



MILAM COUNTY, TEXAS

Technology Action Plan Summary
October 2021



**CONNECTED
NATIONSM**
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 Milam 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 2020 and February 2021, Milam County conducted a comprehensive survey of broadband technology access and adoption across the community that collected responses from 825 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.

Milam 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.

To highlight key findings, CN Texas created an interactive map. To access the map, please click [HERE](#). 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.

Milam County - Quick Facts

Population	24,770
Number of Households	9,228
Median Household Income	\$47,902
Poverty Rate	15.4%
Bachelor's Degree or Higher	14.1%
Homeowner	71.4%
Hispanic or Latino Population	26.4%
Households with Broadband Access ¹	66.7%

Source: U.S. Census 2019

<https://data.census.gov/cedsci/profile?g=0500000US48331>

¹ The current FCC definition of broadband is a minimum of 25 Mbps download and 3 Mbps upload. This data is derived from Connected Nation Texas, July 2021. https://cn-maps.hatfield.marketing/US/TX/v4/tx_milam-county_25x3.pdf.

KEY FINDINGS

- More than **one-half** of the households (55%) subscribe to fixed internet connections² such as DSL, fiber, or fixed wireless, with an additional **quarter** of households (27%) using non-fixed internet connections³ 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 Milam County (**14.82 Mbps**) is significantly lower than connections in other Connected communities (**35.5 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, 65% reported that they were dissatisfied with their service, with **unreliable connections** being the leading reason for their dissatisfaction.
- Two out of three government entities (**67%**) indicated they are not satisfied with their broadband service, with **slow speeds** and **unreliable connections** being the leading reasons for dissatisfaction.
- More than nine out of 10 households (**96%**) said they would like to have improved or additional options for home internet service.
- Only **47.8%** of households in Milam County have access to internet service at speeds needed to run many modern applications (100 Mbps downstream and 10 Mbps upstream). Statewide, 92% of households have internet access at this speed.



66.7%

Percentage of
households in
Milam
County that
have access to
broadband

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.

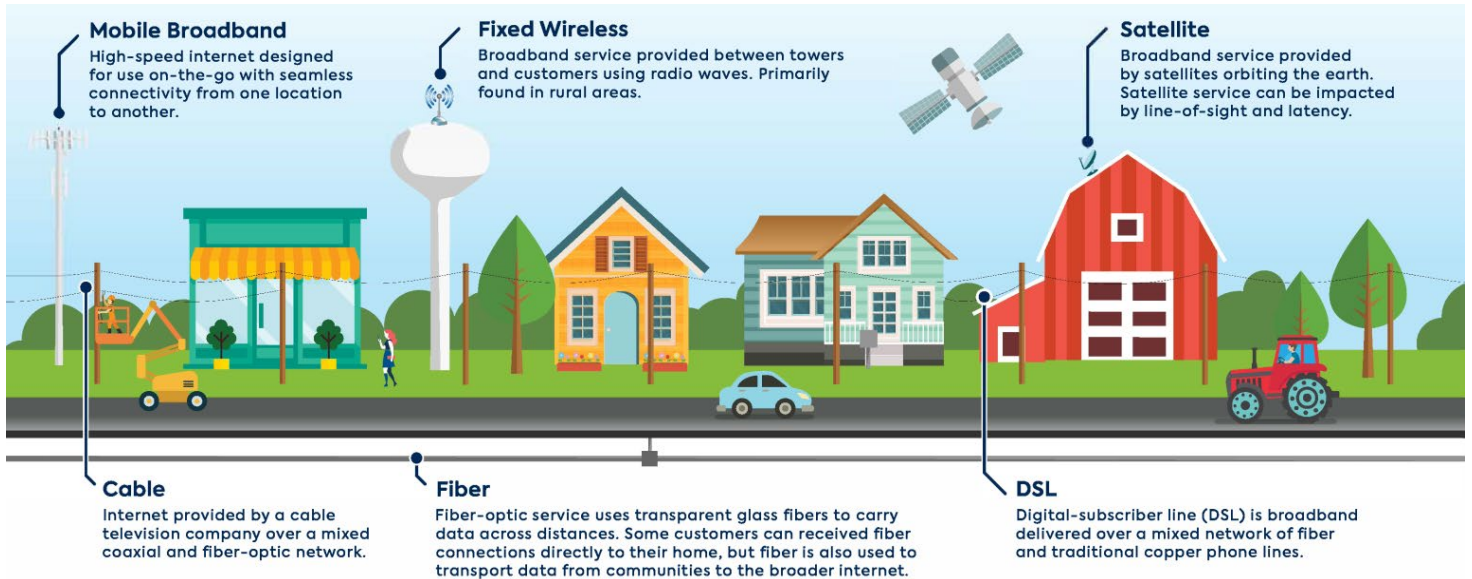
INFRASTRUCTURE

The first step in understanding the state of broadband infrastructure in Milam 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 is 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 were 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)	3,133
Households served (10/1 Mbps)	95.61%
Households served (25/3 Mbps)	66.7%
Households served (50/5 Mbps)	49.26%
Households served (100/10 Mbps)	47.79%

Broadband data collected by CN Texas in 2021
<https://connectednation.org/texas/mapping-analysis/>.

