WALKER COUNTY, TEXAS

Technology Action Plan Summary

June 2021

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Texas

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 Walker 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 January and November 2020, Walker County conducted a comprehensive survey of broadband technology access and adoption across the community that collected responses from 683 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.

Walker County – Quick Facts	
Population	76,400
Number of Households	20,969
Median Household Income	$47,170
Poverty Rate	22.4%
Bachelor's Degree or Higher	19.4%
Hispanic or Latino Population	26.4%
Households Served with Broadband[1]	82.46%

Source: U.S. Census 2019
https://data.census.gov/cedsci/profile?g=0500000US48471

Walker County is in a good position to improve broadband access, adoption and use throughout the community. With Rural Digital Opportunity Fund (RDOF) money (once approved) and Coronavirus State and Local Fiscal Recovery Funds flowing into the county, the future looks bright. Understanding how to partner with local providers and keeping up with grant expenditures is imperative to long-term success. Many recommendations in this action plan are inexpensive or cost nothing at all but will contribute greatly to community development. Increasing broadband adoption and use throughout the County will contribute to greater quality of life.

The following provides a summary of the technology assessment performed by CN Texas as well as recommendations for improving broadband and technology access, adoption, and use. Many recommended actions are of low-cost to the County and should be engaged in immediately to help the community accelerate deployment opportunities.

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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, Dec 2020.

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KEY FINDINGS

- More than **half (53.5%)** of the residents use fixed internet connections[2] such as DSL, fiber, or fixed wireless, with almost an additional **quarter (23.7%)** of residents using non-fixed internet connections[3] including dial-up, satellite, and mobile-only services.

- 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.**

- The average internet speed reported by households in Walker County **(21.85 Mbps)** is significantly lower than connections in other Connected communities **(36.65 Mbps)** and is below the current FCC definition of broadband (minimum speed of 25 Mbps download and 3 Mbps upload)**.**

- About **88% of businesses** that participated in the survey reported that they subscribe to fixed or non-fixed broadband service. At the same time **76%** reported that they were dissatisfied with their service with slow speeds, prices to expensive, and **unreliable connections** being the leading reasons for their dissatisfaction.

- **93%** of households said they would like to have improved or additional options for home internet service.

- **77.72%** of households in Walker County have access to internet service at speeds needed to run many modern applications (100 Mbps downstream and 10 Mbps upstream). Statewide, 88.5% of households have internet access at this speed.

3,678 households in Walker County do NOT have access to Broadband

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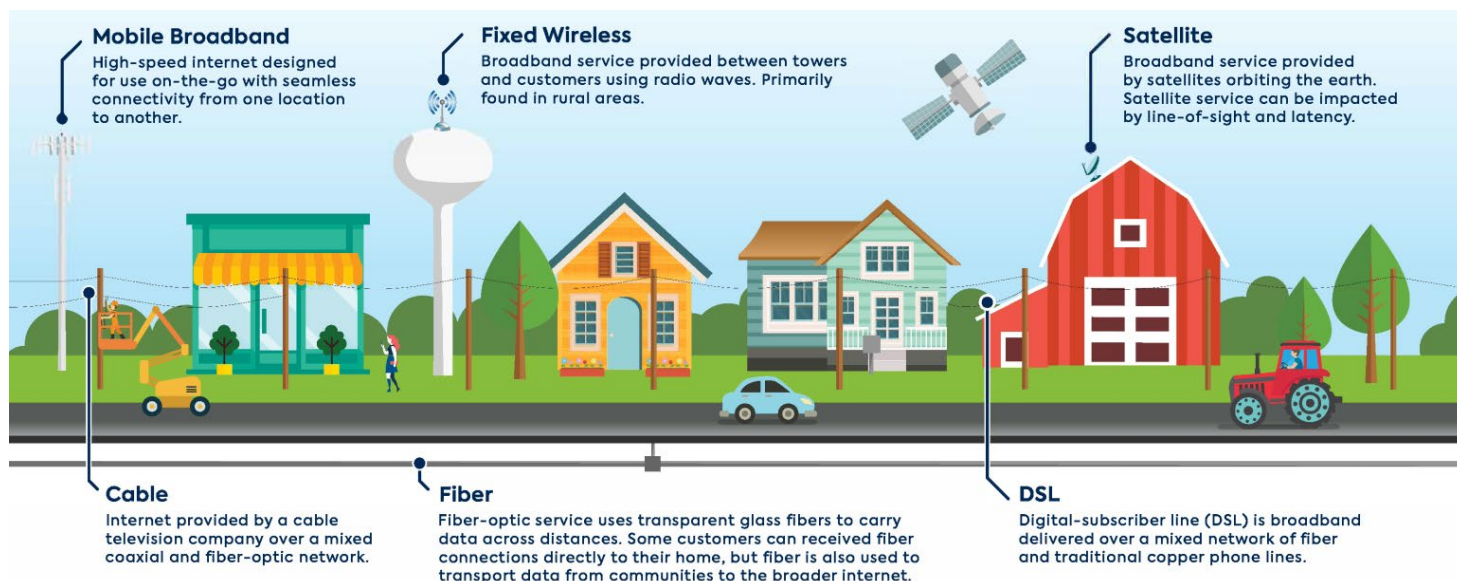[2] Fixed internet connections include DSL, fiber, or fixed wireless technology.
[3] Non-fixed internet connections include dial-up, satellite, and mobile-only services. These non-fixed types of internet services, while providing basic access, can often be plagued by connection latency, have costly monthly data plans, or can be impacted by weather, terrain, large expanses of open water, and other environmental factors.

