Brazos G Regional Water Planning

Preparing for Growth, Drought, and Future Demands

Belton, TX | November 19, 2025

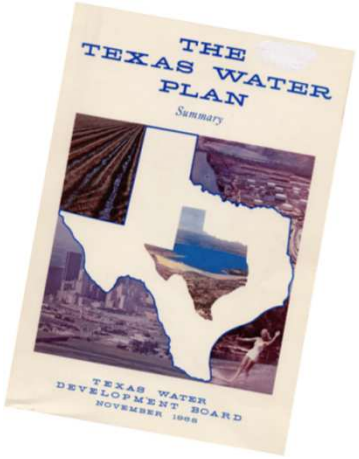
carollo

01

State Water Planning

History and Context for Today

State Water Planning



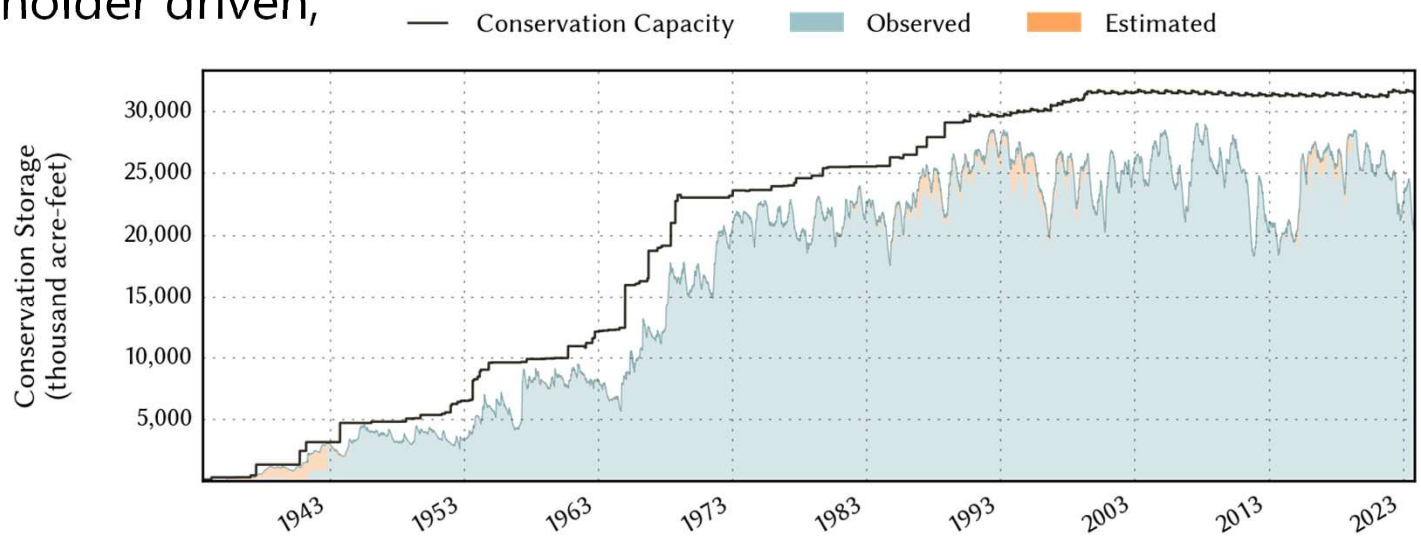
Origin

- State driven with stakeholder input
- Lack of implementation
- Drought of mid-1990s
- Redesign to stakeholder driven, regional process

Broad Objectives

- Consistent state-wide process
- Development
- Management
- Conservation

➢ **11 State Water Plans (1961 – 2022)**



From: Water Data for Texas

Stakeholder Process

Transparent and public

Developed every 5-years

- High-level snapshot in time

Planning for water needs

- Drought focused

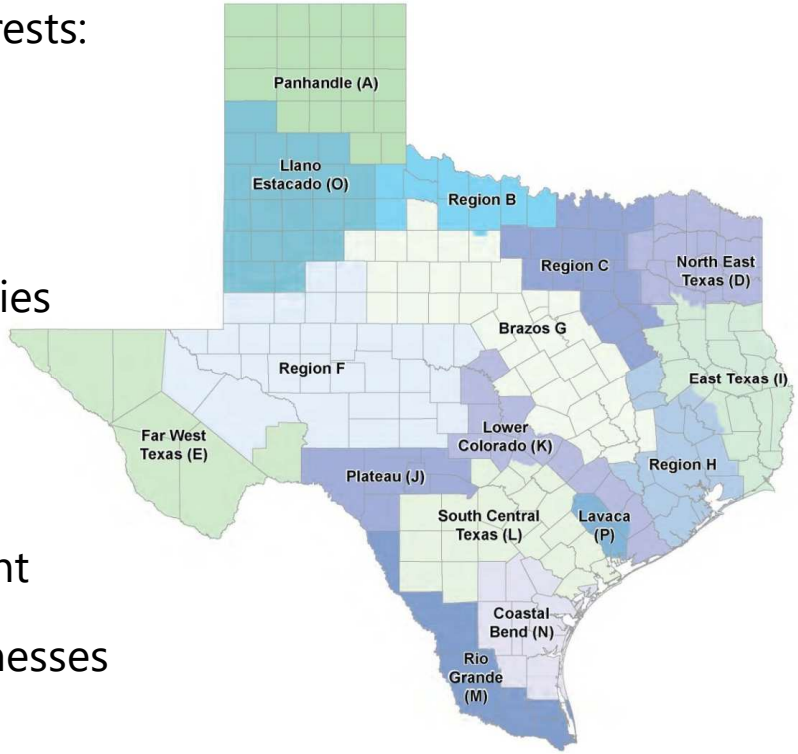
Needs are shortages

- What supplies do we have?
- What water demand will there be?

Water Supply Planning Regions and Composition

Statutory interests:

- Public
- Counties
- Municipalities
- Industries
- Agriculture
- Environment
- Small businesses



- Electric-generating utilities
- River authorities
- Water districts
- Water utilities
- Groundwater management areas

Why does the State Water Plan Matter?

Regional and State Water Plans are considered in:

- Permitting (including amendments)
- Funding assistance
- Broad-scale resource to support future growth
  - Evidence of water supply and capability to support economic development
  - High-level base to support additional necessary detailed studies
- Rural water providers with limited funding for individual long-term planning studies

Consistency

- Consistency is achieved when a proposed project will use the **same source of water** as currently used or recommended in the water plan
- A project does not have to be in the water plan **unless** certain state financing is used (SWIFT, etc.)
- Private projects, treatment, and distribution infrastructure usually not included in plans