Types of Internet Service



According to CN Texas, broadband data published in July 2021 — with public feedback, field validation, and provider input — many households in Milam 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).

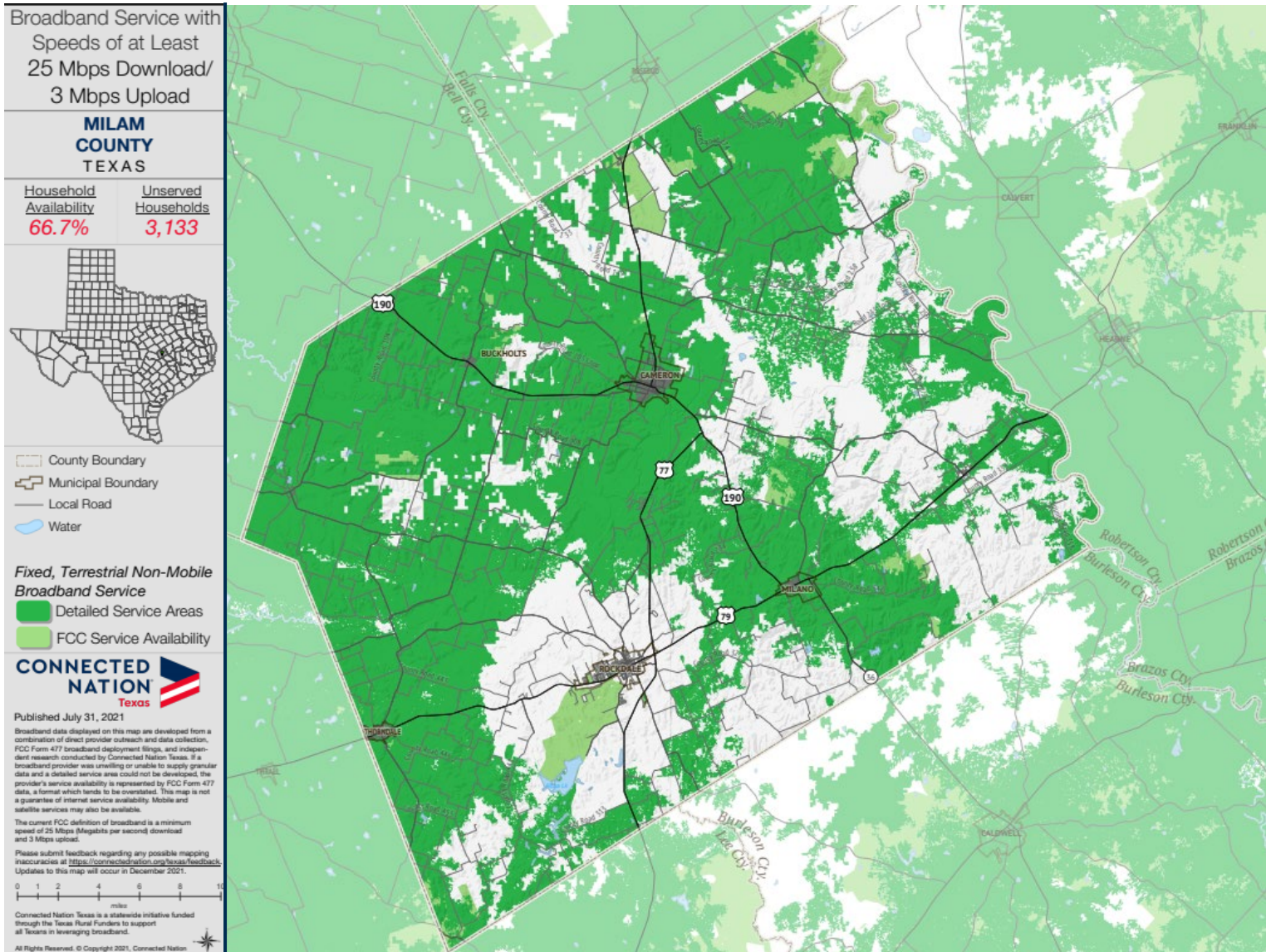
Broadband service in Milam County is concentrated around the cities of Cameron, Rockdale and Milano and sparsely available elsewhere. There were 14 providers identified via the data collection process that provide internet service in Milam County as shown on the following table:

Internet Service Providers in Milam County

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
Brazos WiFi	Fixed Wireless	30	10
Centex Web Access	Fixed Wireless	15	5
Century Link	DSL	60	5
Charter Communications	Cable	940	35
Nextlink	Fixed Wireless	100	20
Rise Broadband	Fixed Wireless	50	10
SOS Communications	Fixed Wireless	25	5
AT&T	DSL	25	5
	Fixed Wireless	10	1
Suddenlink	Cable	25	5
Zochnet	Fixed Wireless	10	5
Valor Telecommunications (Windstream)	DSL	200	200
VTX Communications	Fixed Wireless	25	4
Western Broadband	Fixed Broadband	15	1.5
Zito Media	Cable	100	10

MILAM COUNTY, TEXAS SUMMARY

Below is Milam County's (25/3 Mbps) map. Access the full map in PDF format [here](#). Other portions of the county are served by internet service providers (ISPs) offering slower advertised speeds.