INFRASTRUCTURE

The first step in understanding the state of broadband infrastructure in Walker County and the rest of Texas is having accurate maps. Accordingly, CN Texas works with providers to develop a variety of broadband maps at a state and county level. Data shown on these maps are derived from a combination of direct provider outreach and data collection, FCC Form 477 broadband deployment filings, and independent research conducted by CN Texas. If a provider was unable or unwilling to supply granular data and a detailed service area could not be developed, the provider's service is represented by Form 477 data, a format that tends to overstate the service territory.

Broadband – Quick Facts	
Unserved households (25/3 Mbps)	3,678
Households served (10/1 Mbps)	97.74%
Households served (25/3 Mbps)	82.46%
Households served (50/5 Mbps)	80.28%
Households served (100/10 Mbps)	77.72%

Broadband data collected by CN Texas in 2020
https://connectednation.org/texas/mapping-analysis/.

Mobile Broadband
High-speed internet designed for use on-the-go with seamless connectivity from one location to another.

Fixed Wireless
Broadband service provided between towers and customers using radio waves. Primarily found in rural areas.

Satellite
Broadband service provided by satellites orbiting the earth. Satellite service can be impacted by line-of-sight and latency.

Cable
Internet provided by a cable television company over a mixed coaxial and fiber-optic network.

Fiber
Fiber-optic service uses transparent glass fibers to carry data across distances. Some customers can received fiber connections directly to their home, but fiber is also used to transport data from communities to the broader internet.

DSL
Digital-subscriber line (DSL) is broadband delivered over a mixed network of fiber and traditional copper phone lines.

According to CN Texas broadband data collected in December 2020 – with public feedback, field validation, and provider input: 3,678 households in Walker County do not have access to broadband of at least 25/3 Mbps, the current definition of broadband as set forth by the Federal Communications Commission (FCC). Broadband service in Walker County is concentrated around the Cities of Huntsville, Riverside, and New Waverly, with outer perimeter of the county being the most sparsely served. There were nine providers identified via the data collection process that provide internet service in Walker County as shown on the table below:

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Internet Service Providers in Walker County

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
AirLink	Fixed Wireless	20	6
Comcast	Cable	987	35
Eastex Net	Fiber	100	100
	DSL	25	20
Grande Communications	Cable	600	35
IguanaNet, LLC	Fixed Wireless	18	8
Rise Broadband	Fixed Wireless	15	15
AT&T Southwest	DSL	100	20
	Fiber	1000	1000
	Fixed Wireless	10	1
Suddenlink Communications	Cable	1000	1000
Valor Telecommunications of Texas LP	DSL	100	100
	DSL	100	100

Below is Walker County's (25/3 Mbps) map. Access the full and latest map here: https://connectednation.org/texas/county-maps/. Other portions of the county are served by internet service providers (ISPs) offering slower advertised speeds.

