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Water, Wi-Fi, and Workforce:

The Infrastructure Challenge (and Opportunity) Facing Texas

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Who We Are

Texas Rural Funders

The leading membership organization for philanthropy dedicated to rural Texas.

Mission: to mobilize the power of philanthropy to strengthen rural Texas.

TEXAS WATER FOUNDATION

A nonpartisan, nonprofit organization working to lead Texas into a secure water future.

Mission: equip decision-makers, support water champions, and invest in the next generation of water leaders

What We Do

Texas Rural Funders

Provide **tools** and **information** to funders and communities to better serve rural Texas.

TEXAS WATER FOUNDATION

Source of **leadership training, education,** and **policy expertise** to help secure our water future.

Session Guide

1. **Why This Matters**
   Our Population's Water & Broadband Needs

2. **What We Learned**
   Report Overview & Key Takeaways

3. **How to Move from Data to Action**
   Highlights from the Field & Tools to Succeed

4. **Discussion**
   Question & Answer Time

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1. Why This Matters

Our Population's Water & Broadband Needs

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The Invisible Infrastructure Supporting the Texas Economy

Texans need **water to live** and our economy needs **broadband to thrive:**

- If we care about the future of our communities, we can't skimp on these resources.
- That includes the workers needed to build and make this infrastructure function.
- To secure the Texas of tomorrow, we need to take care of the people who take care of us.

To train and retain our infrastructure workforce, **we need to motivate education, workforce, and industry partners** to help build pathways into these careers.

What moves partners? **Good data to inform action** and **reliable funding to do the work**.

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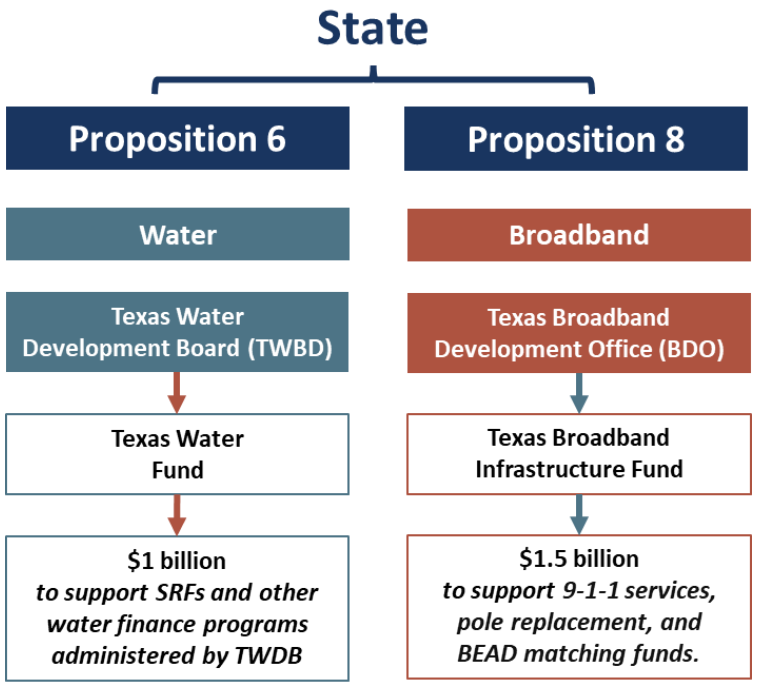
Money on the Table for Infrastructure



Massive public investments are flowing to Texas communities to help meet long-overdue, local infrastructure needs.

More support could be on the way:

- If Senate Bill 7 passes the Texas Legislature this year, voters can choose to create a permanent funding for water infrastructure.
- Federal funding from the Bipartisan Infrastructure Law (BIL) may be unfrozen

But once we have the money, who's going to build, maintain, and update this infrastructure?

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The Planning Power of Demographic Data

Demographic data (and the projections we can make with them) can help **put our workforce challenge into perspective**: they provide a glimpse into current and future infrastructure needs for our communities.

But what, exactly, does demographic data tell us about infrastructure?