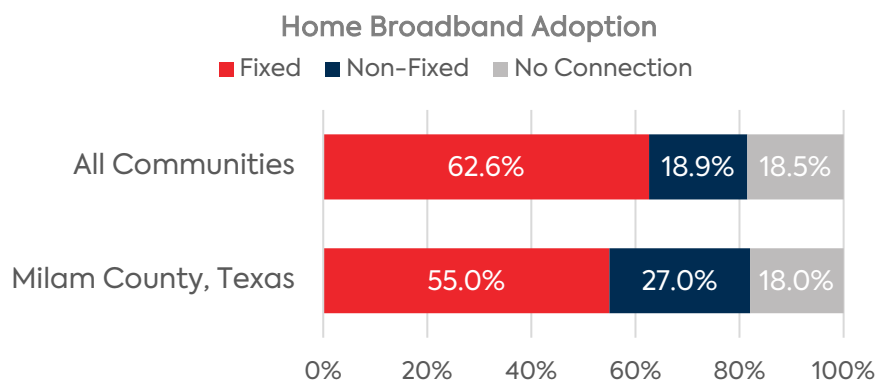
HOUSEHOLDS – DETAILED FINDINGS

The following provides an overview of results from a broadband survey conducted in Milam County between November 2020 and February 2021. Altogether, CN Texas received 825 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Milam 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.

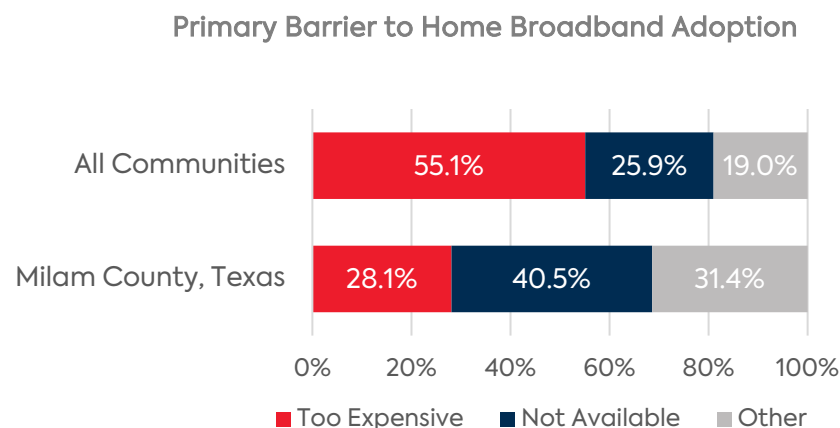
Households – Quick Facts	
Fixed Home Broadband Adoption ⁴	55%
Average Monthly Cost of Internet	\$78.47
Average Download Speed	14.82 Mbps
Households Satisfied with Service	34.0%

Source: Milam County Household Survey conducted by CN Texas

ADOPTION



In Milam County, 55% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Also, 27% 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 (18%) of survey respondents without internet access at home.

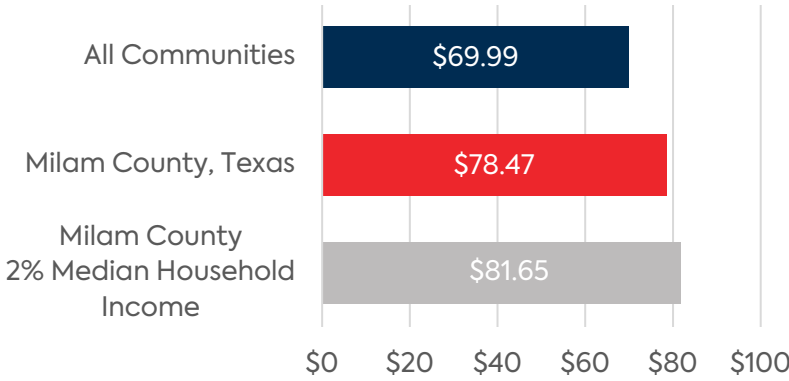


Among those without a home internet connection, 40.5% said they did not have broadband because it was not available to them, while more than one-quarter (28.1%) indicate that it was too expensive. Like in many communities, cost and availability are the two primary barriers to home broadband adoption.

⁴ Fixed home broadband connections are those provided by cable, DSL, fiber, or fixed wireless technology.