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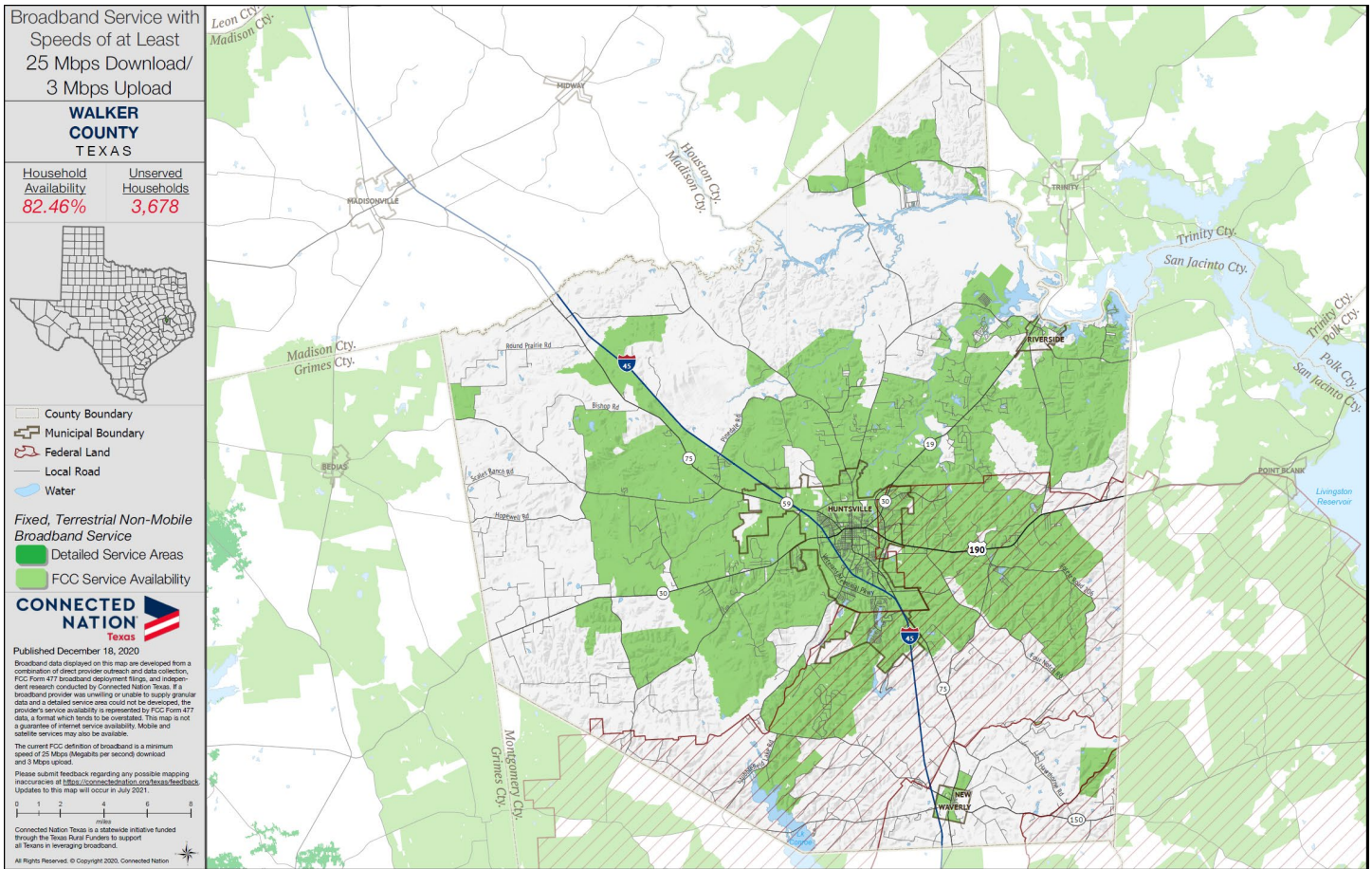
HOUSEHOLDS – DETAILED FINDINGS

