPs minus estimated accumulated plumbing code savings. The GPCDs in the 2021 RWPs were carried over from the 2016 RWP and mostly represented the historically dry year 2011, although some WUG GPCDs in the 2021 RWPs were revised by the planning groups to use more recent 'dry-year' utility-based water use (2010 to 2015). Accumulated plumbing code savings were calculated using the annualized projected plumbing code savings from the 2021 RWPs for each WUG and subtracting from the carried over GPCDs (see Table 2). All new WUGs in the 2026 RWPs baseline GPCD were drafted using 2018 net water use from the TWDB Water Use Survey and estimated population from the U.S. Census Bureau.

Table 2. Calculating Baseline GPCDs for existing WUGs

2027 Entity Name	RWP21 $GPCD_{base}$	RWP21 GPCD Approx. Year	RWP21 PC Savings 2020	2010-2020 Per Year PC Savings	Number of years between $GPCD_{base}$ & 2020	GPCD minus Savings Accrued	New $GPCD_{base}$ (draft)
AMARILLO	211	2011	9.62	0.96	9	8.7	202
AUSTIN	162	2011	6.00	0.60	9	5.4	157
CORSICANA	214	2011	10.22	1.02	9	9.2	205
DALLAS	207	2015	9.14	0.91	5	4.6	202
LOWER VALLEY WATER DISTRICT	107	2010	10.86	1.09	10	10.9	96
SEGUIN	147	2012	10.04	1.00	8	8.0	139
SPRINGS HILL WSC	88	2011	9.49	0.95	9	8.5	79
ALBANY	258	2013	10.15	1.02	7	7.1	251
NORTH HUNT WSC	60	2011	0	0	9	0	60
RIVERSIDE SUD	64	2011	4	0.4	9	3.6	60

Historical GPCDs were provided for RWPGs consideration to revise the baseline GPCD. The historical GPCDs were developed annually and gathered for the 2026 RWP revision process. Each year, GPCD is estimated for each WUG through the Water Use Survey by:

a) calculating the net water use of each water system surveyed annually by the TWDB as total system intake volume minus sales reported by the water system to large industrial facilities and other public water systems plus volumes purchased by other surveyed entities,
b) summarizing the net use by WUG,
c) estimating population for the WUG using the U.S. Census Bureau's population estimates for the county, and
d) dividing the net use by the WUG's population and then dividing by 365 (number of days in a year).

3.2 Minimum GPCD values

When calculating the $GPCD_{base}$ or the projected per person water use values, the TWDB staff applied a minimum of 60 GPCD for each WUG. The minimum value of 60 GPCD is based on two studies: *Analysis of*

Water Use in New Single-Family Homes[3] and an internal TWDB report, *The Grass Is Always Greener...Outdoor Residential Water Use in Texas*, analyzing the percentage of Texas residential water used outside of the home.[4] The single-family home study researched the average indoor per person water use for:

- pre-1995 Homes (62.18 GPCD),
- standard new homes built after 2001 (44.15 GPCD),
- standard new homes retrofitted with high-water-efficient fixtures and appliances (39.0 GPCD), and
- new WaterSense homes built with the best available technology for water conservation (35.6 GPCD).

With the assumed replacement of fixtures and appliances over the next 50 years, the indoor per person water use of the standard new home retrofitted (39.0 GPCD) can be expected under existing standards. However, this is only indoor use and the single-family home study found that there was no statistical difference in outdoor water use between types of housing. The TWDB study of outdoor water use in Texas estimated that on average 31 percent of total residential water use is outdoor water use. Utilizing this average outdoor water use percentage (31 percent) and the indoor water use (69 percent) of 39 GPCD for retrofitted new homes produced a total residential GPCD of 56.5. While some municipal WUGs may remain primarily residential, any water use by commercial, institutional, and light industrial water users will contribute to the overall WUG's average GPCD. For this reason, the minimum baseline GPCD, as well as decade-specific projected GPCD (baseline GPCD minus projected plumbing code savings) was rounded to a value of 60 GPCD.

