WHARTON COUNTY, TEXAS

Broadband Plan Summary
September 2021

CONNECTED NATION
Texas

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Broadband Plan Summary

OVERVIEW

Today, technology plays a pivotal role in how businesses operate, how institutions provide services, and where consumers choose to live, work, and play. The success of a community has become dependent on how broadly and deeply the community adopts technology resources, which includes access to reliable, high-speed networks; the digital literacy of residents; and the use of online resources locally for business, government, and leisure.

The Connected Nation Texas (CN Texas) Connected Program partnered with the Wharton County Broadband Team to conduct a study designed to determine the availability of broadband infrastructure; how its residents are adopting and using broadband services; and what steps would have the greatest impact toward improving broadband access, adoption, and use across every sector locally.

Pursuant of this goal, between November 2019 and February 2021, Wharton County conducted a comprehensive survey of broadband technology access and adoption across the community that collected responses from 372 households. CN Texas staff also met with community officials to determine community needs and to gather qualitative data for consideration in the study. Overall, the assessment was designed to identify issues and opportunities to close the local Digital Divide.

The following provides a summary of that assessment as well as recommendations for improving broadband and technology access, adoption, and use.

Wharton County – Quick Facts	
Population	41,556
Number of Households	15,199
Median Household Income	$48,310
Poverty Rate	16.4%
Bachelor's Degree or Higher	18.0%
Homeowner	67.0%
Hispanic or Latino Population	42.6%
Households Served with Broadband[1]	77.0%

Source: U.S. Census 2019

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[1] The current FCC definition of broadband is a minimum of 25 Mbps download and 3 Mbps upload. These data are derived from Connected Nation Texas, July 2021. https://connectednation.org/texas/planning/

KEY FINDINGS

- **77.0%** of households in Wharton County have access to internet service at speeds that the FCC defines as "broadband" (25 Mbps download and 3 Mbps upload). Statewide, 96.8% of households have broadband access at these speeds.

> Nearly one in four Wharton County households do NOT have access to broadband

- In Wharton County, **65.2%** of households have access to internet service at speeds needed to run many modern applications (100 Mbps downstream and 10 Mbps upstream). Statewide, 92.1% of households have internet access at this speed.

- For households that said they do not subscribe to home internet service, the **top barrier was a lack of available service**, followed by **the cost of internet service.**

- Nearly two out of three Wharton County households (65%) reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and unreliable connections.

- Nearly every internet-connected household (94.4%) said they would like to have improved or additional options for home internet service.

- The average internet speed reported by households in Wharton County (25.4 Mbps) is significantly lower than connections in other Connected communities (35.5 Mbps) surveyed, yet the prices paid by Wharton County households are higher on average ($76.92) compared to all Connected communities ($69.99).

## INFRASTRUCTURE

According to CN Texas broadband data initially released in July 2021 — with additional public feedback, field validation, and provider input — nearly one in four households in Wharton County (23%) do not have access to broadband at least 25/3 Mbps, the current definition of broadband as set forth by the Federal Communications Commission (FCC). This level of service is concentrated in the areas surrounding El Campo and Wharton, as well as northern portions of the county.

Broadband - Quick Facts

Unserved Households (25/3 Mbps)	3,482
Households served (10/1 Mbps)	98.45%
Households served (25/3 Mbps)	76.99%
Households served (50/5 Mbps)	74.61%
Households served (100/10 Mbps)	65.17%