The following provides an overview of results from a broadband survey conducted in Walker County between January and November 2020. Altogether, CN Texas received 683 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Walker County are compared to data from 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[4]	53.5%
Average Monthly Cost of Internet	$82.83
Average Download Speed	21.85 Mbps
Households Satisfied with Service	30.0 %

Source: Walker County Household Survey conducted by CN Texas

ADOPTION

Home Broadband Adoption

■ Fixed ■ Non-Fixed ■ No Connection
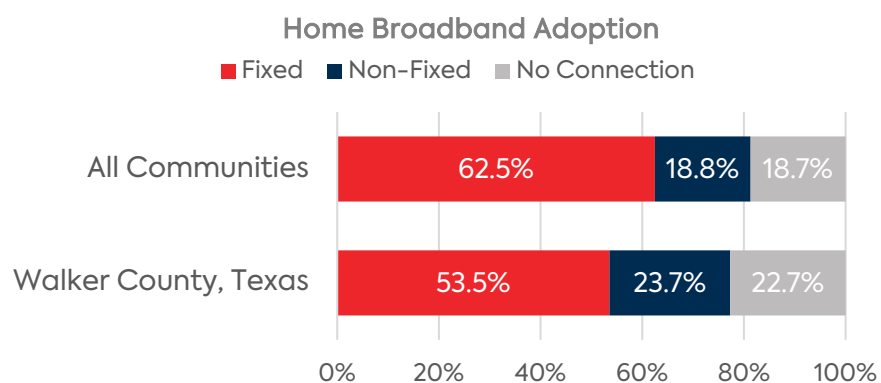
In Walker County, 53.5% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Also, 23.7% of respondents indicate they have internet service, but it is delivered via dial-up, satellite, or a mobile wireless service. This leaves just under one-quarter (22.7%) of survey respondents without internet access at home.

Primary Barrier to Home Broadband Adoption
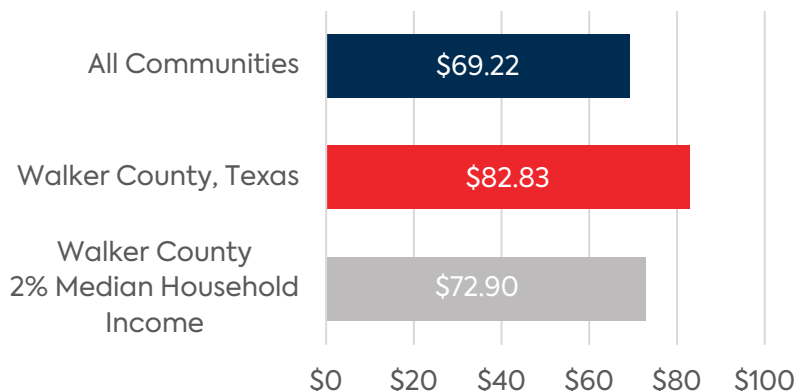

■ Too Expensive ■ Not Available ■ Other
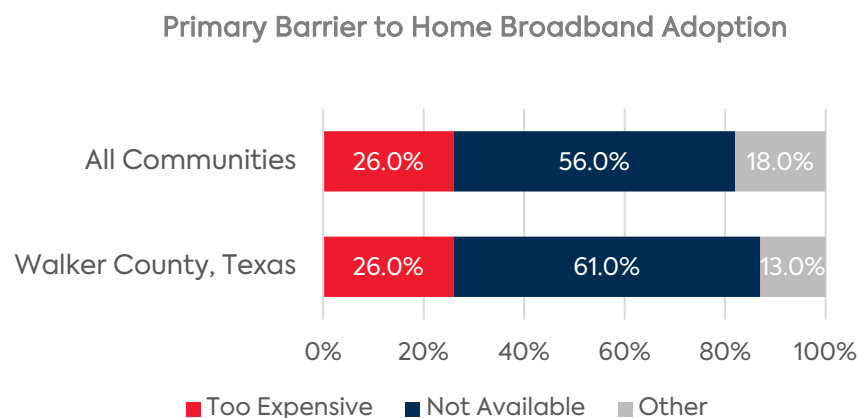
Among those without a home internet connection, 61% said they did not have broadband because it was not available to them, while more than one-quarter (26%) indicate that it was too expensive. Like in many communities, cost and availability are the two primary barriers to home broadband adoption.