3.3 Plumbing code savings

Plumbing code savings may be referred to as water efficiency savings and are required to be considered in municipal demand projections per 31 TAC § 357.31(d). Plumbing codes are federal and state laws that mandate the efficiency of all new appliances and fixtures sold in retail stores. Plumbing codes result in passive water efficiency savings, as households naturally replace older appliances and fixtures without having to 'actively' seek more water efficient appliances and fixtures. The TWDB staff project plumbing code savings for each WUG for each decade in the planning horizon for the following fixtures and appliances: residential toilets, clothes washers, showerheads, and commercial toilets and urinals.

3.3.1 Plumbing code standards and parameters

Historical legislation (both state and federal) impacts the volume of water used within homes and businesses. Such legislation generally provided a maximum water use standard (per flush, per cycle, or per minute), as well as an effective date for when appliances and fixtures sold locally must meet that standard. Tables 3 and 4 summarize the effective years and the standards for each fixture and appliance included in the plumbing code savings projections. The assumed effective date for the first State of Texas

[3] *Analysis of Water Use in New Single-Family Homes*, 2011, Prepared by William B. De Oreo of Aquacraft Water Engineering & Management for The Salt Lake City Corporation and the U.S. Environmental Protection Agency.
[4] *The Grass Is Always Greener...Outdoor Residential Water Use in Texas*, 2012, Sam Marie Hermitte and Robert E. Mace, Texas Water Development Board Technical Note 12-01.

standards is 1995, which varies slightly from the effective date within the legislation, as allowances were included within the legislation for the sale of inventory stocks. For the purposes of calculating future plumbing code savings, the assumed effective date for the first standards is 1995. Whereas the other standards listed in Tables 3 and 4 correspond with the effective dates listed in each of the pertinent pieces of legislation or actual designation by EPA rule. Based on new research, the useful life of fixtures/appliances may be updated between planning cycles. Standards are measured in gallons per minute (gpm), gallons per flush (gpf), or gallons per cycle (gpc).

Table 3. State of Texas Plumbing Code Standards

Standards	Effective Year of New Standard		Useful Life	Included in 2026 RWP?	Included in 2021 RWP?
	1995[5]	2014[6]			
Faucets	2.2 gpm		15 years	No, benefits fully realized	Yes
Toilets	1.6 gpf	1.28 gpf	25 years	Yes	Yes
Showerheads	2.75 gpm	2.5 gpm	15 years	Yes	Yes
Urinals	1 gpf	0.5 gpf	25 years	Yes	No

Table 4. Federal Plumbing Code Standards

Standards	Effective Year of New Standard					2026 RWP Useful Life	Included in 2026 RWP?	Included in 2021 RWP?
	2010[7]	2011[8]	2012[9]	2015[10]	2018[10]			
Dishwashers	6.5 gpc		5 gpc			10 years	No, benefits fully realized	Yes
Front-load Clothes Washers (4.0 cubic feet)		38.0 gpc		18.8 gpc		12 years	Yes	Yes
Top-load Clothes Washers (4.5 cubic feet)		42.75 gpc		37.8 gpc	29.25 gpc	12 years	Yes	Yes

Two possible fixtures/appliances, originally included in the legislative efforts concerning plumbing codes,

[5] State of Texas Legislature, SB 587, 1991, 72(R) legislative session, https://capitol.texas.gov/MnuLegislation.aspx
[6] State of Texas Legislature, HB 2667, 2009, 81(R) legislative session, https://capitol.texas.gov/MnuLegislation.aspx
[7] EPA Water Sense, National Efficiency Standards and Specifications for Residential and Commercial Water-Using Fixtures and Appliances, Sept. 29, 2008.
[8] U.S. Congress, Public Law 110-140, Energy Independence and Security Act of 2007, Dec. 19th, 2007.
[9] Federal Register, Energy Conservation Program: Energy Conservation Standards for Dishwashers, Vol. 77, No. 190 October 1, 2012.
[10] Office of Energy Efficiency and Renewable Energy, Department of Energy. Energy Conservation Program: Energy Conservation Standards for Residential Clothes Washers, May 31, 2012.

were not included in the 2026 RWP draft calculations. Kitchen and bathroom faucets as well as residential dishwashers were excluded as the timing of the latest effective plumbing code standards and the useful life combined to render little or no additional savings via replacement or new construction installations during the 2030 to 2080 planning horizon.