Broadband data collected by CN Texas in 2021
https://connectednation.org/texas/mapping-analysis/
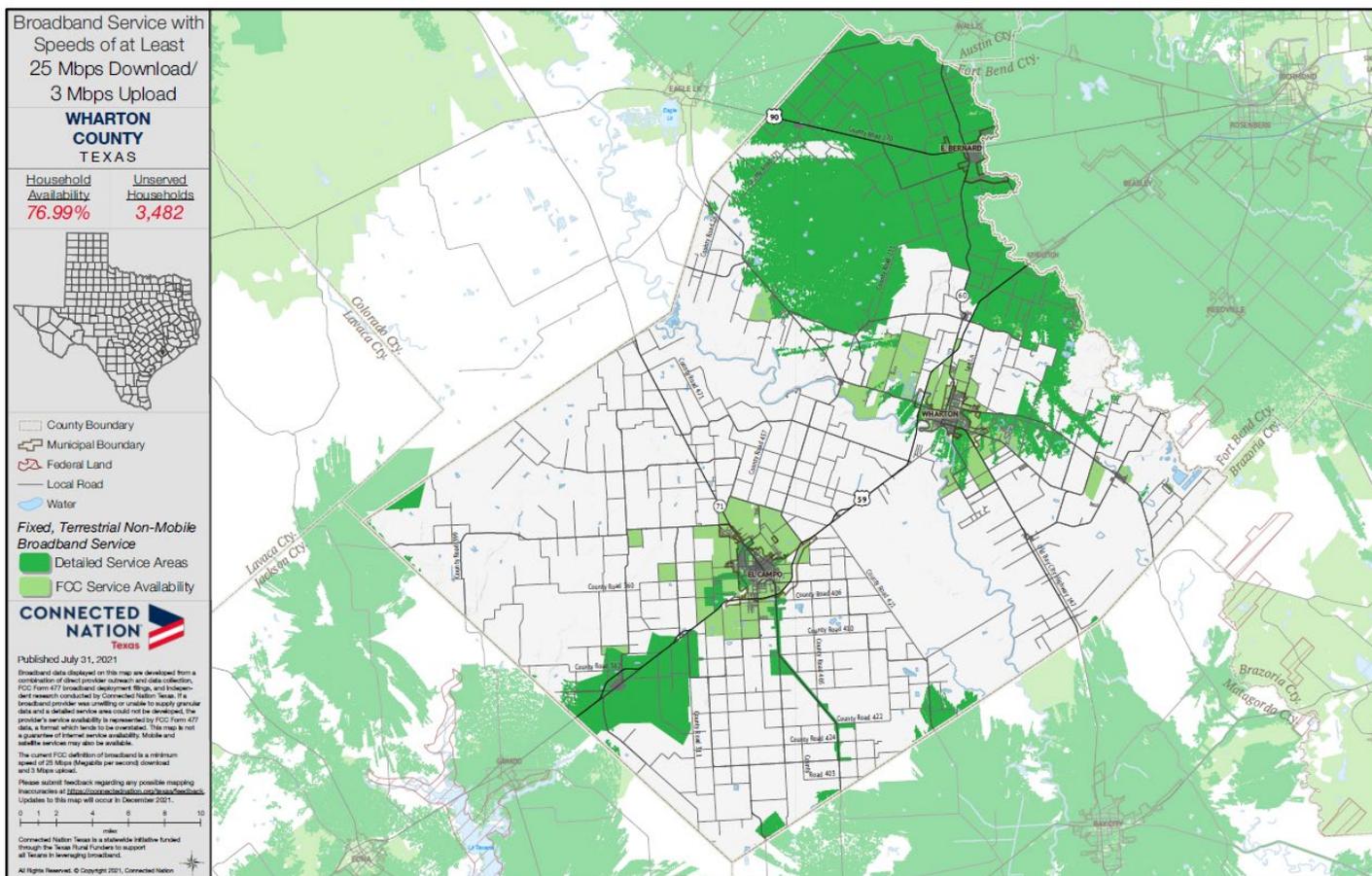
Other portions of the county are served by internet service providers (ISPs) offering slower advertised speeds.

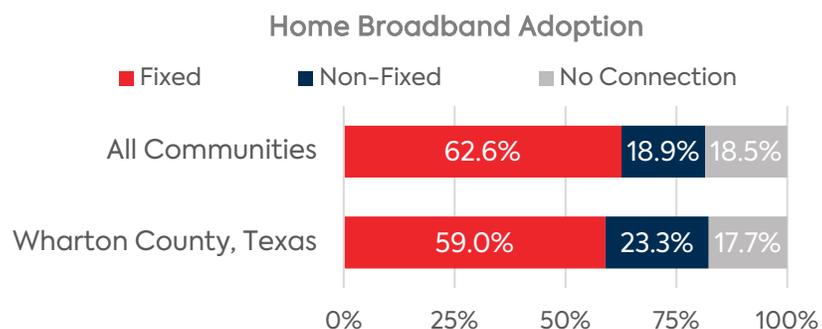| PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
Comcast	Cable	987	35
EBTX Wireless, LLC	Fixed Wireless	10	3
Ganado Telephone Company, Inc.	DSL	100	20
	Fiber	1,000	50
Grande Communications Networks, LLC	Cable	600	35
Jackson Electric Cooperative Inc	Fixed Wireless	25	5
Rise Broadband	Fixed Wireless	50	10
SCT Broadband	Fixed Wireless	15	3
Skybeam, LLC	Fixed Wireless	50	10
Skynet Communications	Fixed Wireless	15	3
Southwestern Bell Telephone Company, L.P.	DSL	25	2
	Fixed Wireless	10	1
Telecommunications Management, LLC d/b/a NewWave Communications	Cable	300	10
TISD, Inc.	Fixed Wireless	25	5
Wharton County Electric Cooperative Inc.	Fixed Wireless	12	3
YK Communications	Fiber	1,000	50