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[4] 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

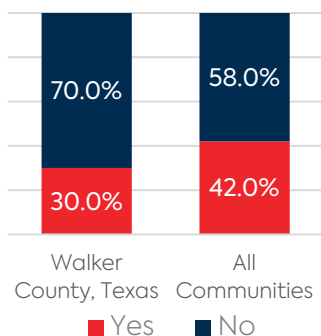| Category	Cost
All Communities	$69.22
Walker County, Texas	$82.83
Walker County 2% Median Household Income	$72.90

(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 about $82.83 per month. This is higher than monthly costs in other communities ($69.22). Two percent of the median household income in Walker County is $72.90 per month.

Average Download Speed (Mbps)

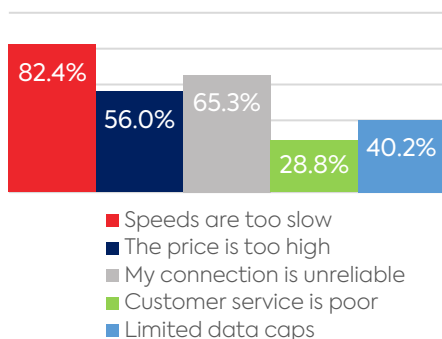| Category	Speed
All Communities	36.65
Walker County, Texas	21.85

(axis: 0 10 20 30 40 — Speed (Mbps))
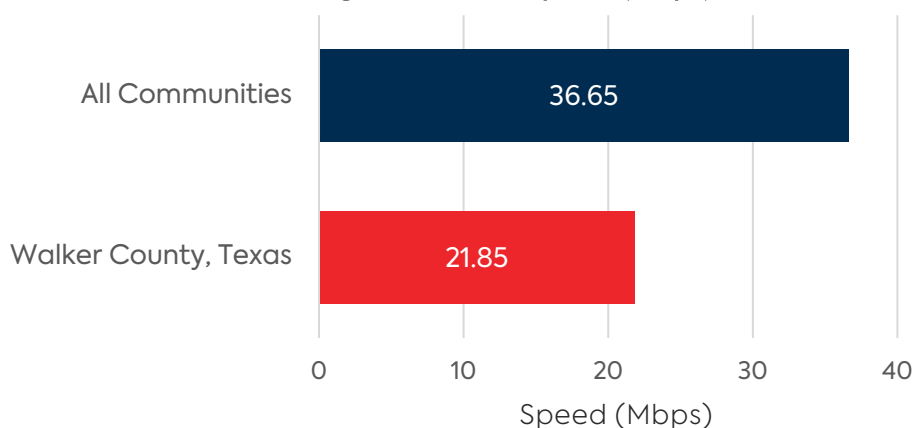
The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 21.85 Mbps, which is much lower than household connections in other communities and below the defined speed of broadband which is 25 Mbps.
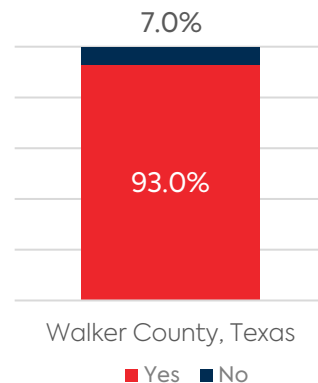
Does Your Internet Connection Meet Your Needs?

	Walker County, Texas	All Communities
No	70.0%	58.0%
Yes	30.0%	42.0%

Legend: Yes (red), No (dark blue)

Why Does Your Connection Not Meet Your Needs?

- Speeds are too slow: 82.4%
- The price is too high: 56.0%
- My connection is unreliable: 65.3%
- Customer service is poor: 28.8%
- Limited data caps: 40.2%

Are You Interested in Additional Internet Choices at Home?