Draft 2026 RWP water efficiency savings projections also include savings within the commercial sector, a first for the regional water planning effort. Improvements in data availability and analysis methods allowed this first-time estimation for potential water savings due to replacement of commercial toilets and urinals at the WUG-level.

Water savings estimates that accompanied the water demand projections represent an estimation of the amount of water (average per person) that will be saved by the conversion to more water-efficient fixtures. Housing units built before the various standards came into effect will, over time, replace their old fixtures with the new water-efficient fixtures. In addition, construction of new homes or businesses with the more efficient fixtures/appliances will also contribute to the passive savings estimate, lowering the average GPCD as the proportion of more water-efficient fixtures/appliances within the WUG increases over time.

Prior to determining the WUG-level expected savings, the TWDB staff assembled additional data concerning the useful life of each possible fixture/appliance (assumed values in Tables 3 and 4) and updated all calculations concerning the impacts on GPCD when replacing one fixture/appliance with a given level of efficiency with a more water use efficient fixture/appliance. . After reviewing the water efficiency standards, the TWDB staff converted the water use per fixture and appliance into per person water use and estimated GPCD savings (Tables 5 and 6) before projecting utility-wide savings. Because there are multiple standards for each fixture and appliance, the TWDB staff developed GPCD savings for each standard and tracked replacement rates since 1995 (when the first plumbing code laws were enacted). Commercial toilets and urinals were combined and GPCD savings were calculated using the gender percentages from the Bureau of Labor Statistics[11] and average number of flushes per day times the number of days at work.

Table 5. GPCD Savings Parameters - Fixtures

Fixture	GPCD Savings		
	Pre-1995 Average Use to 1995 Standard	**Pre-1995 Average Use to 2014 Standard**	**1995 Average Use to 2014 Standard**
Showerheads*	13.0	NA	1.86
Toilets - residential	10.5	12.1	1.6
Toilets & urinals – commercial**	7.06	8.41	1.35
* Savings values shown assume 8 minutes per shower and 6.5 showers per person per week ** Savings values shown assume state-level gender employee proportions and 6 days/week use for commercial toilet and urinal use			

[11] Bureau of Labor Statistics, 2020, Geographic Profile of Employment and Unemployment, https://www.bls.gov/opub/geographic-profile/home.htm

Table 6. GPCD Savings Parameters - Appliances

Appliance	Key Assumptions	GPCD Savings					
		Pre-2011 Average Use to 2011 Standard	Pre-2011 Average Use to 2015 Standard	Pre-2011 Average Use to 2018 Standard	2011 Standard to 2015 Standard	2011 Standard to 2018 Standard	2015 Standard to 2018 Standard
Clothes Washers	Composite top and front loader, 75/25 percent split.[12] 300 cycles/year[13] and statewide average household size of 2.77 people per household.[2]	0.22	2.35	4.25	2.52	4.41	1.90
Savings shown here are an example. Average persons per household varies by WUG and thus actual savings will vary by WUG.							

3.3.2 Plumbing code savings projections methodology – residential

Individual models were developed for each of the fixture/appliance types to project the plumbing code savings for each WUG for 2030 to 2080. The TWDB compiles population data rather than housing data, so in calculating the estimates of the number of houses and less-efficient fixtures, population was used as a proxy for the number of houses at the time the law took effect and the projection of future houses. The 1995 population was estimated for each WUG in the 2026 RWPs and used as a benchmark to determine the potential average per capita water savings. The 1995 population (as a proxy for housing and fixtures) is assumed to have less-efficient fixtures, which will be replaced over time, lowering the WUG's average GPCD. The TWDB staff tracked which standards were likely to be adopted from 1995 to 2080 using the respective efficiency standard and useful life of the fixture/appliance. TWDB staff calculated the estimated water use without water efficiency standards in place and calculated the estimated water use with adopted standards in place and estimated the difference between the two to develop the savings for each WUG in each decade for each fixture/appliance. This yielded the marginal change in GPCD for each decade (per WUG). Because some WUGs' projected populations decline over time, the planned replacement of fixtures and appliances based on useful life could exceed the number of people (proxy for households) in a WUG, therefore, the TWDB staff scaled the replacement rates based on the number of people within a WUG in each decade. These measures corrected the possible adverse impacts on the projected plumbing code savings and were deemed reasonable to align fixtures and appliances with occupied houses.