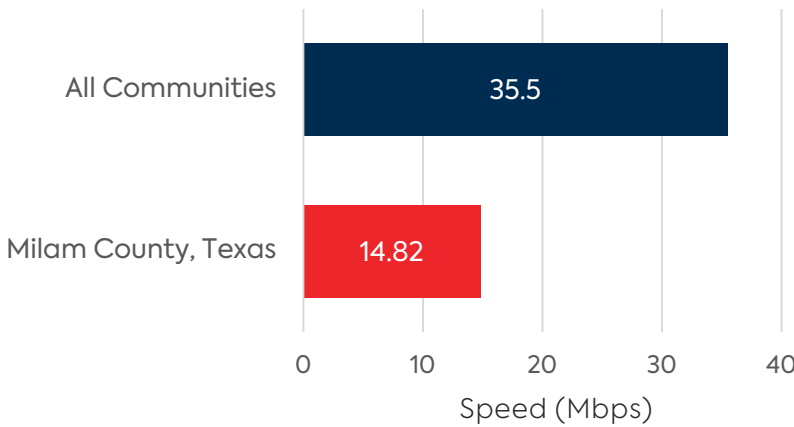
CONNECTION DETAILS

Average Monthly Cost for Home Internet Service



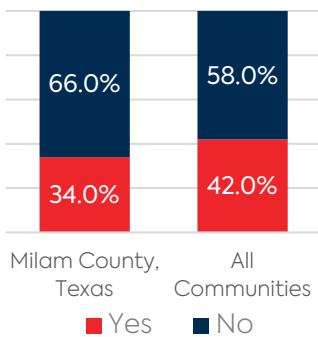
Two percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Respondents indicate that, on average, their internet connection costs about \$78.47 per month. This is higher than monthly costs in other communities (\$69.99). Two percent of the median household income in Milam County is \$81.65 per month.

Average Download Speed (Mbps)

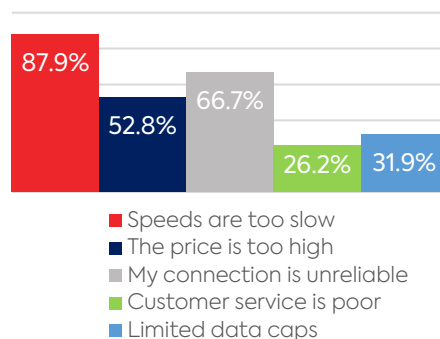


The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 14.82 Mbps, which is much lower than household connections in other communities and well below the defined speed of broadband, which is 25 Mbps.

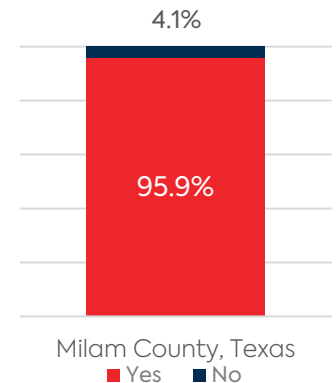
Does Your Internet Connection Meet Your Needs?



Why Does Your Connection Not Meet Your Needs?



Are You Interested in Additional Internet Choices at Home?



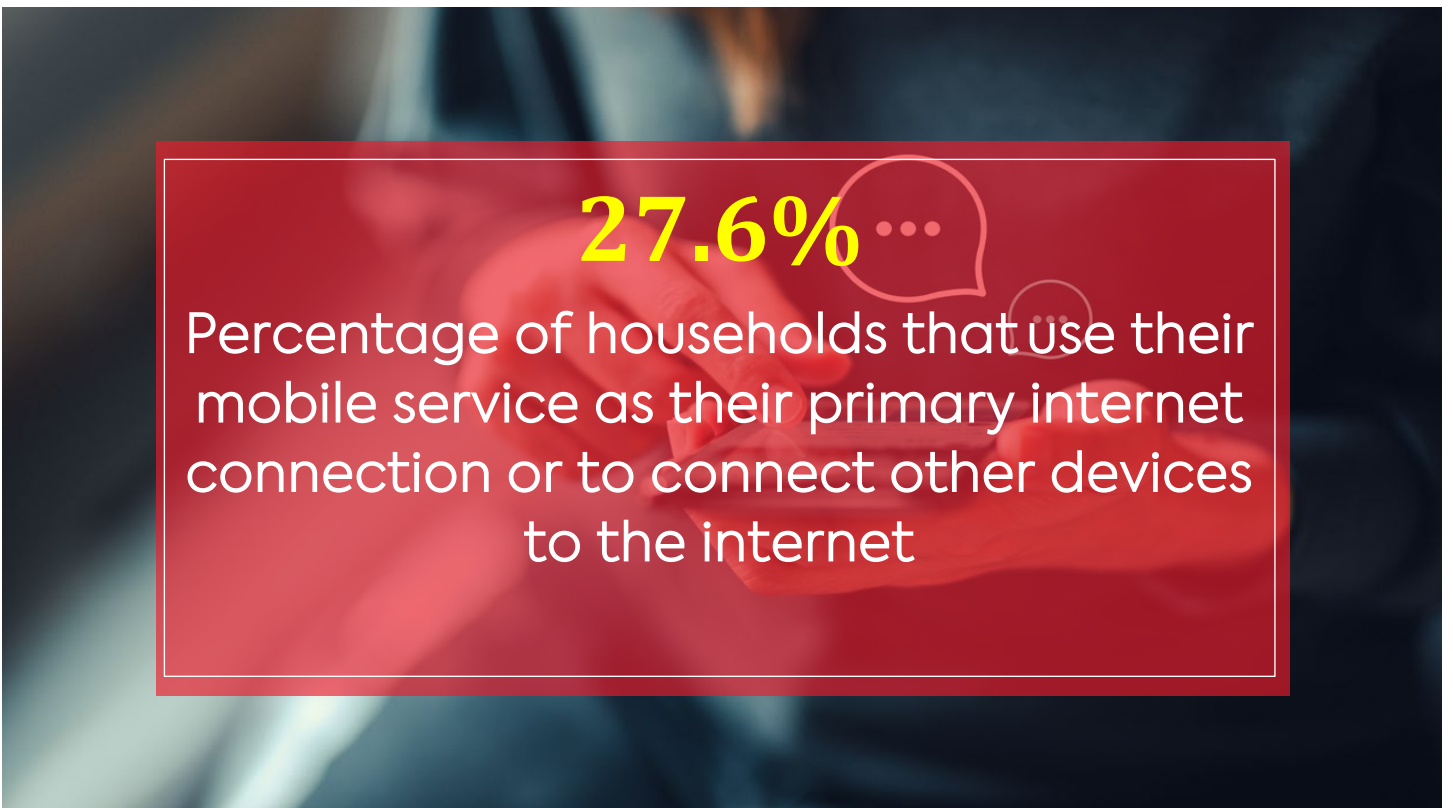
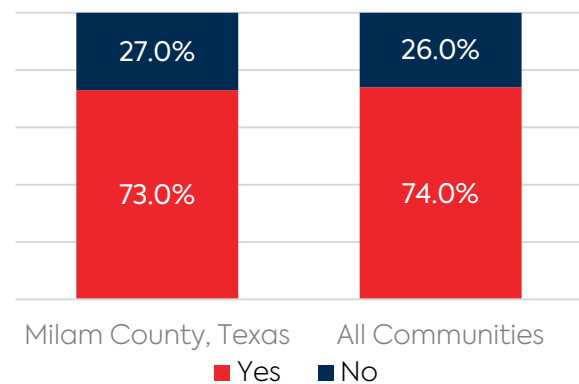
Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. Two-thirds of respondents indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction compared to households in other communities (58%). When asked why their connection does not meet their needs, 87.9% of households indicate that the speed is too slow. More than one-half (52.8%) say the price is too high, and 66.7% indicate that the connection is unreliable; (respondents could choose more than one reason). Finally, nearly every respondent (95.9%) indicate that they are interested in additional internet choices for their home.