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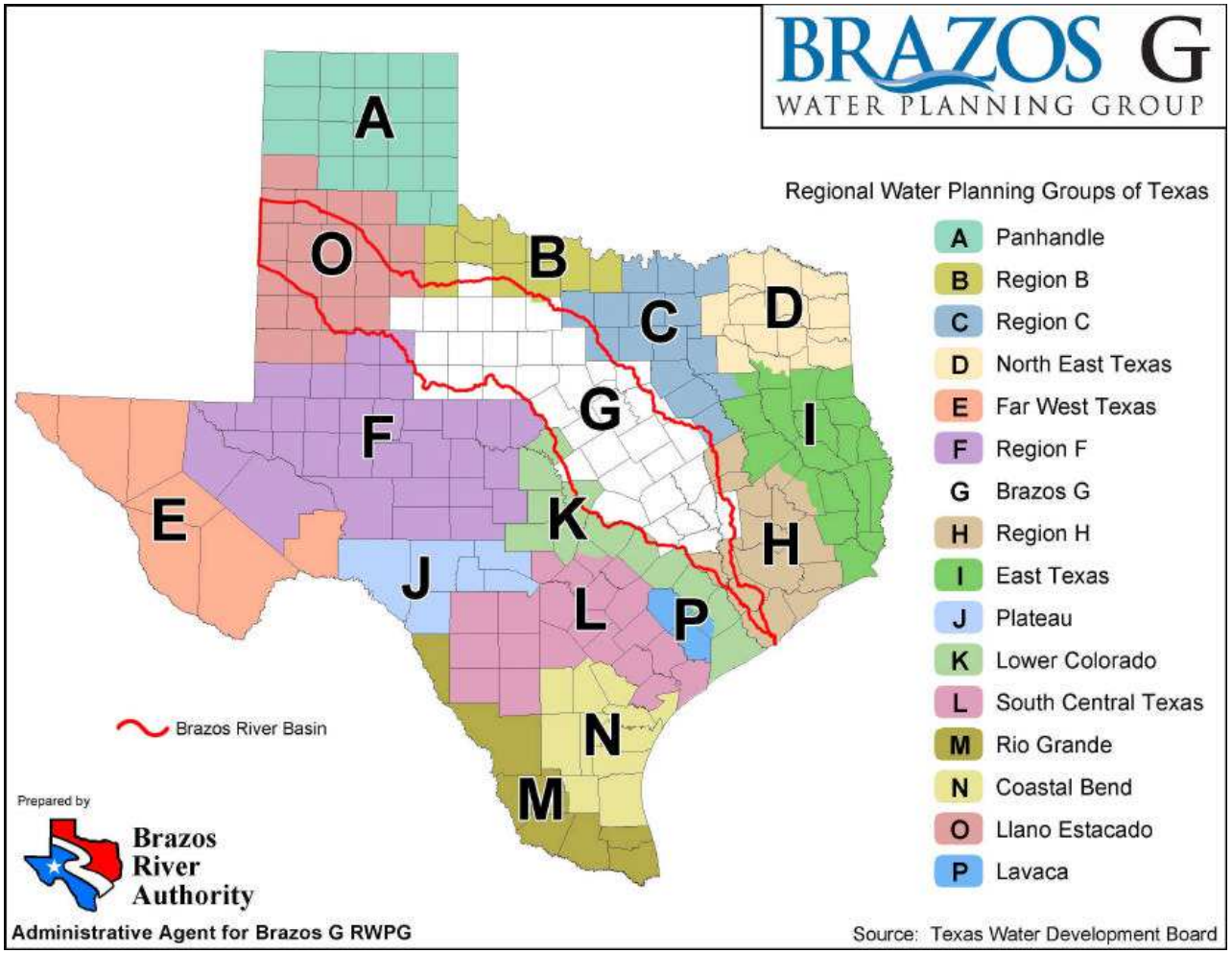
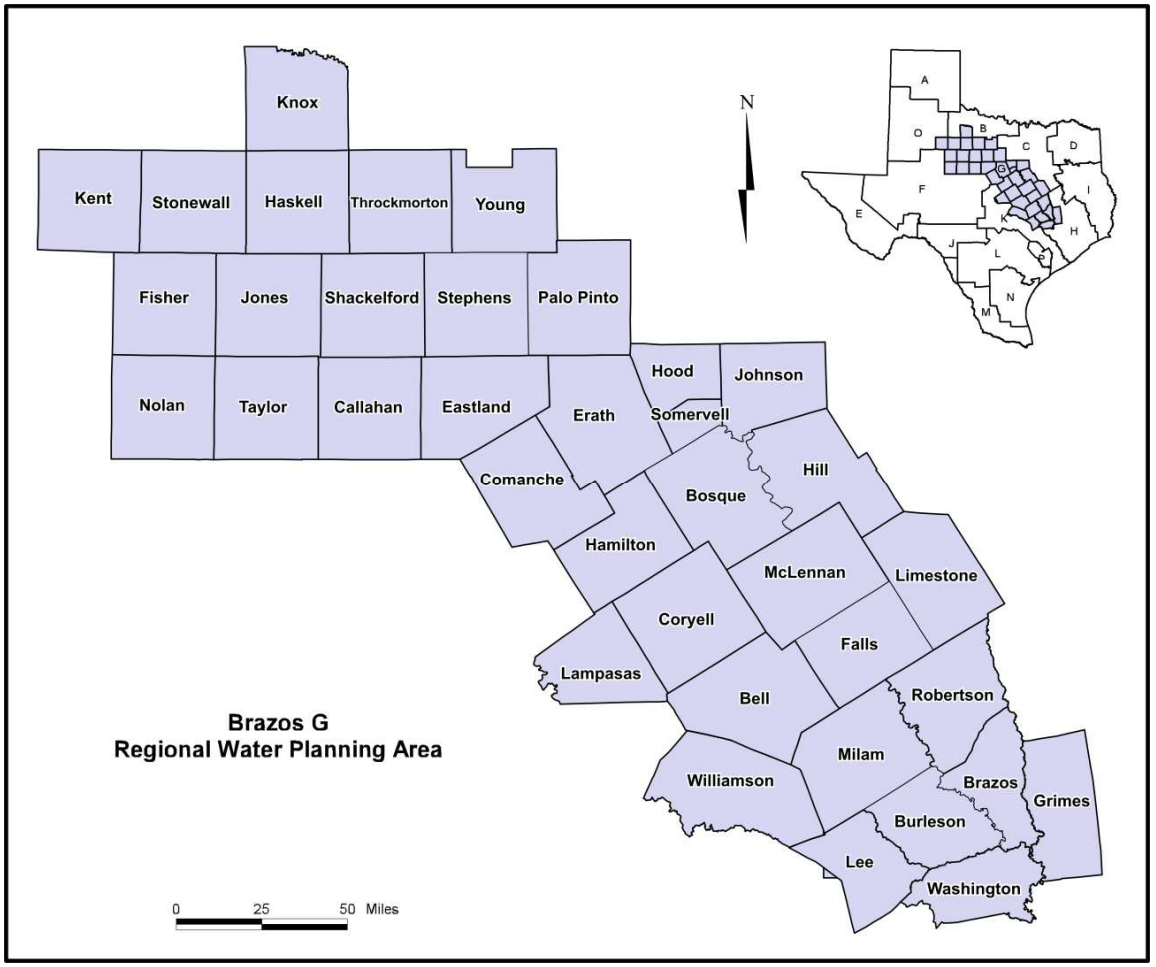
Regional Water Planning