3.3.3 Plumbing code savings projections methodology – commercial

Employment estimates were used as a proxy to project the replacement of commercial toilets and urinals

[12] U.S. Energy Information Administration, Appliances in U.S. homes in the South and West regions, 2020, https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%203.8.pdf
[13] EnergyStar, Clothes Washers, https://www.energystar.gov/products/clothes_washers

and to project average water efficiency savings gained for the WUG. Historical data for county-level population and employment for 2000 through 2020[14] was used to document the relationship between county-level population and employment. A two-way lookup table was derived with the percent change in employment based upon size classes for population for the WUG and the percent change in population for the WUG. Once the employment projections by decade were determined, similar GPCD savings calculations as those done for residential were implemented. A set of planned replacements was determined based upon the pattern of employment growth, which was then adjusted if the planned replacement exceeded the projected employment. The projected savings by the replacement of more efficient toilets and urinals in commercial businesses, while a function of employment within the utility, was calculated on a WUG-level per person basis. Therefore, WUGs with high projected employment relative to the number of permanent residents may have high projected commercial savings.

3.3.4 Plumbing code savings projections by WUG

Spreadsheets were used to project the plumbing code savings for the specific fixture or appliance, based upon the historical WUG population estimates and projected population or employment. The four types of fixtures or appliance GPCD savings projections were reviewed for accuracy, and then aggregated to determine the total expected plumbing code savings for each WUG. These projections were used to reduce the baseline GPCD ($GPCD_{base}$) (Section 3.1) over the planning horizon to determine WUG-level passive water efficiency savings, as shown in the formula in Section 3.4 and Table 7 below. Figure 1 below demonstrates how the projected impacts of plumbing code savings will decline over time due to the adoption of more efficient appliances and fixtures, until the adoption of the most efficient appliances and fixtures has taken place (estimated to be 2040, based on useful life and current plumbing code standards).

[14] U.S. Census Bureau, 2000, 2001, 2010, 2011, 2019, and 2020, County Business Patterns.