The Planning Power of Demographic Data

Geography
Demographic info tells us ***where*** our population is and how it might grow or concentrate:

- Most growth in Texas is happening where the highways are, not where the water is
- Broadband maps can often look like polka dots, with big gaps in coverage over rural areas.

Density
Demographic info indicates ***how many*** people there are to serve in an area - and how many there are to split the cost:

- Critical infrastructure has ***economies of scale***, where the per-person cost is cheaper in higher-density areas.

Lonnie Hunt (DETCOG) 2022 Broadband Summit

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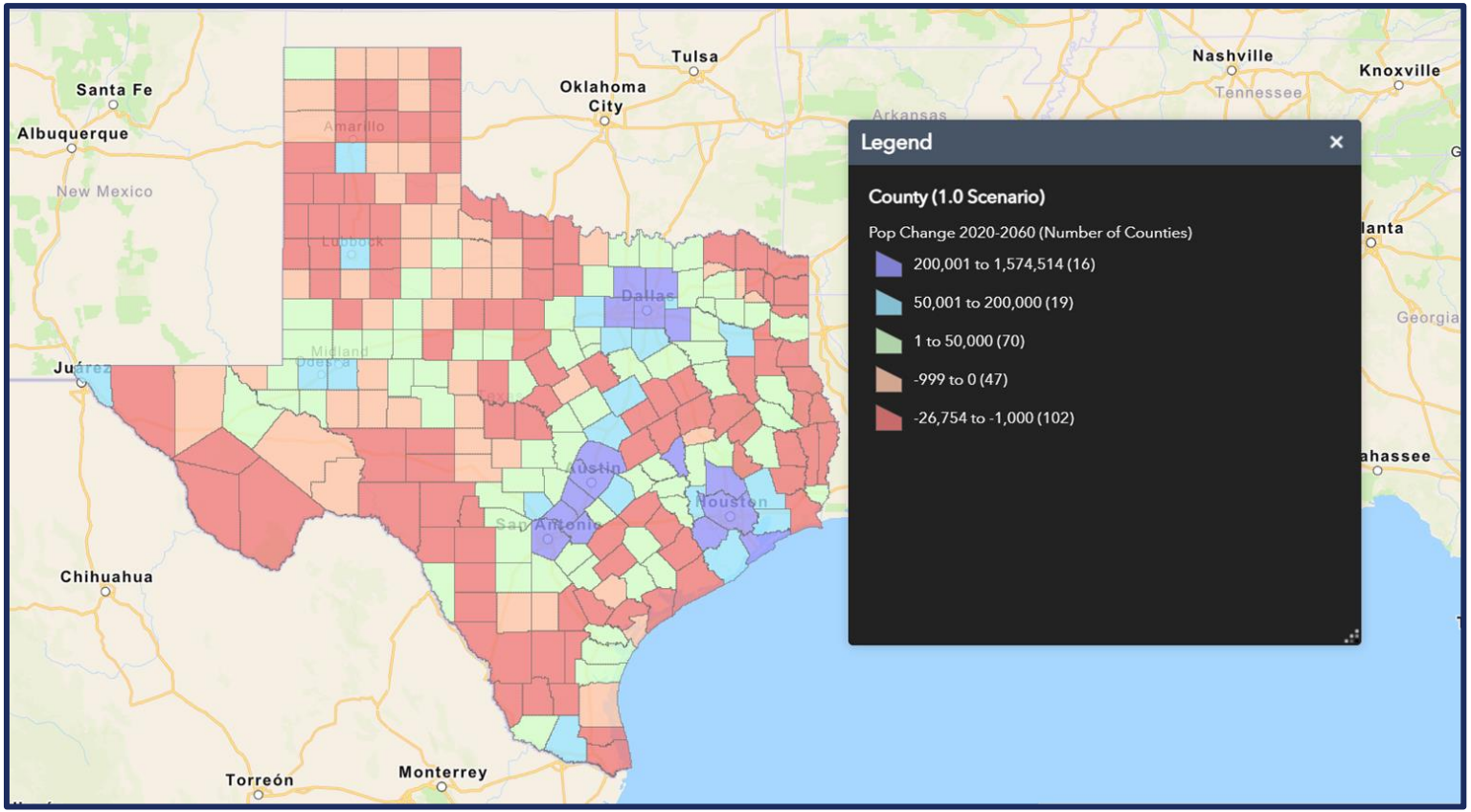
Population Projections for Texas Counties, 2020-2060 (assuming 2010-2020 migration rates)