The Process

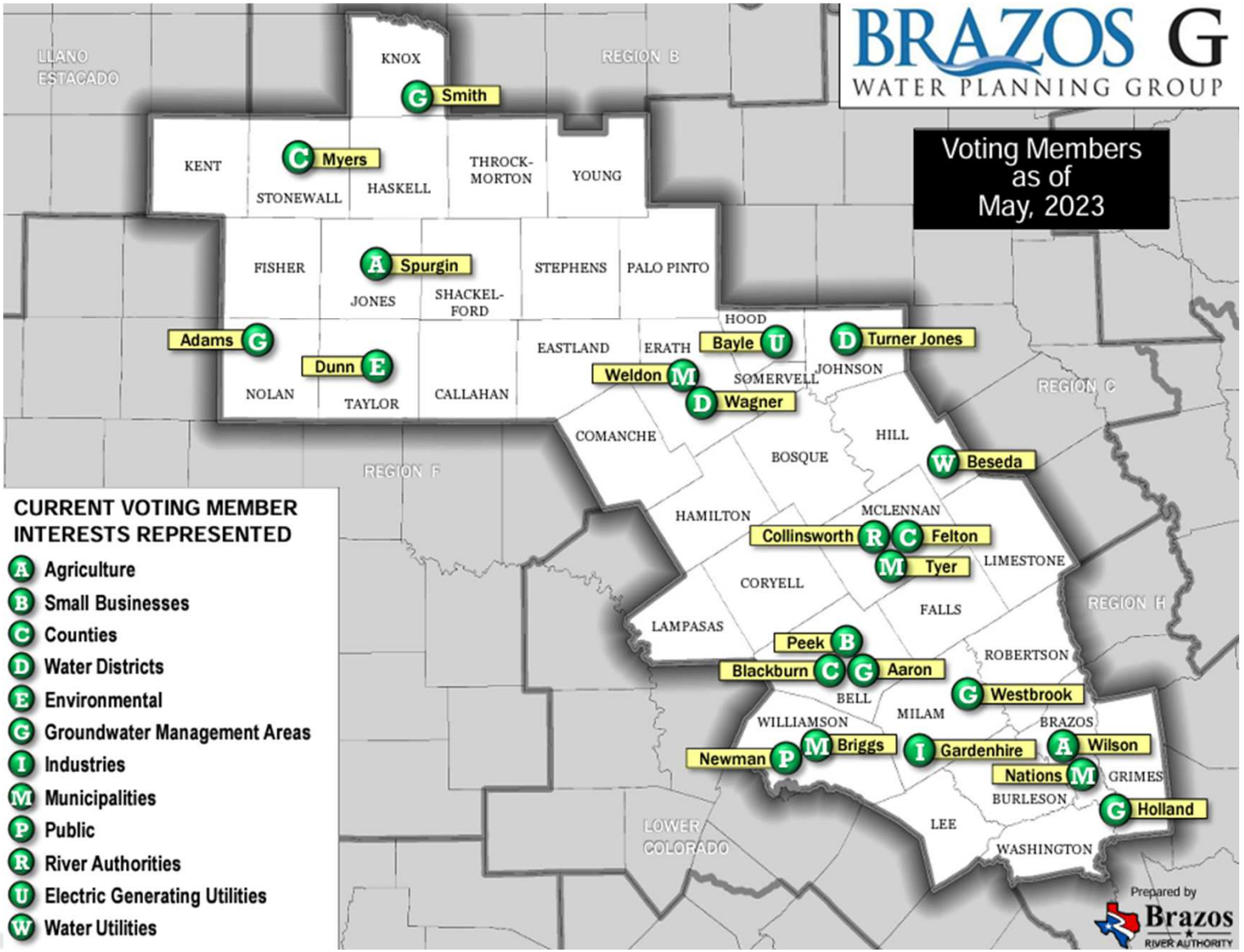
Brazos River Basin
Region G



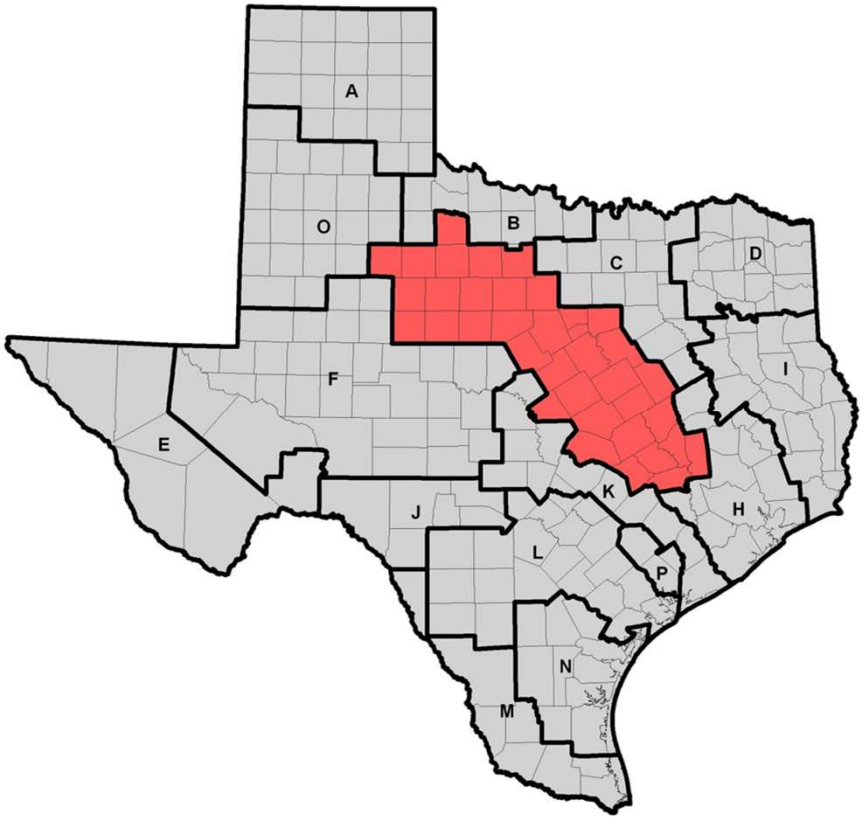
Brazos G - 37 Counties



Composition of the various stakeholders within a Water Planning Group



BRAZOS G
WATER PLANNING GROUP



- 37 Counties
- 527 Water Users
  - •279 Municipal Groups
  - •Other Uses
    - •Manufacturing (30)
    - •Steam Electric (12)
    - •Irrigation (36)
    - •Livestock (37)
    - •Mining (36)
- 97 Wholesale Providers

Brazos G - A Valuable Resource

Does not enact water planning policy or strategy; rather, it captures input and develops a regional plan that meets statutory requirements.

The process is the true added value.

- Brings together diverse perspectives
- Collects reliable information and data
- Engages with stakeholders
- Serves as entry point for public engagement
- Serves as good resource for Texas Legislature

Identifies drivers

- Realities of drought
- Rapid population growth
- Business climate
- Associated development

Regional Water Planning Equation

- Water Demand Projections
  - How much water do we need?
- Water Availability Analysis
  - How much water do we have?
- Water Management Strategies
  - How will we meet our future water needs?

Steps to Regional Water Planning

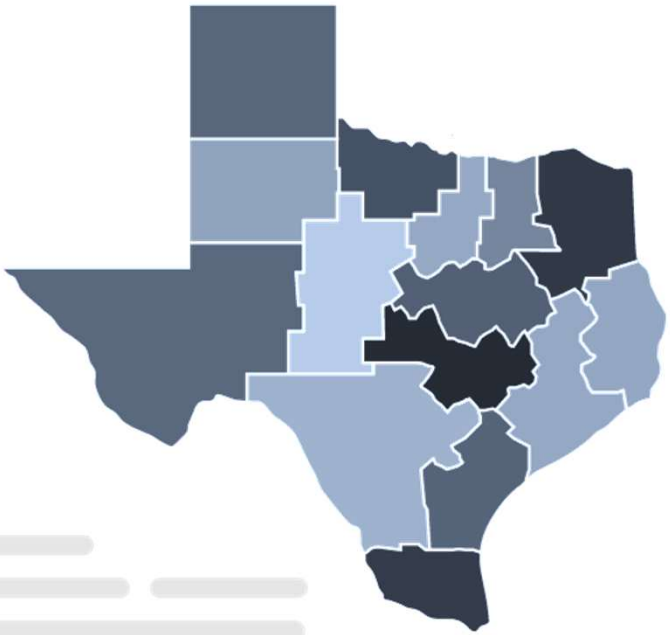
Describe the Region

Assess Projected Population and Water Demands

Assess Current Supplies

Calculate "Needs" or Shortages

Evaluate and Recommend Water Management Strategies to Meet Needs



WE ARE HERE!