MOBILE CONNECTIVITY

Nearly three-quarters of Milam County households (73%) report that they subscribe to mobile internet service that they access via a smartphone or similar mobile device. This is on par with other Connected communities (74.0%).

Additionally, about 27.6% of all households report that they rely on their mobile connection as their primary source of internet connectivity at home or use mobile service to connect other household devices to the internet.

Households Subscribing to Mobile Internet Service



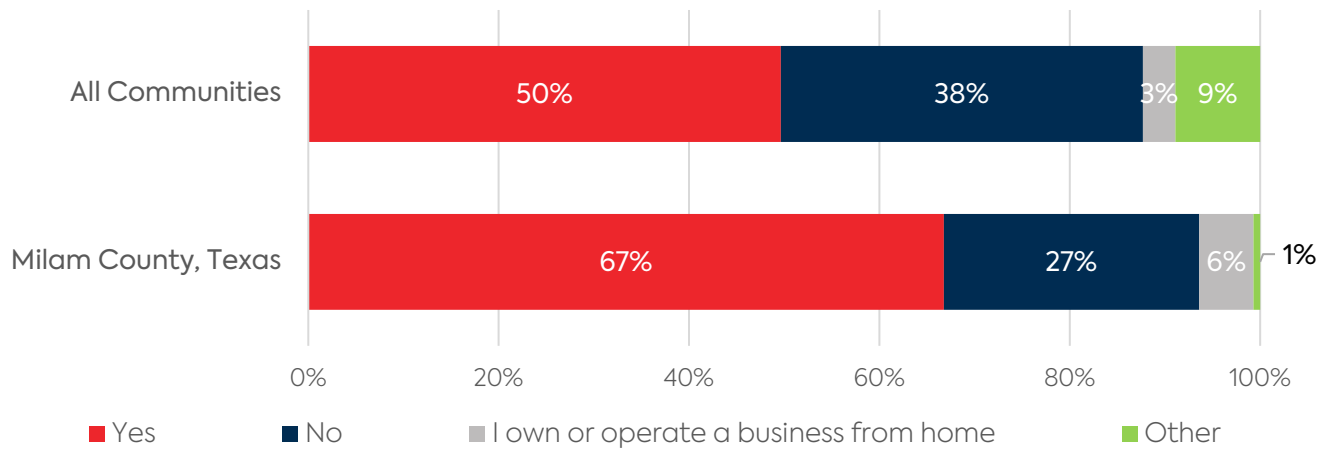
27.6% ...