Source: Texas Demographic Center

2. What We Learned

Report Overview & Key Takeaways

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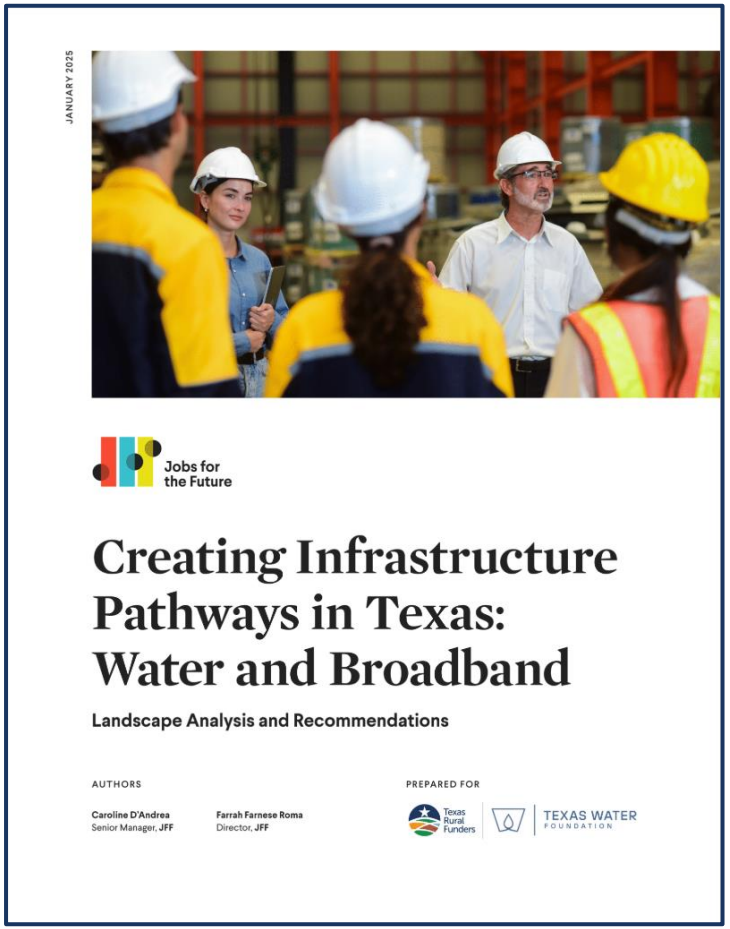

Water and Broadband Workforce Study

Key Audiences:

- State agencies
- Community partners and funders

Key Messages:

- Texas needs to build its water and broadband workforce.
- Many of the tools, programs, and partners we need are already in place — we just need to put them to work.

Workforce Data to Make the Most of Infrastructure Dollars

Research Scope:

- Use workforce data to understand workforce needs in water and broadband
- Identify tools in Texas available to train the water and broadband workforce

Goal: highlight the gaps in the current ecosystem *and* existing programs to fill them

Methodology: analysis of national workforce dataset from Bureau of Labor Statistics

Outcome: *actionable recommendations* for state agencies, regional stakeholders, and legislators (colleges, employers, school districts, workforce boards, and philanthropy)

Research Partner: Jobs for the Future.

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Snapshot: What We Need to Train For

Most high-need water and broadband infrastructure jobs require some education after high school.

Broadband jobs usually require on-the-job training, too.

Key takeaway: we need to develop better career pathways that connect education with what employers need.