Develop Regional Water Plan
(i.e. 2021 Plan)

TWDB Review of 16 Regional Water Plans

TWDB Prepares State Water Plan (ie 2022 State Water Plan)

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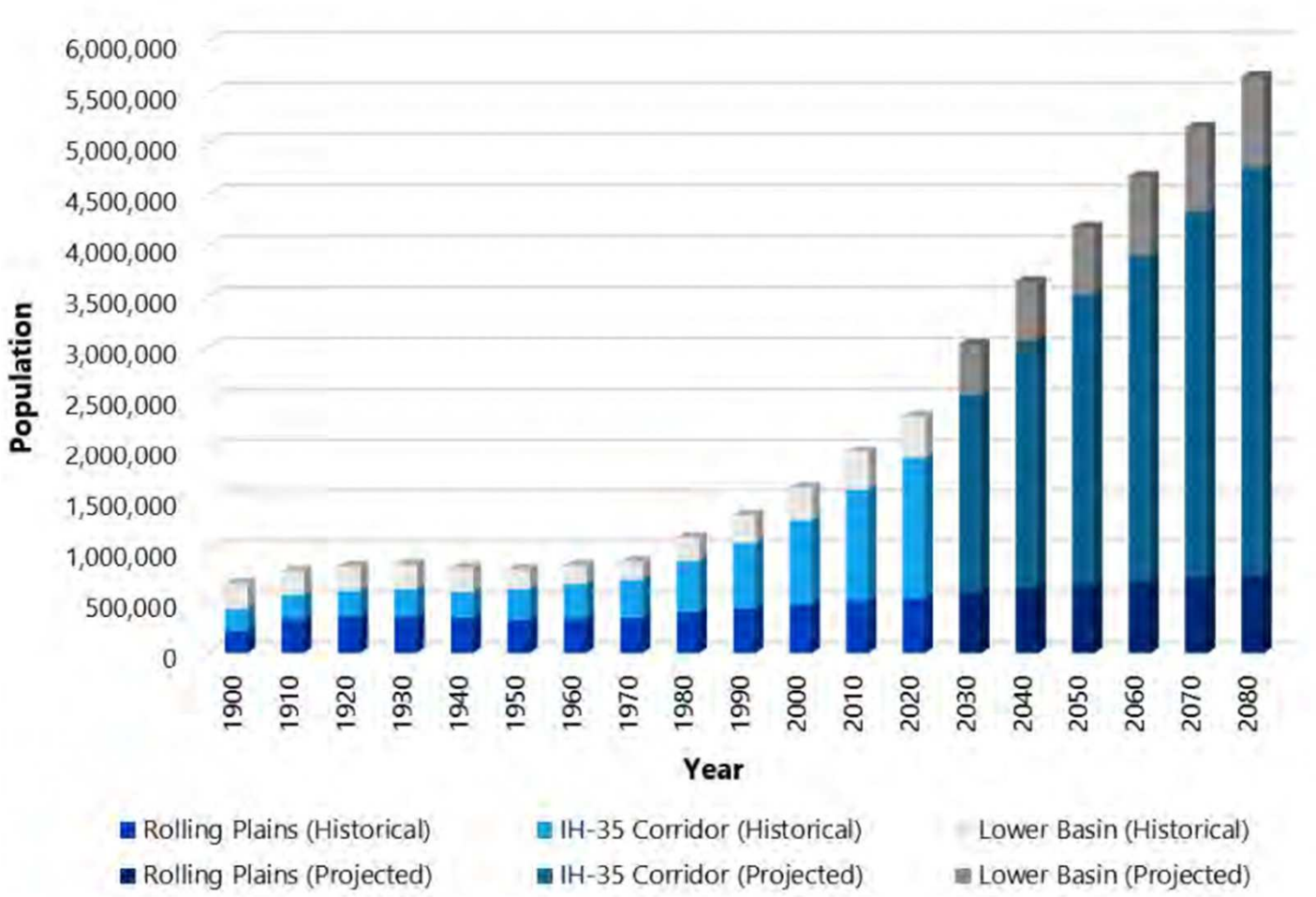
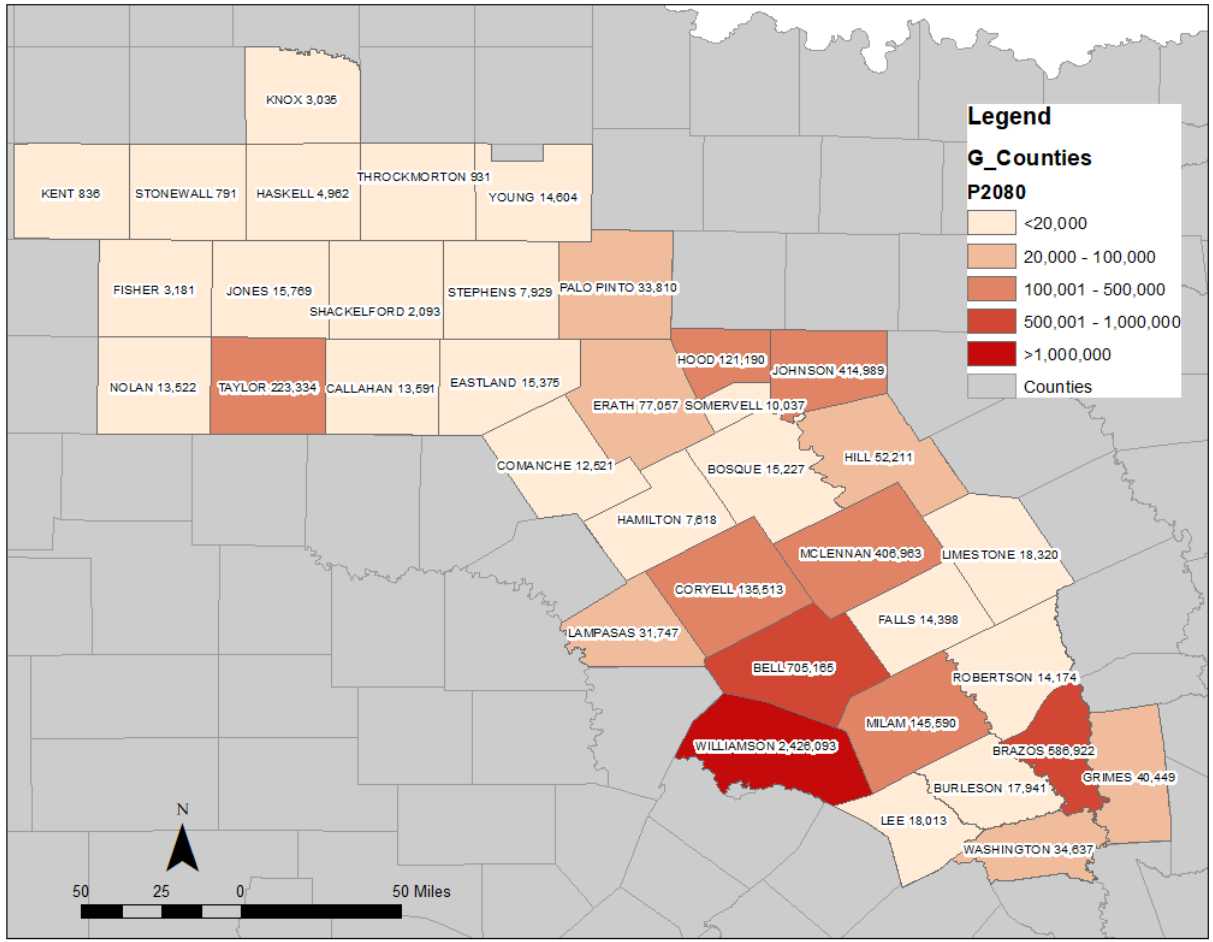
Growth