HOUSEHOLDS – DETAILED FINDINGS

The following provides an overview of results from a broadband survey conducted in Wharton County between November 2019 and February 2021. Altogether, CN Texas received 372 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Wharton County are compared to data from across dozens of other rural Connected participating communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.
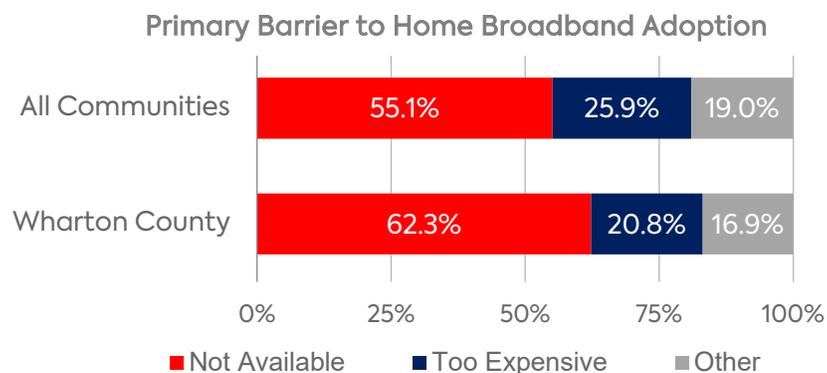
Households – Quick Facts	
Fixed Home Broadband Adoption[2]	59.0%
Average Monthly Cost of Internet	$76.92
Average Download Speed	25.4 Mbps
Households Satisfied with Service	35.0 %

Source: Wharton County Household Survey conducted by CN Texas

ADOPTION

Home Broadband Adoption

Legend: ■ Fixed   ■ Non-Fixed   ■ No Connection

- All Communities: 62.6% | 18.9% | 18.5%
- Wharton County, Texas: 59.0% | 23.3% | 17.7%

(0% 25% 50% 75% 100%)

In Wharton County, 59% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Just over 23% of respondents indicate they have internet service, but it is delivered via dial-up, satellite, or a mobile wireless service. This leaves just under one-fifth (17.7%) of households without internet access at home.

Primary Barrier to Home Broadband Adoption

- All Communities: 55.1% | 25.9% | 19.0%
- Wharton County: 62.3% | 20.8% | 16.9%

(0% 25% 50% 75% 100%)

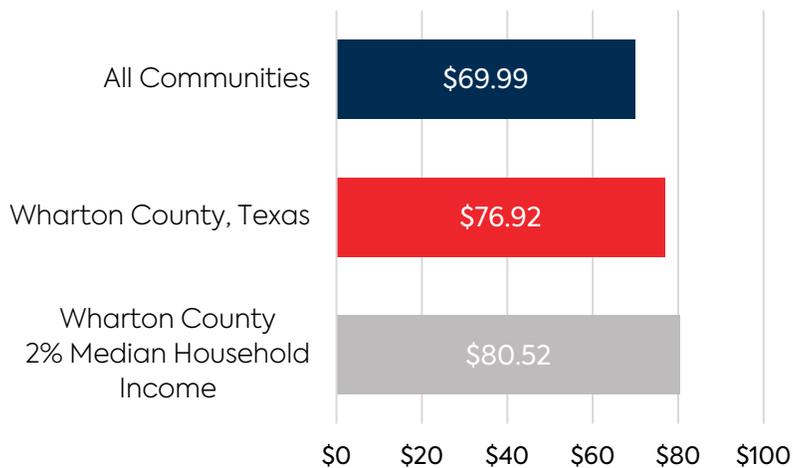Legend: ■ Not Available   ■ Too Expensive   ■ Other

Among those without a home internet connection, 62.3% said they did not have broadband because it was not available to them, while more than one in five (20.8%) indicate that it was too expensive. Like in many communities, cost and availability are the two primary barriers to home broadband adoption.

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[2] Fixed home broadband connections are those provided by cable, DSL, fiber, or fixed wireless technology

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CONNECTION DETAILS

Average Monthly Cost for Home Internet Service

Category	Cost
All Communities	$69.99
Wharton County, Texas	$76.92
Wharton County 2% Median Household Income	$80.52

(Chart axis: $0, $20, $40, $60, $80, $100)

Two percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Respondents indicate that, on average, their internet connection costs $76.92 per month. This is higher than monthly costs in other communities. Two percent of the median household income in Wharton County is $80.52 per month. These results show that the average cost of service is unaffordable for many in the county.