	Job Title	Education Required
Water	First-Line Supervisor	High School Diploma
	Treatment Plant & System Operators	High School Diploma + State Certification
	Environmental Science & Protection Technicians	Associate Degree
	Civil Engineers	Bachelor's Degree
	Water Resource Scientists	Bachelor's Degree
Broadband	Telecom Equipment Installers & Repairers	Postsecondary Nondegree Award
	Telecom Line Installers & Repairers	High School Diploma
	Radio, Cellular, & Tower Equipment Installers & Repairers	Associate Degree
	Environmental Science & Protection Technicians	Associate Degree

Analysis: Why We Need More Infrastructure Workers

Retirements and Low Wages in Water: Texas will lose 30-50% of our water workforce to retirement over the next decade. Persistently low wages make it hard to attract new talent.

Reliance on External Broadband Contractors: Texas doesn't have enough contractors to build all the broadband we need. Many communities have to import workers from different parts of the state (and country).

Key takeaway: Texas doesn't currently have the skilled workforce required to expand and maintain our water and broadband infrastructure.

Analysis: Why We Need More (and Better) Training for Infrastructure Careers

Lack of Career Awareness: there's limited info available for infrastructure careers in water and broadband:

- Job titles ***cut across multiple industries*** and don't follow traditional job growth patterns
- Jobs ***aren't always posted*** on go-to sources like job boards.

Training Must Be Expanded: existing training in both sectors have significant room for improvement:

- ***Low pass-rate for water licensure exams*** indicates gaps in preparation programs while low wages for existing positions drives down interest.
- ***Lack of standardized training and credentials for broadband***, so it's most efficient to develop programs at the state level.

Key takeaway: Texas has information and training gaps to fill so we can meet our infrastructure workforce needs:

3. How to Move from Data to Action

Highlights from the Field & Tools to Succeed

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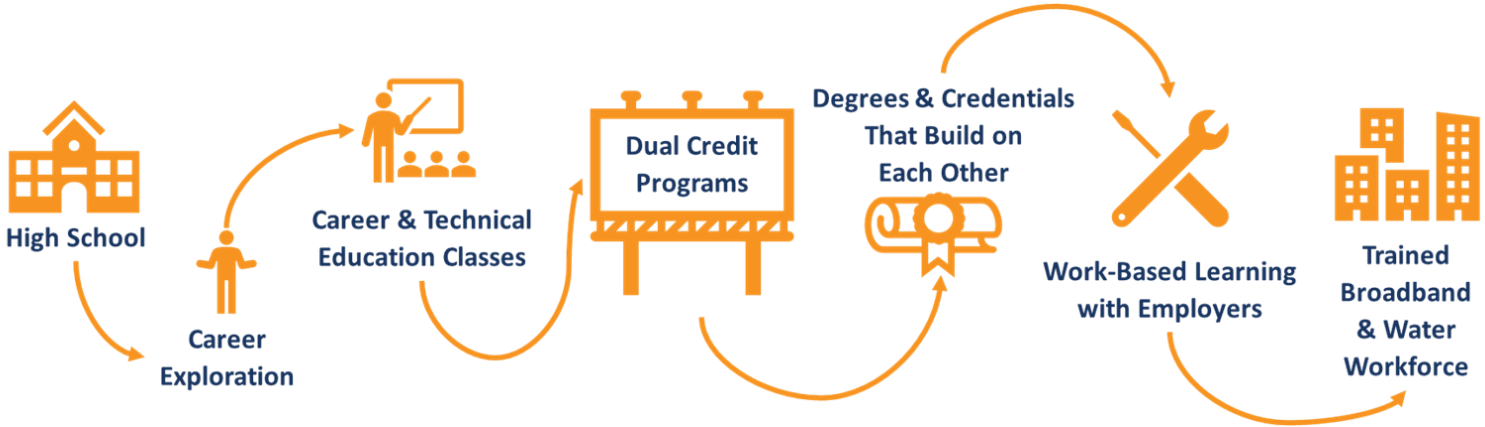
How to Solve our Workforce Challenges

We can solve our challenges - retirements, talent shortages, poor awareness, and training gaps - with ***more effective education-workforce pathways:***

- **Education-Workforce Pathways** strategically align K-12 and higher education experiences with workforce needs.
- When done right, pathways help people seamlessly transition from high school to postsecondary education (including community college) and into family-sustaining careers.