Driver

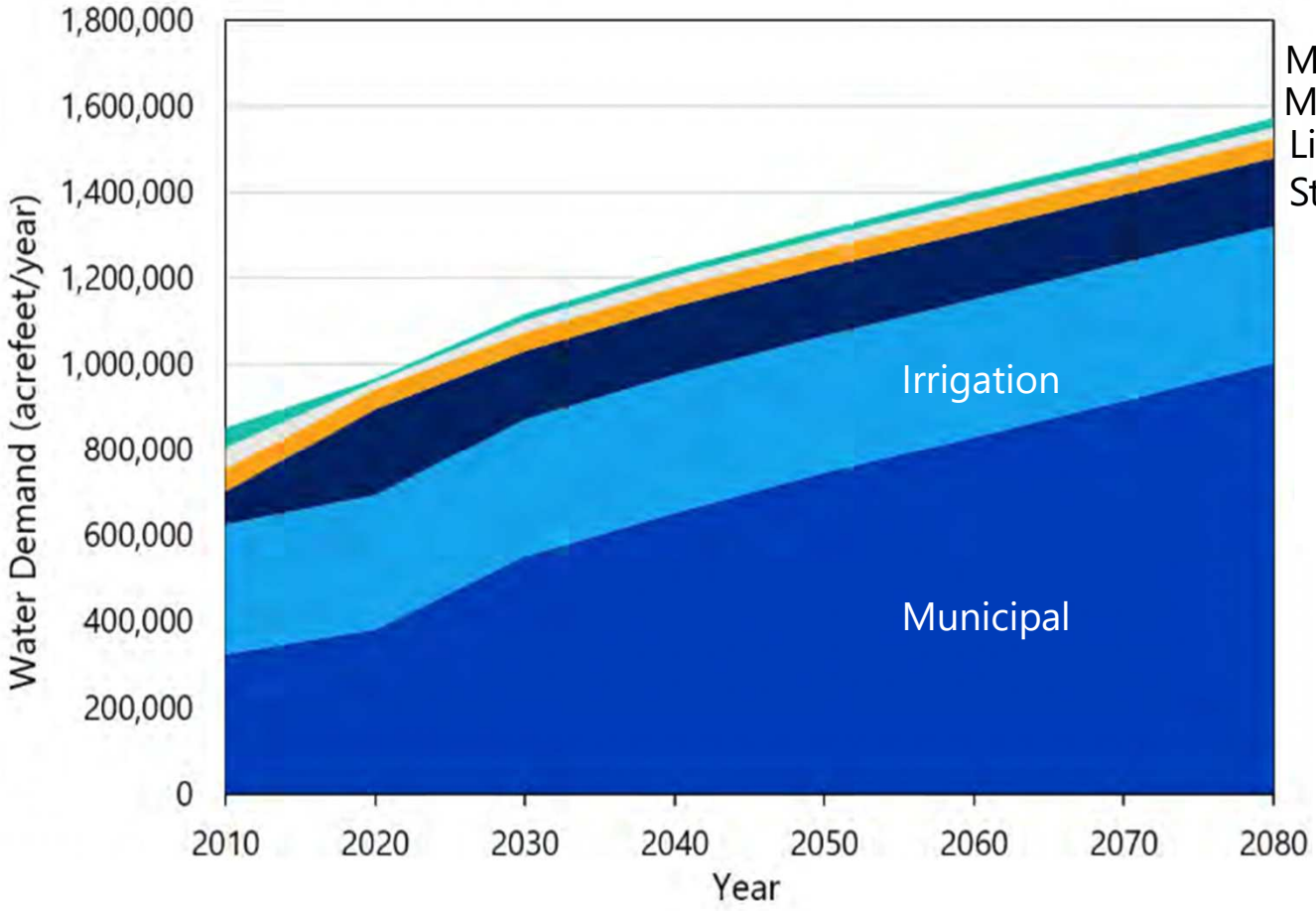
Region's Historical and Projected Population Growth by Sub-Region



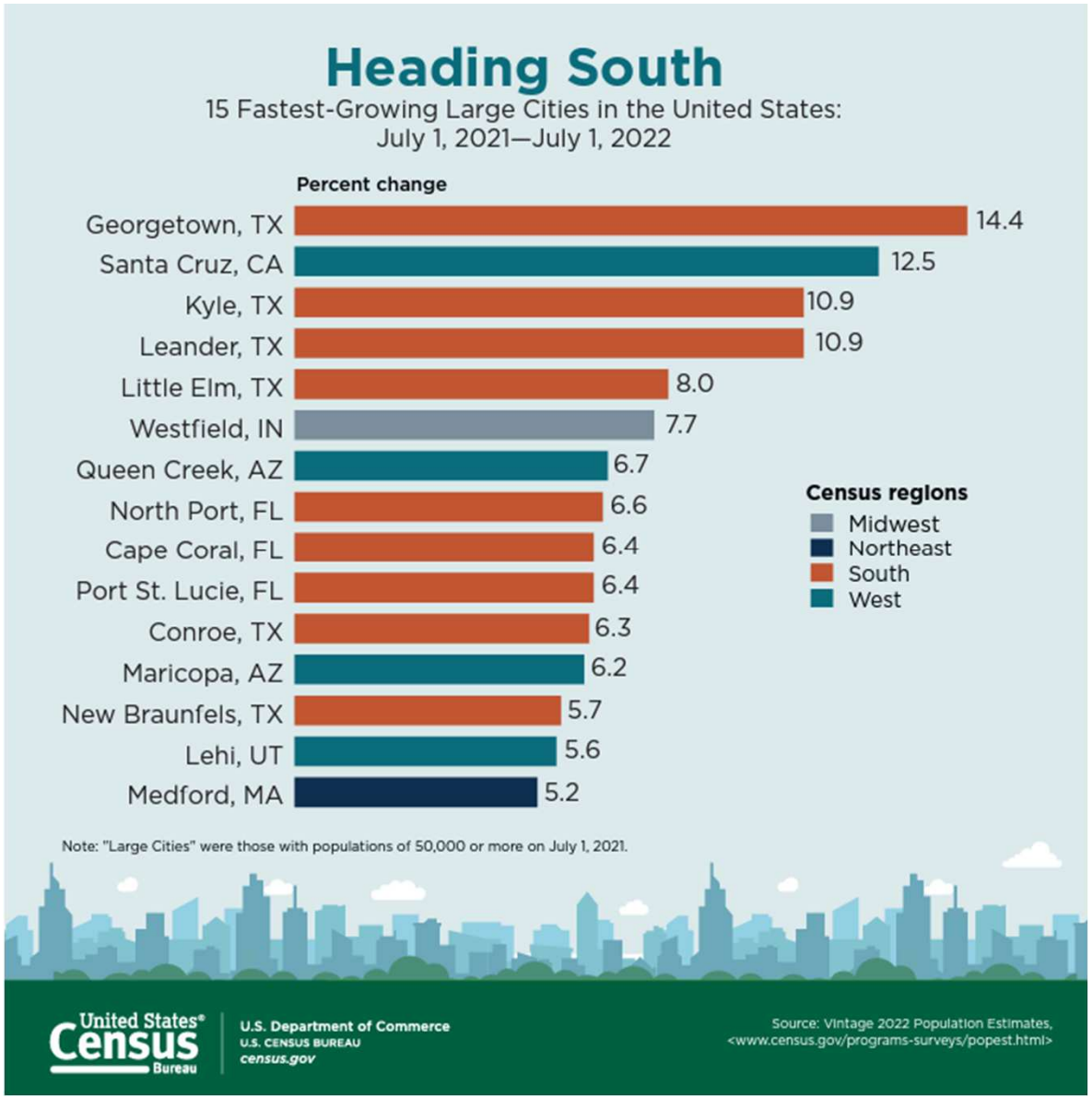
Distribution of Future 2080 Population Growth