Average Download Speed (Mbps)

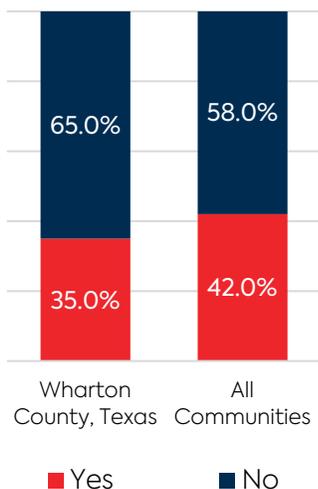| Category	Speed
All Communities	35.5
Wharton County, Texas	25.4

(Chart axis: 0, 10, 20, 30, 40 — Speed (Mbps))
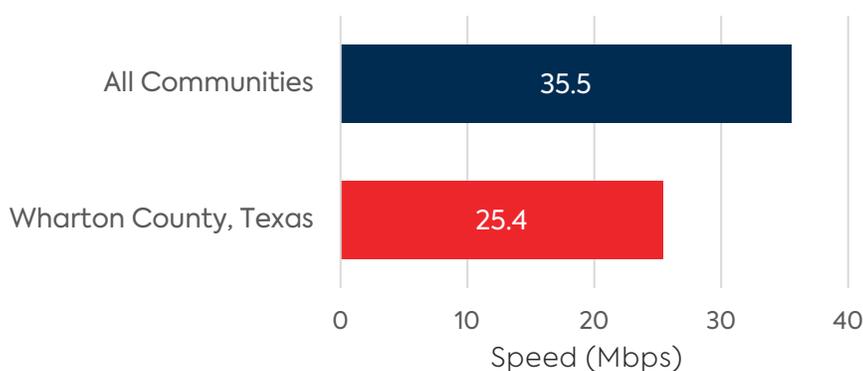
The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 25.4 Mbps, which is much lower than household connections in other communities.
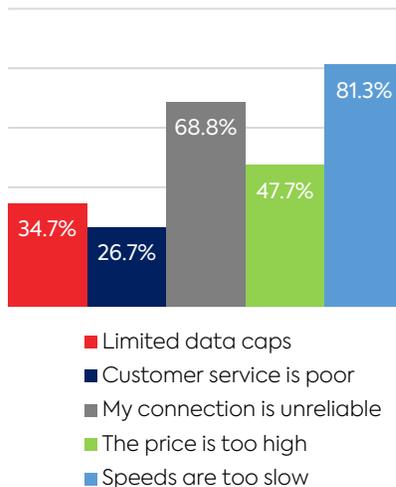
MOBILE CONNECTIVITY

Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. Nearly two out of three respondents (65%) indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction than among households in other communities. When asked why their connection does not meet their needs, 81% of households indicate that the speed is too slow. Nearly 48% say the price is too high, and nearly 69% indicate that the connection is unreliable. (Respondents could choose more than one reason.) Finally, nearly every respondent (94%) indicates that they are interested in additional internet choices for their home.
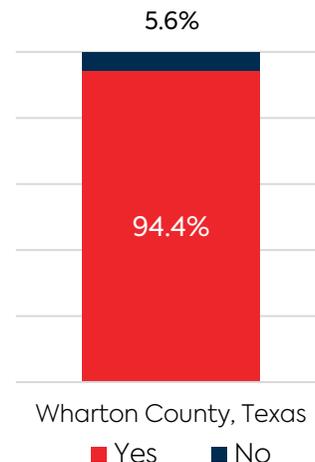
## Does Your Internet Connection Meet Your Needs?

Wharton County, Texas: No 65.0%, Yes 35.0%
All Communities: No 58.0%, Yes 42.0%

■ Yes ■ No

Why Does Your Connection Not Meet Your Needs?

- Limited data caps: 34.7%
- Customer service is poor: 26.7%
- My connection is unreliable: 68.8%
- The price is too high: 47.7%
- Speeds are too slow: 81.3%

■ Limited data caps
■ Customer service is poor
■ My connection is unreliable
■ The price is too high
■ Speeds are too slow

Are You Interested in Additional Internet Choices at Home?