Solution: Education-Workforce Pathways



To succeed, **pathways require stakeholder awareness and coordination.**

Whose job is it? Not just schools and colleges, but also employers, workforce boards, state agencies and policymakers, and other community institutions like philanthropy and nonprofits.

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Building Water and Broadband Pathways

The good news: Texas is a **national leader in pathways programs**.

We have multiple, state-level structures already in place to support local partners in creating pathways for students *and* adult learners. No new legislative actions needed!

Tri-Agency Workforce Initiative

Texas Education Agency

- Texas Regional Pathways Network
- Rural Schools Innovation Zone (RSIZ)

Texas Higher Education Coordinating Board

- TXWORKS

Texas Workforce Commission

- Rural Workforce Development Centers
- Rural Workforce Innovation Hubs
- Jobs & Education for Texans (JET)
- Middle Skills Initiative

Focusing Attention and Resources

The not-great news: we know how to create pathways that lead to jobs, **but aren't doing it for water and broadband (yet).**

Why Not? The criteria for identifying "target occupations" don't reflect the present and growing importance of these careers.

- Education and workforce partners typically focus on jobs that labor market data identify as high-demand and high-wage.
- Funding for pathway programs is tied to target occupations that meet those data thresholds.

Reframing the Wisdom on Water and Broadband Jobs

Water

- The number of water job openings in each region is small, but these jobs are critical for supplying communities with clean, safe water.
- Water is an occupation with an outsized impact on the community's health and economic viability.

Broadband

- We rely on labor market forecasts to identify which jobs will be in high demand. The recent influx of new broadband was not predictable.
- We'll see a sharp rise in demand for broadband jobs that historical labor market data couldn't have forecasted.

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Opportunities for Action

Despite the challenges, our report highlights several partners throughout Texas that are successfully getting pathways programs off the ground for water and broadband:

Technical Assistance for Training Programs

Texas American Water Works Association (SETH Program) & Pflugerville ISD

Public-Private Partnerships for Infrastructure

Austin Infrastructure Academy

Job Stability and Wraparound Supports as an Employee Benefit

Skills for Sustainability (S4S) in El Paso

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Using the Report to Inform Programs

Several partners we've spoken to about the report highlight how they can use this data to help build new pathway programs:

Funding Curriculum

Texarkana College HVAC Program

Integrating Data into a Regional Workforce Development Strategy

The RANGE in Amarillo

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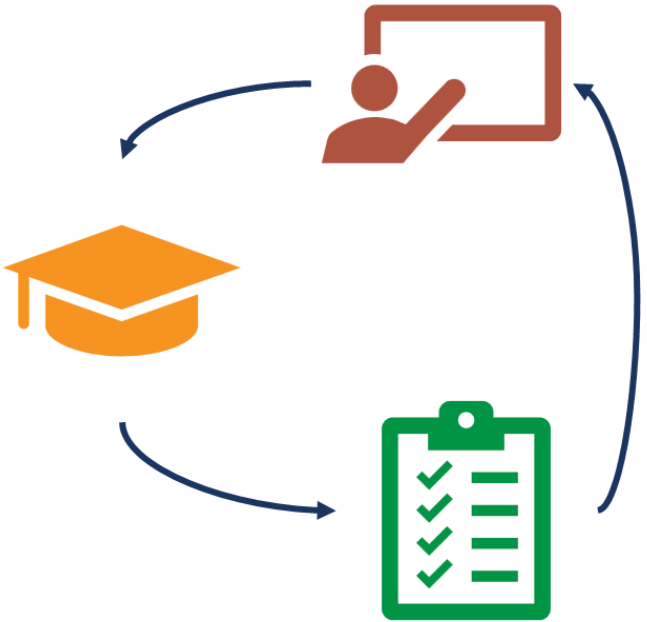
What Can We Do? Support Pathway Partners

Our workforce challenge is not insurmountable.

We know from partners in the field that the recipe for an effective pathway programs has three, key ingredients::

1. Education partner
2. Workforce expertise
3. Curriculum

We can support pathway partners by helping them bring these elements together.