Projected Growth in Water Demand by Use Type



- Decreased projections of steam-electric power generation
- Pending manufacturing demand
- Significant population growth

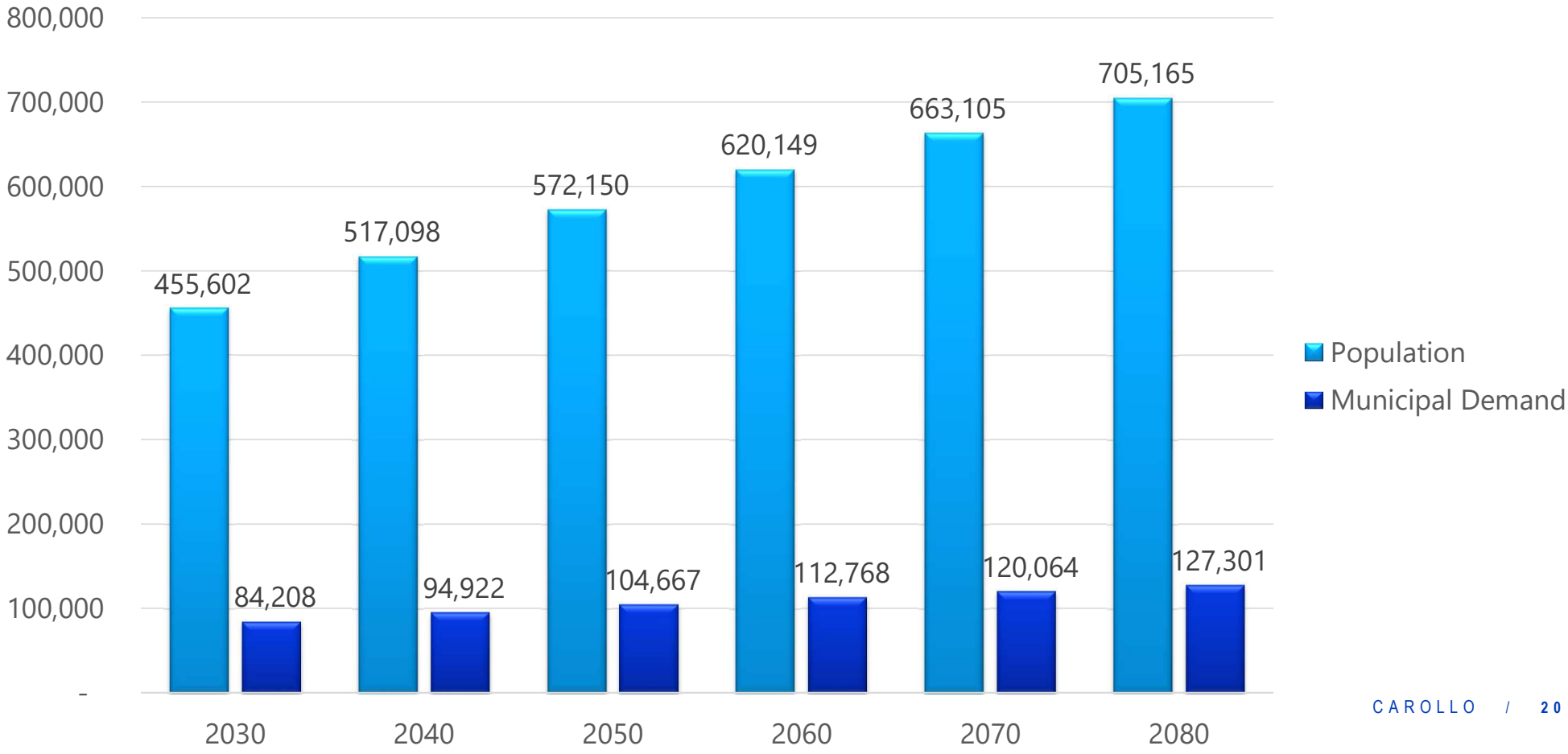


Georgetown was also #1 in the previous year.

7 years of growth in 1 yr.

If occurring three years in a row, a project you thought you needed in *two decades* you will need in *~three years.*

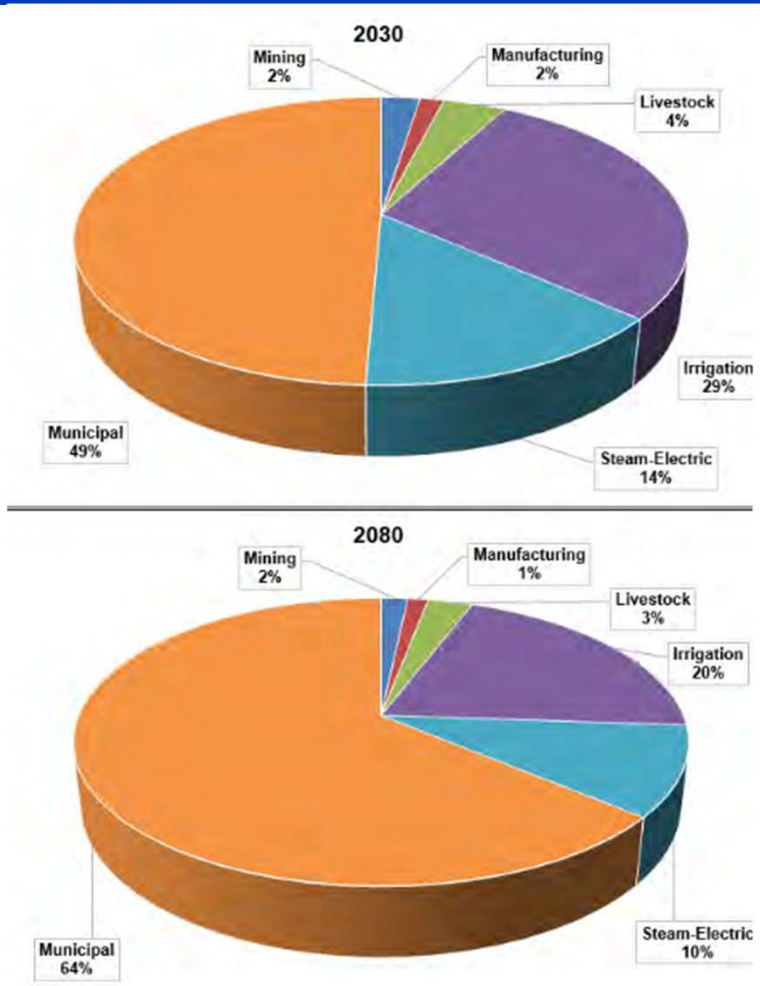
Bell County Population and Demand Projections



Growing Population vs. Water Demand

Not 1-to-1 Relation	Water Conservation	Water Demand Projections
• Increased Efficiencies • Implementation of Conservation Measures	• Drought Contingency Plans • Improvements Resulting in Decreased Water Use per Person = Gallons per Capita Daily "GPCD"	• Function of Pop. • Utilize Worst-Case "Drought" GPCD • Utilize Projected Plumbing Code Savings • Trends in per Capita Usage