Wharton County, Texas: No 5.6%, Yes 94.4%

■ Yes ■ No

Three-quarters of Wharton County households (75%) report that they subscribe to mobile internet service that they access via a smartphone or similar mobile device. This is slightly higher than reported in other Connected communities.
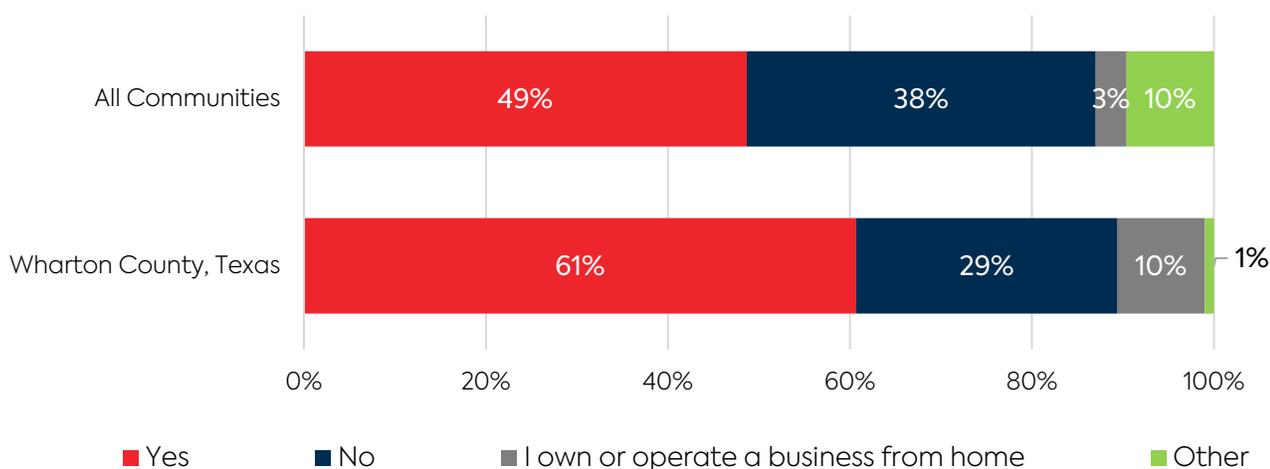
Additionally, about 33% of all households report that they rely on their mobile connection at home as their primary source of internet connectivity or use mobile service to connect other household devices to the internet.

Households Subscribing to Mobile Internet Service

Wharton County, Texas: No 25.0%, Yes 75.0%
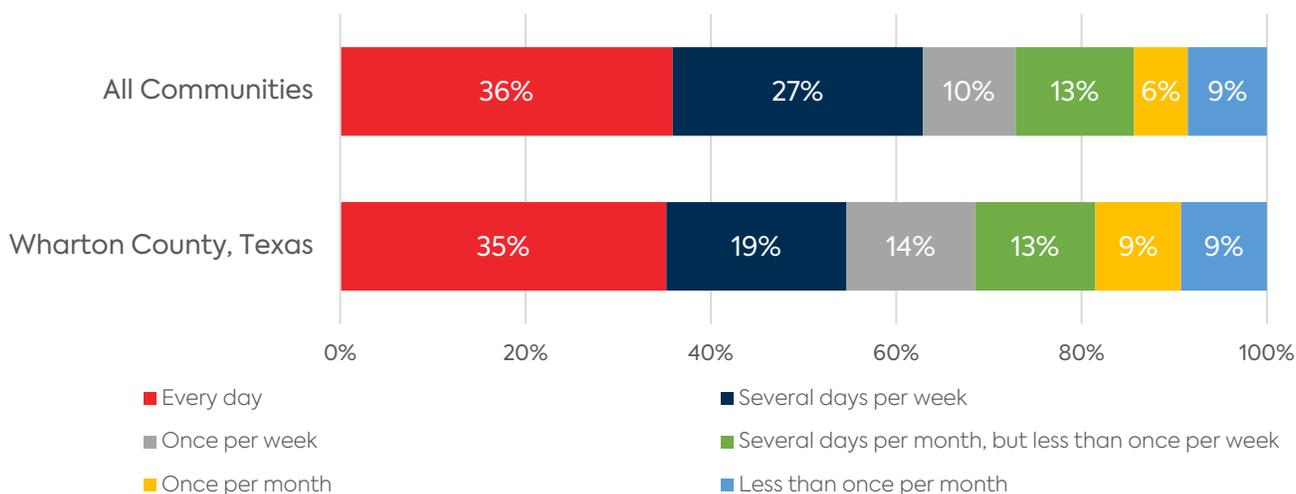All Communities: No 26.0%, Yes 74.0%