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Unlocking Funds for Workforce Development

Pathways work takes resources. Leveraging regional and state workforce partners can help us unlock additional funding:

Engage Your Local Workforce Board
There are 28 local workforce development boards (Workforce Solutions) in Texas that ***create local plans*** for how to use federal Workforce Innovation and Opportunity Act (WIOA) funds.

- Target occupations are determined by each Board based on a number of economic indicators (high-demand, high-wage) and ***local knowledge***.
- Does your local Board target water and broadband occupations? Find out!

Look Out for Broadband Workforce funding!
The Texas Broadband Development Office (BDO) will release a request for proposals (RFP) later this year to help train the broadband workforce.

4. Discussion

Question & Answer Time

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Contact Us!

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Appendix

The Need for Water

Texas is facing increasing **water risk:**

- **Almost 50% of our water supply** will have to come from conservation, efficiency, and reuse (2022 Texas State Water Plan)
- Population growth adds increasing strain to the water system and requires updated and new infrastructure
- Water infrastructure and workforce is **aging and fragile** – especially in rural areas

According to the Texas Water Development Board, our state will need **$80 billion** to meet our water infrastructure needs through 2070.

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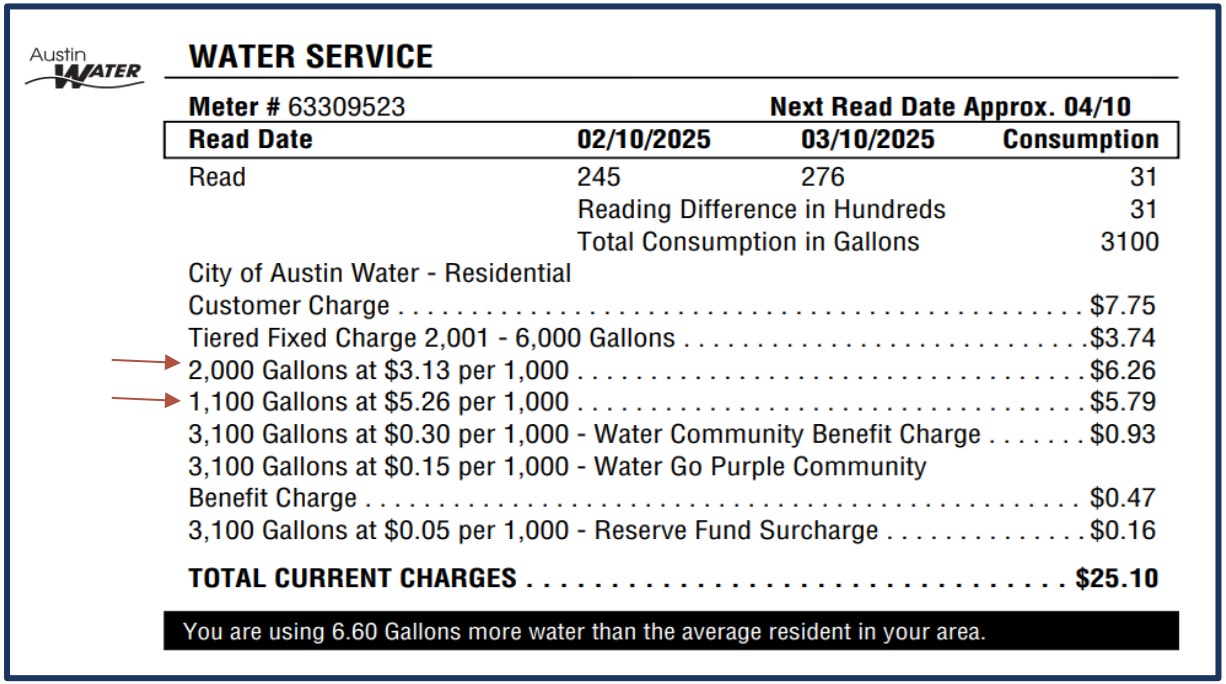
The Work that Goes into Your Water Bill



Austin Water

WATER SERVICE

Meter # 63309523 **Next Read Date Approx. 04/10**

Read Date	**02/10/2025**	**03/10/2025**	**Consumption**
Read	245	276	31
	Reading Difference in Hundreds		31
	Total Consumption in Gallons		3100