Percentage of households that use their mobile service as their primary internet connection or to connect other devices to the internet

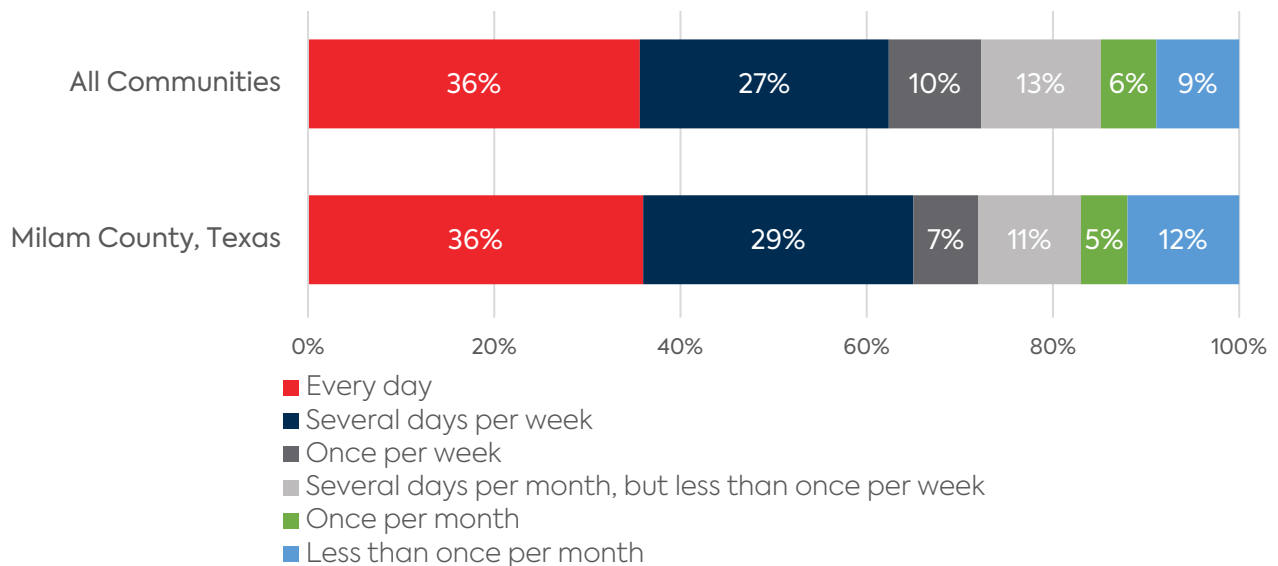
TELEWORK

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 Milam 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 67% of employed residents in Milam 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?



How Frequently Do You Telework?



RECOMMENDATIONS

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

Goal (1) Secure funding for advancing broadband access, adoption and use in Milam County

Objective

Milam County should obtain federal and state grant monies, such as EDA Grants, American Rescue Plan monies, and NTIA Broadband grants, to build additional and expand existent infrastructure in Milam County to facilitate better broadband.

Description

There are a multitude of existing and potential federal funding opportunities for broadband expansion. While federal agencies have niche missions, each can contribute funding to a community's broadband readiness endeavors through unique grant programs. Examples include the Department of Agriculture, Economic Development Association, and Federal Communications Commission. Developing a grant strategy, or a funding strategy, is an important part of a community's competitiveness when applying for available funds. Important elements of a grant plan include accurate broadband mapping, stakeholder support, broadband partnerships (i.e., ISPs), and up-to-date funding information.

Actions

1. Judge Young should identify applicable grants for community/county to apply for and begin preparing grant applications with assistance from a school or county grant writer.
 - a. Use Internet Society funding guide linked below to review federal grant programs.
 - b. View Connected Nation's "Current Broadband Funding" landing page for information on funding opportunities.
 - c. If the community does not have a designated grant writer or broadband specialist, consult with CTCOG about available resources and grant-writing assistance.
2. Community Broadband Team (County Judge, EDC Coordinator, others as needed) should meet with community ISPs (internet service providers) to discuss infrastructure needs and financial responsibilities and implications.
3. Community Broadband Team should meet with community broadband providers who have already been allocated federal money, including CAF and RDOF, to ensure infrastructure plans are not needlessly redundant.
 - o RDOF Phase I Auction Winning Bids
 - a. AMG Technology (Nextlink), \$2,462,026.10
 - b. CCO Holdings (Charter), \$9,228.00
 - c. LTD Broadband, \$12,297.00
 - o CAF Phase II Auction Winning Bids
 - a. AMG Technology (Nextlink), \$1,089,117.50
4. County officials (i.e., Judge Young) should make contact with Congressman Sessions' office to inquire about federal grant application assistance; inquire about letters of support, additional funding opportunities.
5. Milam County, in conjunction with Commissioners Court approval, should spend federal grant winnings on broadband expansion projects utilizing ISP partnerships and abiding by regulatory standards.

Responsible Parties

Local units of government; congressional staff; grant writers; broadband providers

Timeline

Milam County should act within three months of receiving this plan. While Milam County does not have to spend, apply for, or receive federal funds within three months, there should be a decisive plan of action created. The community should revisit this solution whenever there is an update in federal funding guidelines.