■ Yes ■ No
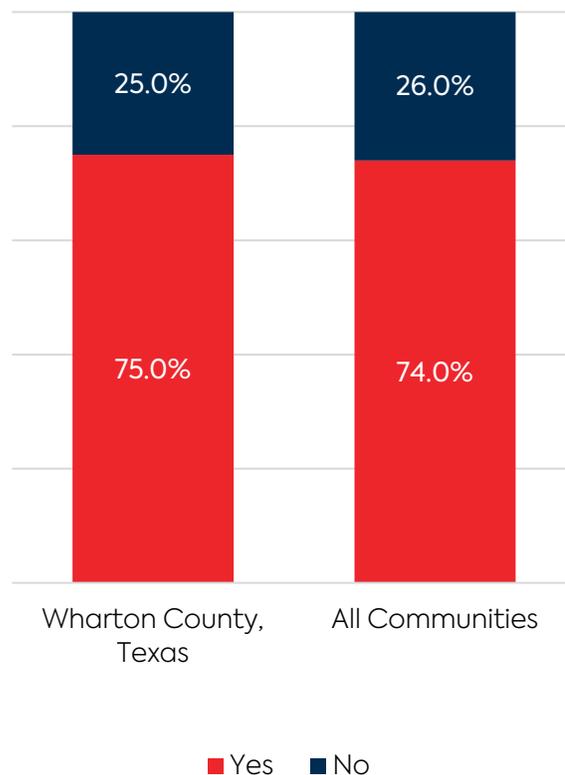
TELEWORK

Teleworking, or telecommuting, refers to working outside of the conventional workplace and communicating with it by way of telecommunications or computer-based technology. Teleworkers often do not register on typical measures of economic or workforce activity. Economic development strategies traditionally involve the attraction or retention of employers. While this is a critical part of growing a local economy, telework represents an opportunity to attract or retain employees even though their employer may not be located within the community, but only if those employees have access to advanced broadband infrastructure. Approximately 61% of employed residents in Wharton County indicate that they telework at least part of the time. This is more than residents in other communities, though teleworkers in Wharton County work from home just about as often as teleworkers in other communities.

Do You Currently Telework for Your Job?

Community	Yes	No	I own or operate a business from home	Other
All Communities	49%	38%	3%	10%
Wharton County, Texas	61%	29%	10%	1%

Legend: ■ Yes ■ No ■ I own or operate a business from home ■ Other

How Frequently Do You Telework?

Community	Every day	Several days per week	Once per week	Several days per month, but less than once per week	Once per month	Less than once per month
All Communities	36%	27%	10%	13%	6%	9%
Wharton County, Texas	35%	19%	14%	13%	9%	9%

Legend: ■ Every day ■ Several days per week ■ Once per week ■ Several days per month, but less than once per week ■ Once per month ■ Less than once per month

RECOMMENDATIONS

The following recommendations are presented to assist Wharton County in expanding broadband access and adoption throughout the community.

Goal 1: Become a Digital Ready Community

A digital ready community has an active technology action plan and is committed to ensuring ALL residents have access to equitable high-speed internet and the skills to meaningfully engage with businesses, government, and community anchor institutions. Using digital applications and other resources available via high-speed internet, a digital ready community is committed to increasing economic opportunity and a better quality of life for its residents. A digital ready community has the infrastructure and the digital skills necessary to attract businesses and new jobs for its residents driven by both local and outside businesses.

Objective:

Wharton County should proceed in becoming a digital ready community in the next six months by appointing a liaison to lead community engagement efforts around broadband with local stakeholders, teaching digital skills to residents and businesses, and providing Wi-Fi in public places.

Actions:

Action 1: Appoint a single point of contact within the local government. The development and organization of a liaison's office begins with the champions of this survey: County Judge Phillip Spenrath; Josh Owens, Wharton Economic Development Corporation Executive Director; and Carolyn Gibson, Executive Director of El Campo City Development Corporation. They will guide the process through the appointing of a liaison. A liaison can educate, advise, and promote broadband in Wharton County. This person should understand how state and federal grants work and be accountable for incoming money from a variety of federal and state programs the county will be receiving. This person is also responsible for updated website information the community, providers, and businesses need to do business in the county. This can be done by full-time or part-time hiring; providing a stipend; reorganizing workloads; or hiring a consultant. Entities can share services and cost.

Once a liaison is appointed, all responsibilities and duties move to that office. The liaison can be part of the Wharton County administration, part of the Wharton Economic Development Corporation, or El Campo City Development Corporation. The important part to remember is there is one point of contact for all things broadband, and this is their job.

Action 2: Use resolutions or Memoranda of Understanding (MOUs) stating needs and goals for Wharton County. Each entity should sign their commitment and review progress every six months. Entities include Wharton City Council, El Campo City Council, East Bernard Board of Aldermen, and Wharton County Commissioners' Court. Mr. Owens should present the MOU or Resolution to the governing bodies for signatures and review yearly. The liaison should present updates to the elected officials every six months concerning broadband grants and loans that are available or that Wharton County has applied to receive, new private/public partnerships being considered, any additional households and residents receiving broadband access, any new providers in town, and keep all elected bodies informed of any updates from the Houston-Galveston Area Council.