City of Austin Water - Residential

Customer Charge $7.75

Tiered Fixed Charge 2,001 - 6,000 Gallons $3.74

2,000 Gallons at $3.13 per 1,000 . . . . . $6.26

1,100 Gallons at $5.26 per 1,000 . . . . . $5.79

3,100 Gallons at $0.30 per 1,000 - Water Community Benefit Charge $0.93

3,100 Gallons at $0.15 per 1,000 - Water Go Purple Community Benefit Charge $0.47

3,100 Gallons at $0.05 per 1,000 - Reserve Fund Surcharge $0.16

TOTAL CURRENT CHARGES $25.10

You are using 6.60 Gallons more water than the average resident in your area.

- 7 charges
- Only 2 include water
- All include cost of infrastructure and people

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The Need for Broadband

Our **digital divide** is holding communities back:

- **Nearly 7 million Texans** don't have access to high-speed internet (Texas Comptroller)
- Over 80% of all Texans who cannot access broadband **are in rural areas** (Benton Institute)
- Reliable, high-speed internet is now a **prerequisite for economic development**

According to the Texas Comptroller of Public Accounts, our state will need **$10 billion** to meet our broadband infrastructure needs over the next 10 years (The Texas Tribune).

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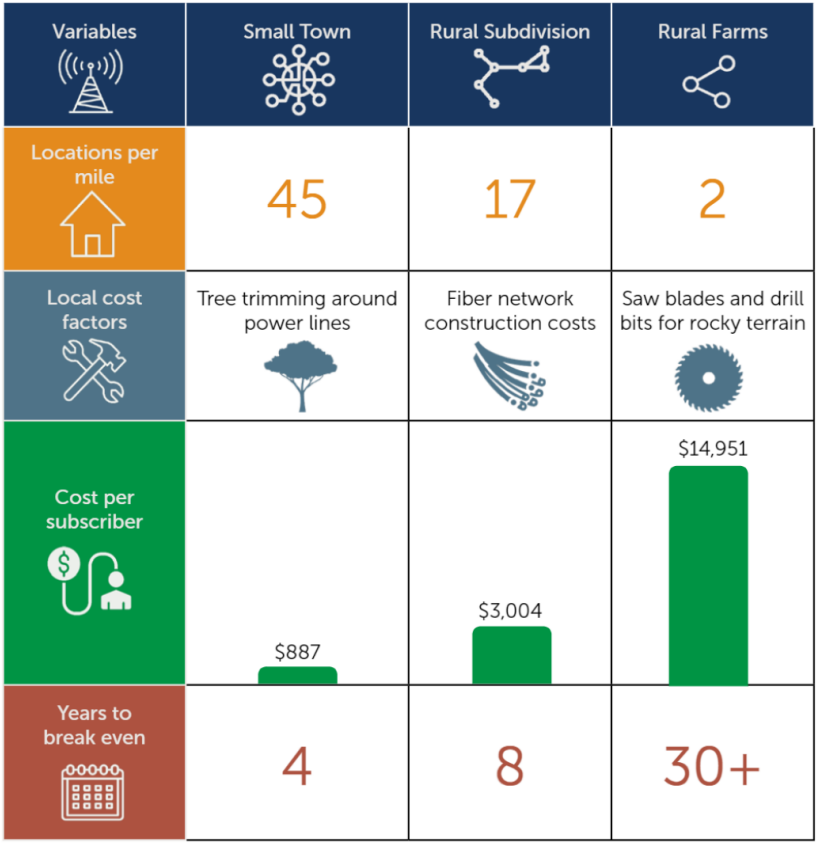
The Work that Goes into Your Broadband Bill

The more rural your community, the harder it will be to afford your broadband.

In *Finding Funding for Fiber*, Texas Rural Funders asked Totelcom, an internet service provider based in West Central Texas, to breakdown the cost drivers for rural broadband.

Reaching rural customers requires trained workers in construction, installation, engineering, and more - all of which gets priced into your internet bill.



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