Resources

- [ctc technology & energy](#): Developing a Grant Strategy in an Evolving Funding Landscape
- [Internet Society](#): Guide to Federal Broadband Funding Opportunities in the U.S.
- [BroadbandUSA](#): Federal Grant Resources
- [Connected Nation](#): Current Broadband Funding
- [Congressman Pete Sessions](#): Office Locations and Contact Information
- [US Department of the Treasury](#): Coronavirus State and Local Fiscal Recovery Funds
- [US Department of Agriculture](#): ReConnect Loan and Grant Program
- [American Rescue Plan](#): County Allocation
- [American Rescue Plan](#): City Allocation
- [Grants.gov](#): NTIA Broadband Infrastructure Program

Goal (2) Pursue strategic partnerships with broadband providers in Milam County to expand network deployment

Objective

Milam County should develop public-private partnerships with broadband carriers by leveraging community assets in pursuit of expanded network deployment.

Description

Public-private partnerships take many forms, limited only by the imagination and legal framework in which the municipality operates. Some communities issue municipal bonds to fund construction of a network, which they lease to private carriers, with the lease payments covering the debt service. Others create nonprofit organizations to develop networks in collaboration with private carriers or provide seed investment to jumpstart construction of networks that the private sector is unable to cost-justify on its own. A public-private partnership should not be simply seen as a method of financing. The strength of these partnerships is that each party brings something important to the table that the other doesn't have or can't easily acquire. The community can offer infrastructure (publicly owned building rooftops, light poles, towers, and other vertical assets for mounting infrastructure) for the deployment of a network, as well as committed anchor tenants. Private-sector partners bring network-building and operations experience.

Actions

1. Broadband Team (County Judge and community stakeholders) and county leadership should explore use of RFI (requests for information) to gather information regarding potential partnerships to address areas of the community that are unserved. Explore examples of RFI/RFP language in link provided.
2. Judge Young, Michelle Morgan, and others as needed should assess ongoing and planned publicly- and privately-funded broadband projects.

- a. EX: RDOF and CAF. See action item 1 for specifics.
 - b. Meet with broadband providers individually, as able, to discuss projects and funding. Milam County has already met with Zochnet, Bartlett Electric Coop., and Nextlink.
 - c. Once one-on-one meetings with providers have been exhausted, community should release an RFI to gather additional information that was not presented during meetings or to gather information from providers who did not have meetings with county leadership.
3. Judge Young and county broadband leadership team should consider public-private partnerships, as needed and desired.
- a. Elements to consider include competition, enhanced service, equity and service to all, public control over infrastructure, risk avoidance, redundance, etc.
 - b. Examine different models of partnership in conjunction with community stakeholders (County Attorney, Mayor, etc.).
 - i. Model 1: Private Investment, Public Facilitation: Make available public assets like fiber and conduit, share geographic information systems data, streamline permitting and inspection processes, offer economic development incentives to attract private broadband investment.
 - ii. Model 2: Private Execution, Public Funding: Identify revenue streams that can be directed to a private partner, issue RFP for private turnkey execution.
 - iii. Model 3: Shared Investment and Risk: Evaluate using assets to attract private investment, evaluate funding new assets to attract private investment, evaluate building new fiber assets to businesses and/or homes for leasing to private ISPs.
 - c. Broadband team should discuss key legal considerations for localities looking to build a broadband partnership: review authority issues, understand the legal tools and instruments that could shape the partnership, negotiate the agreement.

Responsible Parties

County Judge; community institutions and stakeholders; broadband providers; residents and businesses

Timeline

Milam County should act on this objective in conjunction with the timeline for objective 1. The first two to three months should be allocated for paperwork and planning, followed by an additional two or three months for implementation. As Milam County looks to spend federal grant funds, they should consider public-private partnerships to meet broadband expansion needs.

Resources

- [ctc technology & energy](#): Developing a Grant Strategy in an Evolving Funding Landscape
- [BroadbandUSA](#): An introduction to effective public-private partnerships for broadband investments
- [NCDIT Broadband Infrastructure Office](#): Putting Together Your Request for Proposals or Information
- [Connected Nation Texas](#): Texas Broadband Providers by County

Goal (3) Increase broadband adoption among Milam County residents through digital literacy and inclusion programs

Objective

Milam County should implement digital literacy and inclusion programs in the community to ensure all community members have the ability and skills to use digital devices to access and manipulate information.

Description

For those unfamiliar with the term, digital literacy seems like a complex concept, but put simply, it is an individual's ability to interact and exchange information via digital platforms efficiently and successfully. As the name suggests, digital literacy necessitates a level of competency. Put another way, literacy requires understanding, skill, and knowledge. Digital literacy then is an understanding of the digital environment and all the software, social media platforms, and lingo that comes along with it. For Americans who have limited exposure to new and constantly evolving technology trends and products, staying abreast and informed can be harder than it seems. For rural Americans, digital literacy can be stunted by many things including lack of devices, knowledge, and general infrastructure. By providing training workshops focused on digital readiness and inclusion, a community can equip its citizens for digital immersion and advancement for the now and the future. Digital literacy focuses not just on access to devices and broadband internet, but the skills and ability needed to engage on these platforms.