Action 3: Provide digital skills and access to training for residents and businesses. The liaison office should take the lead on providing digital skills to the community, but other organizations can host classes: Wharton Chamber of Commerce & Agriculture, El Campo Chamber of Commerce, Wharton County Library System, and Wharton County Junior College, for example. The classes can be taught by local experts, nonprofits, or offered online. This is inexpensive to offer and should be done immediately. Below are some free digital skills training resources:

- American Library Association – PLA, AT&T team up to bring digital literacy training to families http://www.ala.org/news/press-releases/2021/05/pla-att-team-bring-digital-literacy-training-families
- Digital Learn Curriculum: Public Library Association
- A Connected Nation Initiative: https://www.driveyourlearning.org/
- AARP Joins with Nonprofit to Teach Tech to Older Adults: AARP

Action 4: Incorporate broadband development and planning within local budgets. Wharton County and its cities should develop a budget with the liaison's input. All outside state and federal money should be listed along with any local monies. All projects should be listed with cost and where the money is coming from. There are economic benefits to increased connectivity, and it is said we measure what we care about. As part of the budget, Wharton County, El Campo, and East Bernard should measure cost vs. revenues of broadband services. Internet connectivity provides employment opportunities, allows workers to live in rural counties instead of big cities, enables next-generation farming capabilities, allows telemedicine capabilities, and more. This revenue can offset the cost local governments contribute to provide broadband to Wharton County residents.

Action 5: Provide high-speed internet in public places easily accessible to its residents. The liaison's office, Wharton County Chamber of Commerce and Agriculture, El Campo Chamber of Commerce and the Wharton County Library System should promote Wi-Fi services already publicly available. This can include public Wi-Fi in restaurants, K-12 schools, higher education facilities such as Wharton County Junior College, transit stations such as the Valley Transit Bus Center, Wharton County Library System, hotels, hospitals, coffee shops, bookstores, gas stations, department stores, supermarkets, and RV parks/campgrounds. Wharton County may have a unique center to provide Wi-Fi, such as the Wharton County Civic Center and the El Campo Civic Center.

This can be promoted through websites, social media, and in businesses. Residents who cannot access the internet at home should have public Wi-Fi available to conduct business such as banking, insurance, and shopping online.

Responsible Parties:
- The development and organization of a liaison's office begins with Carolyn Gibson, Executive Director, El Campo City Development Corporation, and Josh Owens, Executive Director, Wharton Economic Development Corporation.
- The liaison and the governing officials should work in conjunction under an MOU or a resolution.
- The Economic and Development Director of Wharton County should develop a budget with the liaison's input.
- The liaison's office, Wharton County Chamber of Commerce and Agriculture, El Campo Chamber of Commerce and the Wharton County Library System should promote Wi-Fi services already publicly available.

Resources:

- An example of a MOU:

https://ouraycountyco.gov/DocumentCenter/View/2669/E-11--Region-10-Broadband-MOU-Draft?bidId=

- Broadband Information compiled by the Houston-Galveston Area Council:

https://www.h-gac.com/broadband

- Broadband Information complied by Connected Nation – resources, podcasts, funding sources, broadband policies, etc.:

https://connectednation.org/texas/

- Bridging the Rural Broadband Gap:

https://itif.org/publications/2021/03/22/how-bridge-rural-broadband-gap-once-and-all

Below are free digital skills training resources:

- American Library Association: PLA, AT&T team up to bring digital literacy training to families:

http://www.ala.org/news/press-releases/2021/05/pla-att-team-bring-digital-literacy-training-families

- Digital Learn Curriculum:

Public Library Association:

- A Connected Nation Initiative:

https://www.driveyourlearning.org/

- AARP Joins with Nonprofit to Teach Tech to Older Adults:

AARP:

Additional Resources:

- Examples of one Texas town meeting residents' broadband needs:

https://ilsr.org/how-mcallen-texas-quietly-built-residents-a-free-wi-fi-network-over-the-summer/

- Wi-Fi hotspot locator apps:

https://www.lifewire.com/free-online-wifi-hotspot-locators-818276

- Resources compiled by Connected Nation:

https://connectednation.org/coronavirus/resources-solutions-providing-connectivity/

- 5 Reasons Why You Should Offer Free Wi-Fi to Your Customers:

Spectrio

Goal 2: Decrease barriers of broadband infrastructure deployment in Wharton County.

Objective:

The most common reason for slow rural internet is that it is expensive for internet providers to expand and update infrastructure, so it is less financially motivating to expand to rural areas with less people. Helping providers decrease the cost can incentivize them to offer services in sparsely populated areas of Wharton County.

Action:

Action 1: Develop and release an RFP for an asset inventory. Liaison's office guides the development of an RFP. The community can offer infrastructure for the deployment of a network, as well as committed anchor tenants. This audit will identify Wharton County assets that can be shared and leveraged in partnership with private sector carriers. Developing an interactive map with inventory and making it publicly available will be helpful to providers and community leaders. Infrastructure includes:

- Publicly owned buildings
- Rooftops
- Light poles
- Towers
- Other vertical assets for mounting broadband antennas.

Action 2: After Wharton County has a list of their broadband assets, they should partner with local providers, as well as engaging in future state and current federal programs, to decrease the cost of broadband infrastructure across the County. Private sector partners bring network-building and operational experience and Wharton County brings fixed assets to the table, thus, lowering cost to subscribers.