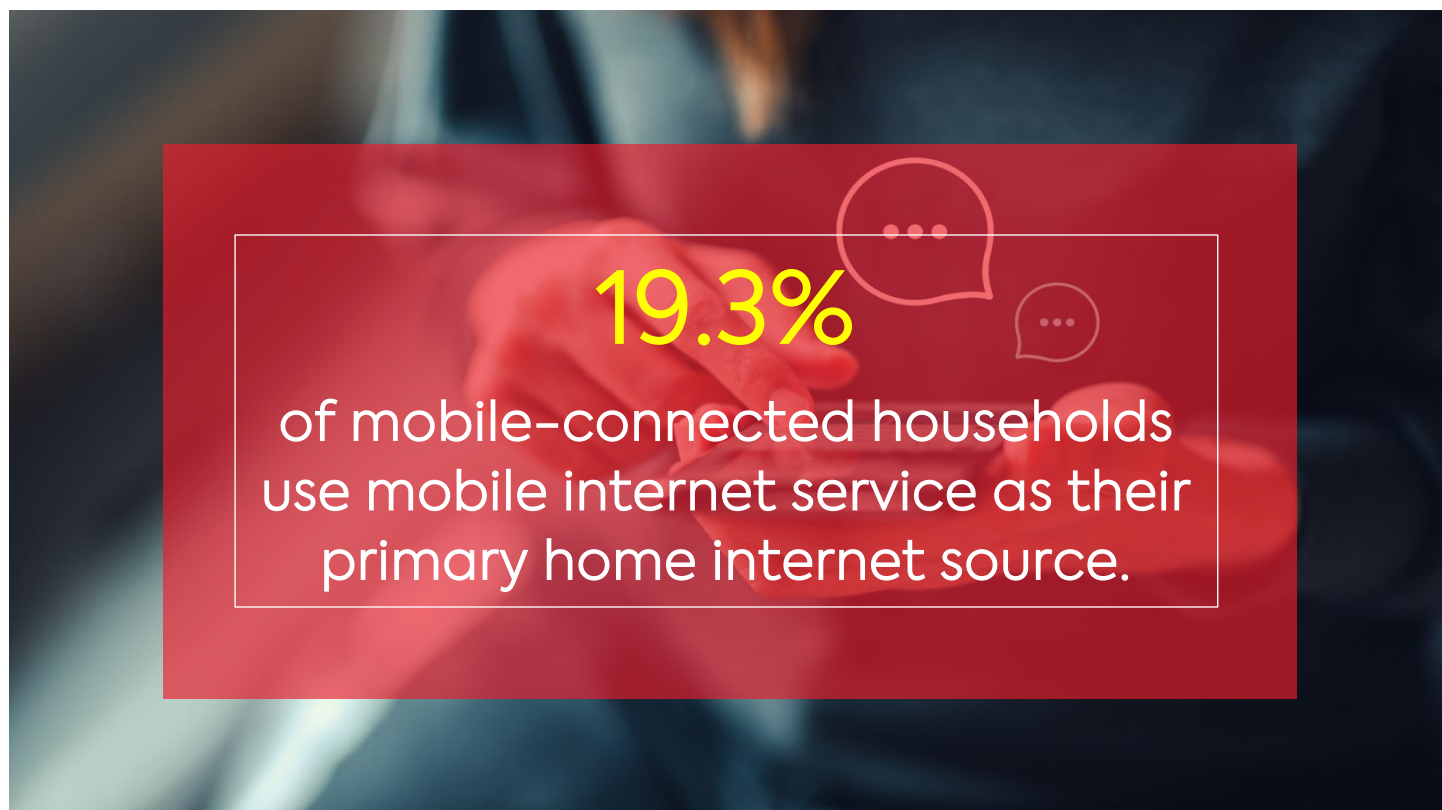Walker County, Texas

- Yes: 93.0%
- No: 7.0%

Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. Over two-thirds (70%) of respondents indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction compared to households in other communities (58%). When asked why their connection does not meet their needs, 82.4% of households indicate that the speed is too slow. About 56% say the price is too high, and nearly 65.3% indicate that the connection is unreliable; (respondents could choose more than one reason). Finally, 93% indicate that they are interested in additional internet choices for their home.