Actions

1. Milam County community institutions (i.e., libraries, schools, agriculture) should identify regional and community partners with resources and expertise to assist the county in producing “free” digital literacy and inclusion workshops with an emphasis on broadband adoption barriers.
 - a. Schools: Buckholt ISD, Cameron ISD, Gause ISD, Milano ISD, Rockdale ISD, Thorndale ISD, Resolution Ranch Academy, St. Paul Lutheran School
 - b. Libraries: Cameron Public Library, Lucy Hill Patterson Memorial Library
 - c. Agriculture: Texas Farm Bureau and Texas A&M Agrilife Extension
2. Identify or develop curriculum using publicly available programs, such as AARP and PLA, and county-sourced information to facilitate community-wide training courses.
3. Schedule training classes at local facilities and promote through local media.
 - a. Utilize existing websites and social media accounts for Milam County and surrounding cities.
 - b. Utilize partnerships at local media outlets (Cameron Herald, Rockdale Reporter, Thorndale Champion, Temple Daily Telegram, KMIL, KXRT) to promote technology workshops.
4. Invite ISPs (internet service providers) to sponsor and attend events. ISPs may be willing to sponsor events since community-wide workshops will likely lead to increased broadband adoption and use.

Timeline

Milam County should implement digital inclusion and literacy programs by the end of 2021. Every six months, the community should evaluate the status of available curriculum to determine if updates are needed.

Responsible Parties

Community anchor institutions: schools, libraries; broadband providers; local units of government; media outlets

Resources

- Connected Nation: What We Do For You, Digital Inclusion

- National Telecommunications and Information Administration: Five Digital Inclusion Trends in the United States
- AARP: AARP Joins With Nonprofit to Teach Tech to Older Adults
- Public Library Association: Digital Learn Curriculum
- Connected Nation Texas: Texas Broadband Providers by County
- Milam County: Cities/Schools/Other Links

Goal (4) Promote economic and social benefits of online retail among Milam County businesses and community institutions

Objective

Milam County should partner with Chambers of Commerce, EDC, and regional organizations to boost online and social media presence for community anchor institutions, local businesses, medical facilities, and novelty attractions to drive e-commerce, business retention, and job-growth rates.

Description

For small businesses and community-run organizations, an online presence and the use of social media are vital to stay competitive in the 21st century. A website and social media channels are not just for organizations that have the experience, staff, or budget; any small business, library, or community organization can tap into these resources. Training should be provided to all community members regarding the use of websites and social media. Website topics should range from starting a basic website to more advanced topics such as e-commerce. Social media topics should include a variety of social media outlets including Facebook, Twitter, YouTube, Pinterest, and LinkedIn. Broadband empowers small businesses and local leaders to achieve operational scale more quickly by lowering start-up costs through faster business registration and improved access to customers, suppliers, and new markets. According to Connected Nation's "2012 Jobs and Broadband Report," businesses that are using the internet bring in approximately \$300,000 more in median annual revenues than unconnected ones.

Actions

1. Milam County community institutions (i.e., libraries, schools, City Hall) will first need to identify regional and community partners.
 - a. Partners can provide resources and expertise to assist the community in producing "free" website and social media workshops.
 - b. Possible partnerships include Chambers of Commerce, Economic Development Councils (EDCs), and Councils of Government (COGs):
 - i. Cameron Chamber of Commerce, Rockdale Chamber of Commerce, Thorndale Chamber of Commerce
 - ii. Cameron Industrial Foundation, Rockdale Municipal Development, Milam County EDC
 - iii. Central Texas Council of Governments (CTCOG)
2. Curate curriculum based on publicly available programs, and county-sourced information, to implement and meet community needs.
3. Partner with ISPs to sponsor workshops (ISPs may be willing to sponsor events since small-business workshops will likely lead to increased broadband adoption and use.)
4. Schedule workshops and advertise classes via local media.

- a. Utilize existing websites and social media accounts for Milam County and surrounding cities.
- b. Utilize partnerships at local media outlets (Cameron Herald, Rockdale Reporter, Thorndale Champion, Temple Daily Telegram, KMIL, KXRT) to promote technology workshops.

Responsible Parties

Chamber of Commerce; Economic Development Organization; community anchor institutions; broadband providers; media outlets

Timeline

Milam County should implement technology workshops by the end of 2021. Every six months the community should evaluate the status of available resources and online curriculum to determine if updates are needed.

Resources

Small Business Chronicle: Social Media Benefits for Small Businesses

WorldHealth.Net: The Importance Of An Online Presence For Physicians

Connected Nation Texas: Texas Broadband Providers by County

The Creative Collective: Social Media, Let's Get Started with Social Media Marketing

Connected Nation: Tech for Small Business Infographic

US News: A Beginner's Guide to Social Media Marketing: A U.S. News Guide

Website Setup: How to Make a Website

Milam County: Cities/Schools/Other Links

Goal (5) Perform an outside plant audit and radio frequency analysis of Milam County

1. Milam County has partnered with Connected Nation to complete an outside plant audit and radio frequency analysis following conversations between Michelle Morgan, Jennifer Harris, and Chip Spann.
2. This audit will identify granular information about the community's current broadband environment and capabilities. These results should be used by the community when applying for grants and working with providers to improve and expand broadband access.