Action 3: Enact a "Dig Once" policy whereby public or private excavators are required to coordinate with the liaison office to install fiber or conduit wherever ground is broken on a public right-of-way. This policy should be made clear on your county/cities websites and housed in the liaison's office. This policy should be enacted immediately.

The Federal Highway Administration has indicated that "ninety percent of the cost of deploying broadband is when the work requires significant excavation of the roadway." A "dig once" policy increases coordination between government agencies and utility companies to minimize the frequency of roadway excavation and disturbance. These policies aim to facilitate joint trenching cost savings and ensure that broadband infrastructure improvements are considered alongside other infrastructure and public works projects. To this end, these policies encourage or require that every infrastructure project include notification and facilitation of opportunities to lower the costs of broadband infrastructure investment by coordinating project planning when a right-of-way (ROW) disturbance occurs. Considering the terrain in the area, such policies could make it significantly easier for internet service providers to expand broadband infrastructure in the community at a lower cost, making it accessible to more households in the area that currently rely on wireless or satellite connections.

Responsible Parties:

- All actions should be executed under the liaison's office guidance.

Resources:

- Connected Nation: CN can provide this service and/or consulting services and be a guide to writing and reviewing an RFP for asset inventory control.

- Establish Policies and Procedures to support Investment:

https://nextcenturycities.org/becoming-broadband-ready/

- FTTH Council Americas:

https://www.ncbroadband.gov/media/50/download?attachment

Goal 3: Increase adoption and usage of the internet by all age groups.

Objective:

Increase adoption and usage of the internet by all age groups allowing for a better quality of life and opportunities for Wharton County residents. This should be organized in the first six months.

Action:

Action 1: Offer free or low-cost classes in order to reduce the skills barrier to broadband adoption and to increase use of online applications. The liaison office should take the lead on providing information to learn digital skills and programs to the community, but other organizations can host classes: Wharton County Chamber of Commerce and Agriculture, El Campo Chamber of Commerce, Wharton County Junior College, and the Wharton County Library System, for example. The classes can be taught by local experts, non-profits, or online. This is inexpensive to offer and should be done immediately. Some examples of courses to offer include:

- Basic internet skills training
- Website design for businesses
- Social media and web surfing for residents
- Cybersecurity and internet safety
- Other relevant topics

Action 2: Inform the community about telehealth and how it works and how to access your doctor online. Promote the benefits of this, especially to older residents. This can help to address challenges associated with living in sparsely populated areas and having to travel long distances to seek medical care — particularly for patients with chronic illnesses. It also addresses the issue of the lack of medical specialists in remote areas.

Action 3: Inform the community of low-cost programs to connect to the internet. These programs may be from local providers, future state programs or current federal programs.

Responsible Parties:

The liaison office should take the lead on providing information to learn digital skills and programs to the community, but other organizations can host classes. Examples of partners include Wharton County Chamber of Commerce and Agriculture, El Campo Chamber of Commerce, Wharton County Junior College, and the Wharton County Library System, for example.

Resources:

- American Library Association: PLA, AT&T team up to bring digital literacy training to families:

http://www.ala.org/news/press-releases/2021/05/pla-att-team-bring-digital-literacy-training-families

- AARP Joins with Nonprofit to Teach Tech to Older Adults:

AARP

- Connected Nation Initiative:

https://www.driveyourlearning.org/

- Broadband Emergency Benefit:

https://www.fcc.gov/broadbandBenefit

- Telehealth information:

https://connectednation.org/telehealth/

Goal 4: Increase the speed of the internet of all users by 2026. The community should aspire for higher speeds.

Objective:

This is easier said than done, but the survey participants made this clear: Speed is a barrier in Wharton County. Wharton County must do what it can to help providers increase speeds. Current FCC definition of broadband is 25 Mbps download/ 3 Mbps upload. Wharton County has 3,102 households considered unserved at this speed. Wharton County's goal should be all households meeting or exceeding the FCC's definition of broadband by 2026.

Action:

Action 1: Relationships with providers must be a priority for Wharton County. Decisions as to where new infrastructure is deployed and where improvements in local services need to be made should be agreed upon by both parties. Different grants/awards/loans have been and will be awarded to providers, end users, and government bodies, and these assets should be used to the benefit of the residents.

Action 2: Advise your businesses, residents, and public safety entities how to test their speeds and see if the advertised speeds match the actual speeds. Present this information to your providers for help to make sure

you are receiving stated services.

Responsible Parties:

The liaison office should have a list of all providers working in Wharton County with contact information.

Resources:

- Test your speed:

https://connectednation.org/texas/

- Link to Wharton County providers:

https://connectednation.org/texas/wpcontent/uploads/sites/19/2020/07/TX_BroadbandProviders_ByCounty_2020_07_31.pdf