Figure 1. Projected Impacts of Plumbing Code Savings

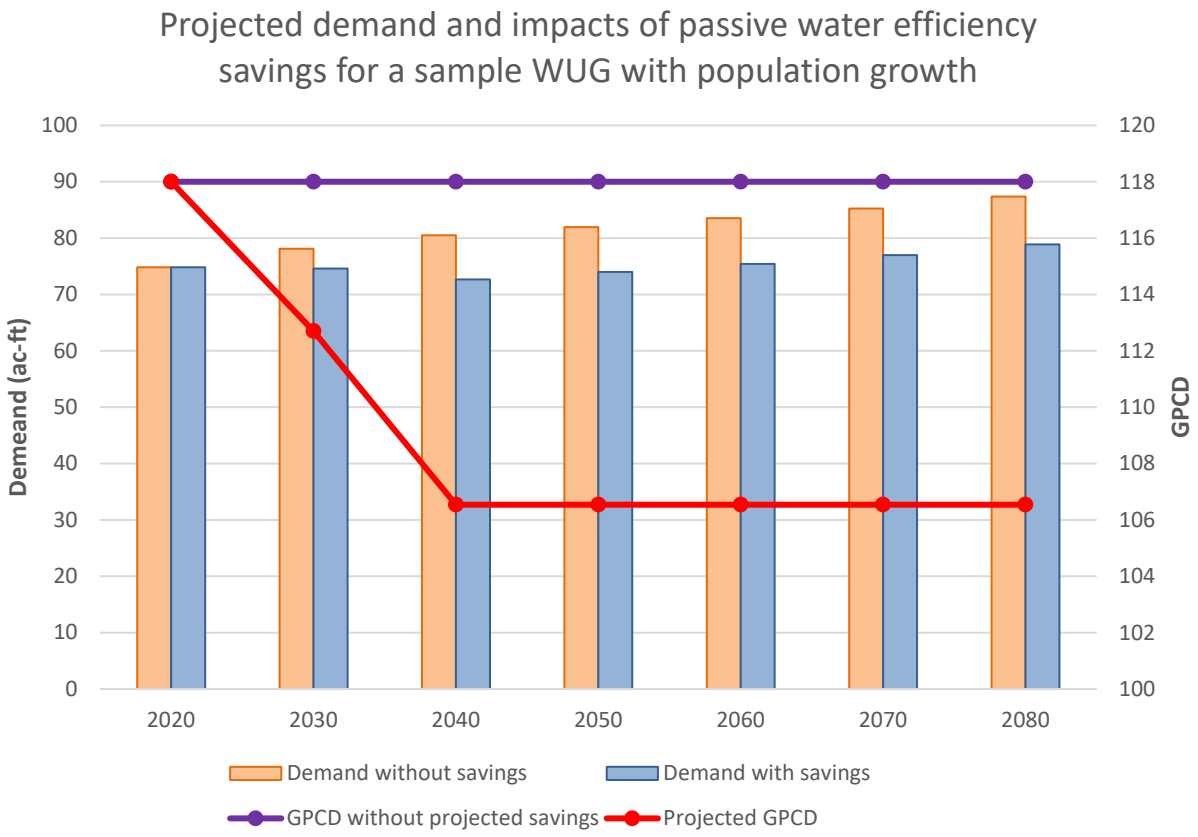

Table 7. Examples of Plumbing Code Savings by WUG

Entity Name	Baseline GPCD	Projected Plumbing Code Savings						Projected GPCD (rounded)					
		2030	2040	2050	2060	2070	2080	2030	2040	2050	2060	2070	2080
Abilene	163	4.75	5.37	5.37	5.37	5.37	5.37	158	158	158	158	158	158
Amarillo	202	4.83	5.46	5.46	5.46	5.46	5.46	197	197	197	197	197	197
Austin	157	4.90	5.49	5.49	5.49	5.49	5.49	152	152	152	152	152	152
Carthage	214	4.92	5.49	5.49	5.49	5.49	5.49	209	209	209	209	209	209
Cash SUD	103	4.37	4.87	4.87	4.87	4.87	4.87	99	98	98	98	98	98
Corpus Christi	173	4.68	5.36	5.36	5.36	5.36	5.36	168	168	168	168	168	168
Corsicana	205	4.65	5.21	5.21	5.21	5.21	5.21	200	200	200	200	200	200
Dallas	202	4.96	5.59	5.59	5.59	5.59	5.59	197	196	196	196	196	196
Los Fresnos*	60	0	0	0	0	0	0	60	60	60	60	60	60
Post Oak SUD	67	4.53	5.05	5.05	5.05	5.05	5.05	63	62	62	62	62	62

*Los Fresnos WUG baseline GPCD is already at 60, thus the minimum GPCD of 60 imposed throughout the planning horizon.

3.4 Municipal water demand projections

Municipal water demand projections are a function of population, baseline GPCD ($GPCD_{base}$), and projected plumbing code savings. Municipal water demand projections were developed for each WUG for each decade from 2030 through 2080 and then summarized by county and Regional Water Planning Area. The following formula was used to calculate municipal demands for each decade in acre-feet for each WUG:

$$\text{Projected Demand} = (\text{Population} * (GPCD_{base} - \text{PC Savings}) * 365) / 325{,}851$$

RWPGs may review and revise the WUG-level population projections, baseline GPCD, and projected plumbing code savings per criteria in *First Amended General Guidelines for Development of the 2026 Regional Water Plans (Exhibit C)*, thus revising the municipal water demand projections.