MOBILE CONNECTIVITY

Over three-quarters of Walker County households (77%) report that they subscribe to mobile internet service which they access via a smartphone or similar mobile device. This is on par with other Connected communities (74.0%).

Additionally, about 52.4% of all mobile-connected households report that they rely on their mobile connections as their primary source of internet connectivity at homes or use mobile service to connect other household devices to the internet.

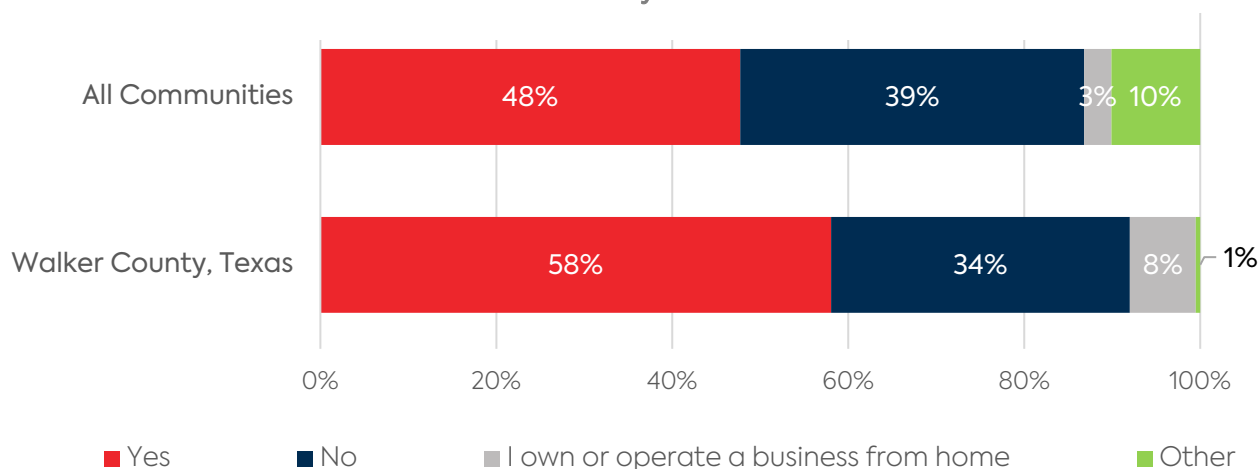**Households Subscribing to Mobile Internet Service**

	Walker County, Texas	All Communities
No	23.0%	26.0%
Yes	77.0%	74.0%

■ Yes ■ No
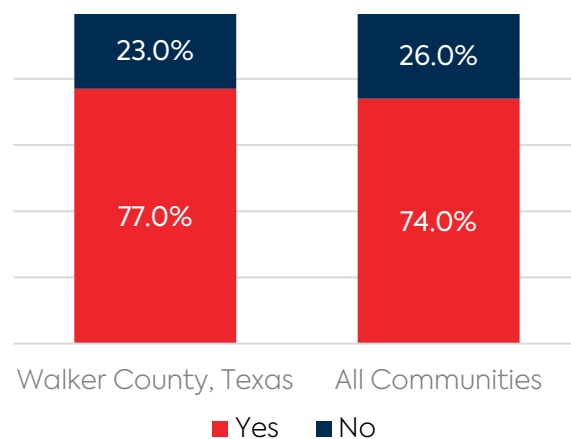
19.3%
of mobile-connected households use mobile internet service as their primary home internet source.
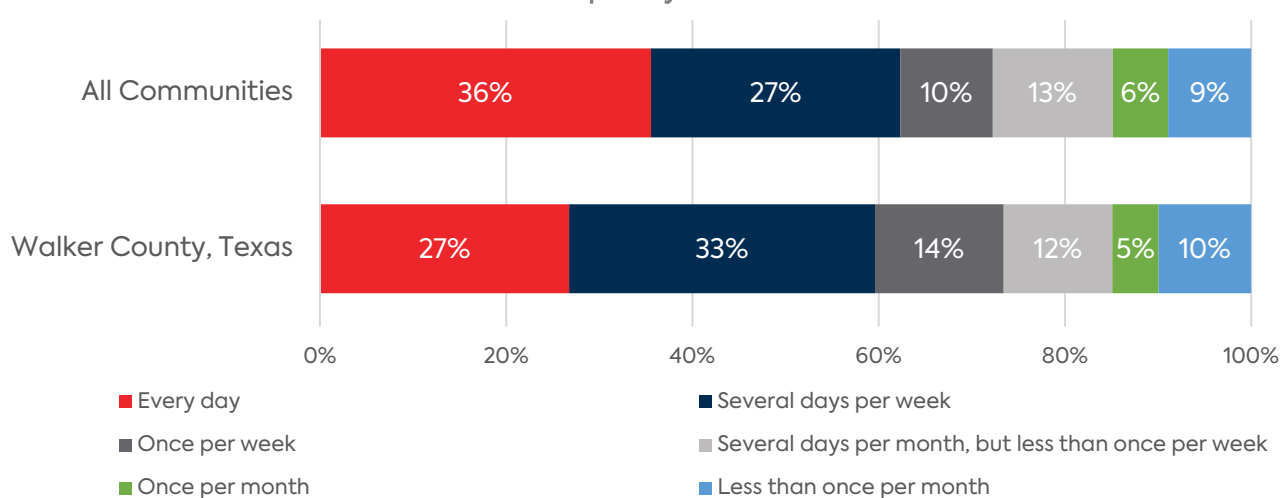
TELEWORK