Projected % change in Region's water demands by type of use



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2026 Brazos G Regional Water Plan

New Water User Groups in the 2026 Plan

Entity	County
Bell County WCID 1	Bell
Cade Lakes WSC	Burleson
City of Benjamin	Knox
Hog Creek WSC	Bosque, McLennan
Noack WSC	Williamson
S U N WSC	Fisher, Jones, Taylor
Westbound WSC	Callahan, Eastland

Drought

Drought of Record

- Varies across geography in the region
- Two primary droughts of record:
  - Drought of the 1950's in Mid and Lower Brazos G areas
  - 2015 drought in Upper Brazos area

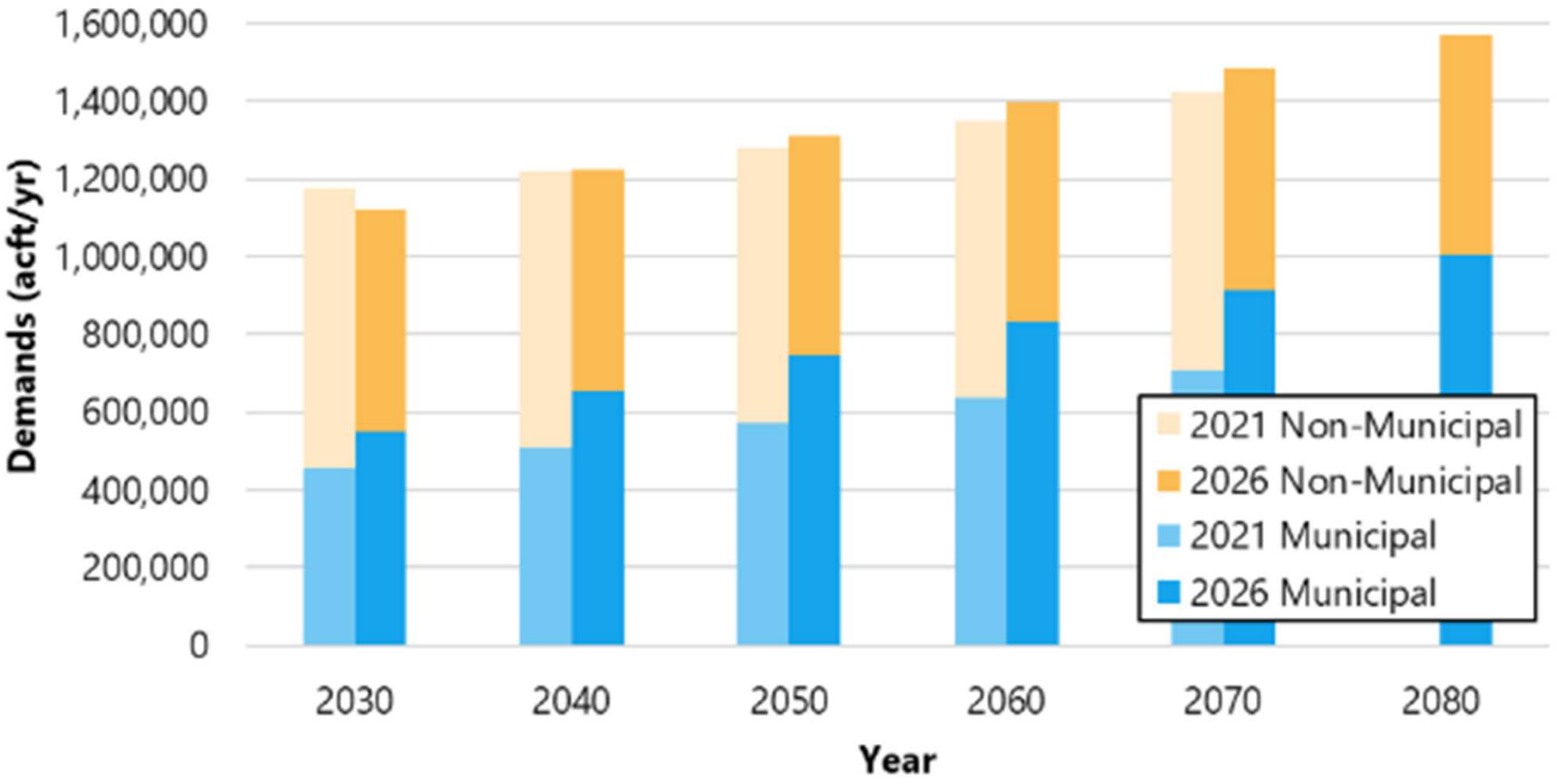
Surface Water

- Plan is based on latest update of the TCEQ's official Brazos Water Availability Model (WAM) with extended hydrology through 2018.
- Includes updated sedimentation and storage capacities
- Conservative assumptions to characterize surface water availability that can be legally and physically produced during drought conditions

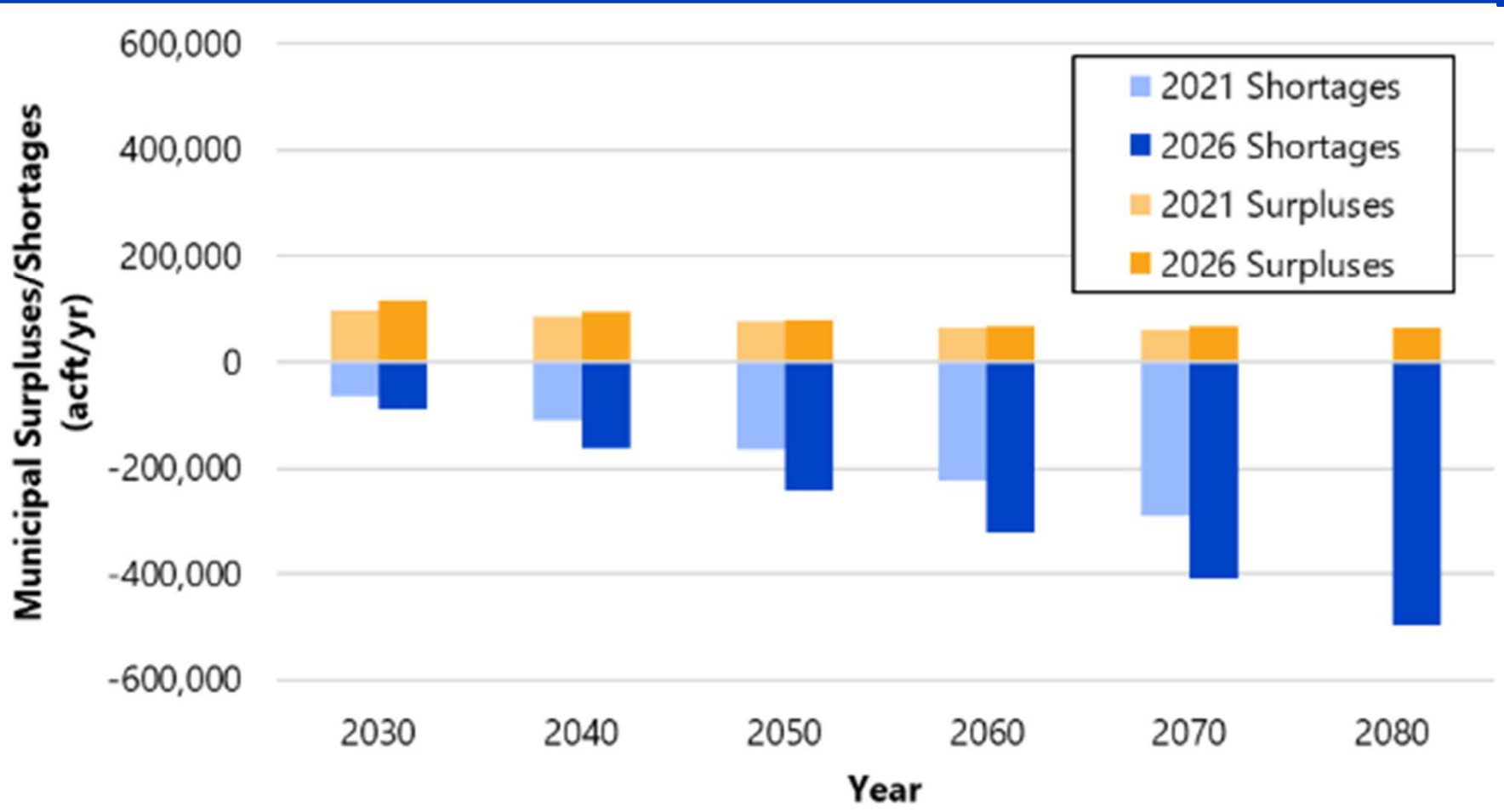
Groundwater

- Employs Modeled Available Groundwater from TWDB modeling
- Supply characterized by what can be produced 24/7/365 in drought conditions

Difference in Projected Demands between ‘21 and ‘26 Brazos G Plans



Comparison of municipal shortages between ‘21 and ‘26 Brazos G Plans



Water Management Strategies and Projects

Infeasible Strategies

- Significant identification effort
- Adjustments to project onsets, participants, status
- Identification of unmet needs

Drought management and emergency supply measures

Recommended Conservation WMSs

- ~176,882 ac-ft/yr of municipal conservation and water loss reduction savings ecommended by 2080.
- Conservation strategies represent 29% of 2030 needs and 35% of projected 2080 needs.
- Evolving focus on conservation.

Recommended new supplies

- Total 663,781 ac-ft/yr by 2080
- Comprised of surface water supplies, reuse, conservation, water loss reduction, augmentation of existing facilities (treatment expansions), groundwater wells, ASR, purchases/voluntary redistribution, regionalization
- Total project costs for new supplies exceed $5.9 billion.

Water Management Strategies and Projects

New Reservoirs

- Cedar Ridge, Turkey Peak, Brushy Creek, Throckmorton, and Lake Creek Reservoirs
- Groesbeck OCR, Coryell County OCR.

Groundwater Development

- Recommends ~289,000 ac-ft/yr of additional development by 2070.
- Increasing pressure from growing water demands on region's groundwater sources.

Aquifer Storage and Recovery

- College Station, Bryan (two projects), Waco (McLennan County ASR), BRA (Lake Granger ASR), Georgetown (Lake Georgetown ASR), and Acton MUD ASR.

Reuse

- 65,517 ac-ft/yr for both direct and indirect reuse by 2080.
- Groesbeck OCR, Coryell County OCR.

Legislative and Policy Recommendations

Key water policy issues and direction of water management

- Streamlining processes for project implementation
- Enhancing coordination between RWPGs and GCDs
- Interbasin transfers of surface water
- Groundwater governance
- Conjunctive Use
- ASR
- Municipal per capita use
- Reservoir water management
- Watershed planning/source water protection
- Water pricing and conservation
- Reuse of wastewater effluent
- Education
- Planning process improvements

2026 Plan Successes

Captures present understanding of:

- Physiographic, hydrologic, and natural resources of the Brazos G area.
- How water supplies have been developed and are managed in the region.

Engagement, Engagement, Engagement

- Significant outreach efforts
- Rural focus

Smart Water Management

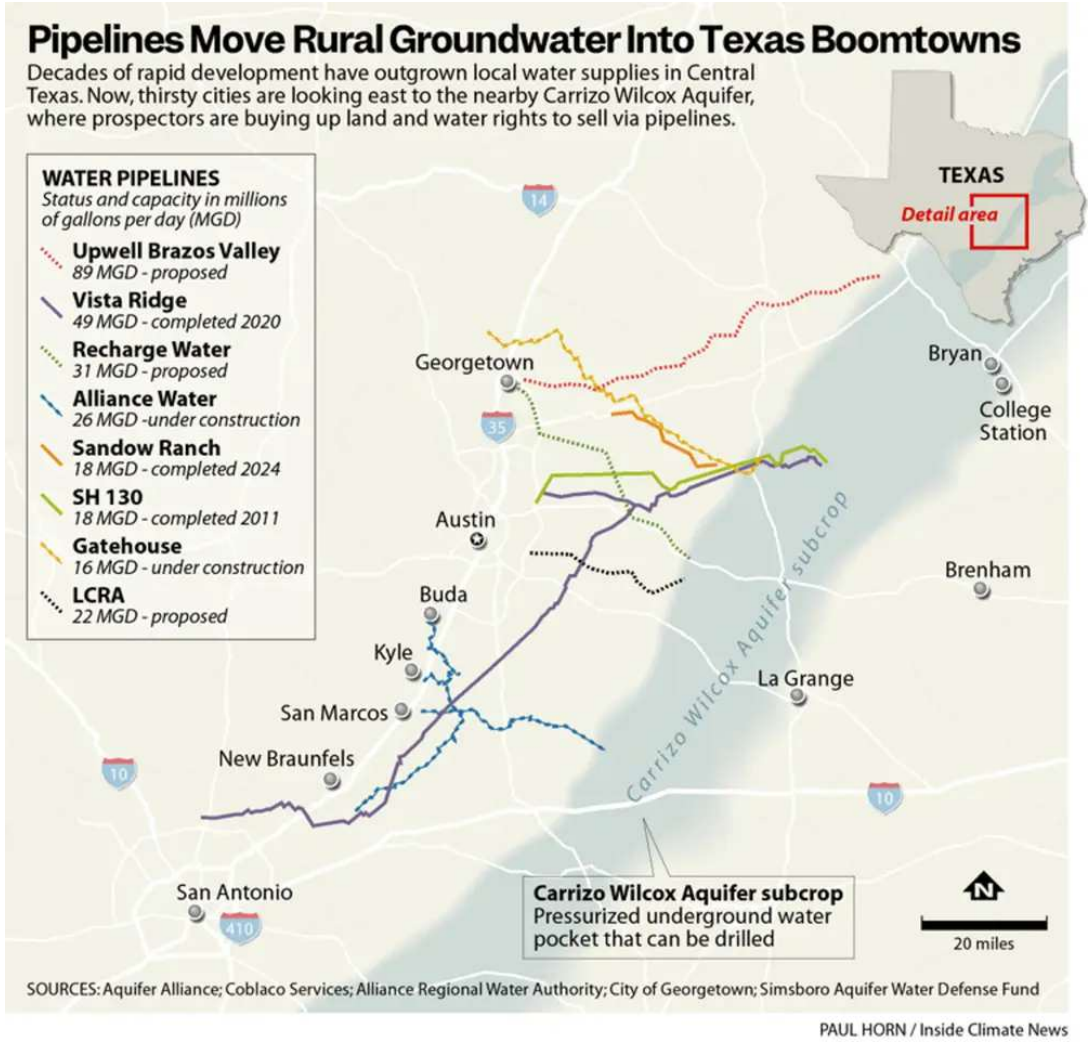
Drivers

- Realities of drought
- Rapid population growth
- Business climate
- Associated development

Increasing Commitment to Stewardship of Resources

- Water Conservation
- Reuse
- Efficiency

Water Management Strategies continue to evolve



From Texas Tribune: https://www.texastribune.org/2025/03/31/texas-water-pipeline-dispute-georgetown-bryan-college-station-aquifer/"

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