Teleworking, or telecommuting, refers to working outside of the conventional workplace and communicating with it by way of telecommunications or computer-based technology. The COVID-19 pandemic forced many organizations to allow staff to telework. In Walker County the lack of broadband access was a significant barrier to organizations being able to operate virtually if needed. Teleworking is quickly becoming a critical part of growing a local economy because it represents an opportunity to attract or retain employees even though their employer may not be located within the community. However, this only works if those employees have access to advanced broadband infrastructure. Approximately 58% of residents in Walker County indicate that they telework at least part of the time. This is more than residents in other communities. It is important to note that most of the data from other communities was collected prior to COVID-19.

Do You Currently Telework For Your Job?

	Yes	No	I own or operate a business from home	Other
All Communities	48%	39%	3%	10%
Walker County, Texas	58%	34%	8%	1%

How Frequently Do You Telework?

	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%
Walker County, Texas	27%	33%	14%	12%	5%	10%

RECOMMENDATIONS

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

Develop public-private partnerships to deploy broadband service.

Public-private partnerships take many forms, limited only by the imagination and legal framework in which a political subdivision operates. Some communities issue municipal bonds to fund construction of a network, others create nonprofit organizations in collaboration with private carriers or provide seed investment to jump-start network construction.

- Determine priorities for the partnership.
- Research partnership models.
- Understand key legal considerations for localities looking to build a broadband partnership.

Enact strategies that promote fixed broadband access, such as a "dig once" policy.

Explore policy options that will make it easier to improve broadband infrastructure in the area. Where feasible and cost-effective, enact such policies. One example is a "Dig Once" policy where public or private excavators are required to coordinate with local authorities to install fiber or conduit whenever ground is broken on a public right-of-way.

- Explore legislative strategies enacted by states and municipalities and determine if such actions would be legal and cost-effective.
- Determine what steps would be needed to enact a Dig Once provision that will be flexible and create as little disruption as possible, while still resulting in the desired goal.
- Continue to monitor the impact of such policies and revise as necessary.

Launch a digital equity initiative.

A digital equity initiative provides a foundation for overcoming the barriers to broadband adoption via outreach, awareness, access to affordable broadband services and devices, and digital skills training. This initiative will help your community continue in-depth discussions around the adoption issue in the community.

- Create a digital inclusion task force composed of public and private stakeholders.
- Seek programming that addresses the Digital Divide for groups without an internet connection at home. The task force will create a vision for advancing broadband adoption and assign responsibilities.
- Oversee the implementation of projects that will advance the adoption of broadband technologies for all residents. Results can be measured in terms of new jobs; improved basic computer skills; increased use of technology in day-to-day operations of a community; and increased access to economic opportunities.

More information about these recommendations can be found at www.connectednation.org/walker-county-texas.