LIBERTY COUNTY, TEXAS

Broadband Plan Summary

June 2021

CONNECTED NATION
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 depends 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 Liberty 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, Liberty County conducted a comprehensive survey of broadband technology access and adoption across the community that collected responses from 774 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.

Liberty 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. Some 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 assessment, as well as recommendations for improving broadband and technology access, adoption, and use. The community action plan brings specific attention to broadband expansion, specifically through community adoption and infrastructure advancements.

Liberty County – Quick Facts	
Population	91,702
Number of Households	27,367
Median Household Income	$50,049
Poverty Rate	13..7%
Bachelor's Degree or Higher	12.4%
Homeowner	75.5%
Hispanic or Latino Population	33.6%
Black or African American Population	7.8%
Households Served with Broadband[1]	67.38%

Source: U.S. Census 2019:
https://data.census.gov/cedsci/profile?g=0500000US48291.

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[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, Dec 2020.

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KEY FINDINGS

- **67.38%** of households in Liberty County have access to internet service at speeds that the FCC defines as "broadband" (25 Mbps download and 3 Mbps upload). Statewide, 96.3% of households have broadband access at these speeds.

- **56.18%** of households in Liberty 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.

- More than one-half **(54%)** of households either use non-fixed internet connections[2] such as dial-up, satellite, and mobile-only services or are not adopting broadband at all.

- 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.**

- **70%** of households reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and unreliable connections.

- **93.2%** of households said they would like to have improved or additional options for home internet service.

Over **30%** of Liberty County Households do not have access to broadband

- The average internet speed reported by households in Liberty County **(20.92 Mbps)** is significantly lower than connections in other Connected communities (35.5 Mbps) surveyed.

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[2] 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 Liberty 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 was 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	
Number of Unserved Households	25,073
Households served (10/1 Mbps)	90.47%
Households served (25/3 Mbps)	67.38%
Households served (50/5 Mbps)	63.81%
Households served (100/10 Mbps)	56.18%

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

According to CN Texas broadband data collected in December 2020 – with additional public feedback, field validation, and provider input: nearly one-third of Liberty County (32.62%) do not have access to broadband of at least 25/3 Mbps. There were nine providers, as shown on the table below:
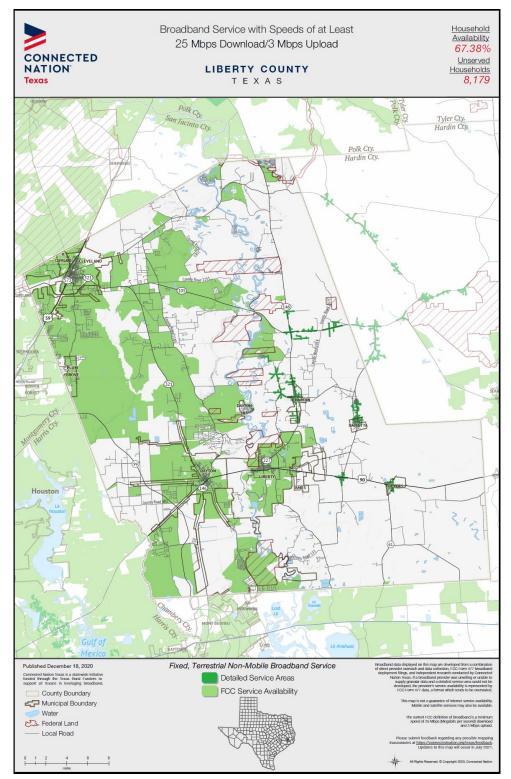
Internet Service Providers in Liberty County

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
Cameron Communications	DSL	10	1
MBLink	Fiber	1000	1000
Comcast	Cable	987	35
Eastex Net	Fiber	100	100
	DSL	25	3
En-Touch Systems, Inc.	Cable	115	20
	Fiber	1000	1000
Frontier	DSL	100	10
NDemand	Fixed Wireless	10	3
Rise Broadband	Fixed Wireless	15	15
AT&T Southwest	DSL	100	20
	Fiber	1000	1000
	Fixed Wireless	10	1
Suddenlink Communications	Cable	1000	150
NewWave	Cable	300	10
Texas Windstream Inc.	DSL	100	50

Below is Liberty 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.
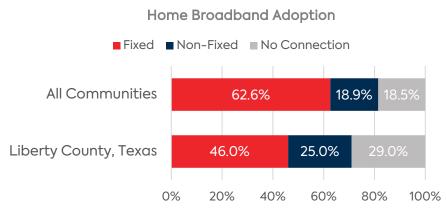

Broadband Service with Speeds of at Least
25 Mbps Download/3 Mbps Upload

LIBERTY COUNTY
T E X A S

Household Availability
67.38%
Unserved Households
8,179

Fixed, Terrestrial Non-Mobile Broadband Service

Published December 18, 2020

Connected Nation Texas is a statewide initiative funded through the Texas Rural Funders to support all Texans in leveraging broadband.

- Detailed Service Areas
- FCC Service Availability

County Boundary
Municipal Boundary
Water
Federal Land
Local Road

Broadband data displayed on this map are developed from a combination of direct provider outreach and data collection, FCC Form 477 broadband deployment filings, and independent research conducted by Connected Nation Texas. If a broadband provider was unwilling or unable to supply granular data and a detailed service area could not be developed, the provider's service availability is represented by FCC Form 477 data, a format which tends to be overstated.

This map is not a guarantee of internet service availability. Mobile and satellite services may also be available.

The current FCC definition of broadband is a minimum speed of 25 Mbps (Megabits per second) download and 3 Mbps upload.

Please submit feedback regarding any possible mapping inaccuracies at https://connectednation.org/texas/feedback. Updates to this map will occur in July 2021.

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HOUSEHOLDS – DETAILED FINDINGS

The following provides an overview of results from a broadband survey conducted in Liberty County between January and November 2020. Altogether, CN Texas received 774 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Liberty 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[3]	46%
Average Monthly Cost of Internet	$79.52
Average Download Speed	20.92 Mbps
Households Satisfied with Service	30.0 %

Source: Liberty County Household Survey conducted by CN Texas

ADOPTION

Home Broadband Adoption

■ Fixed ■ Non-Fixed ■ No Connection

	Fixed	Non-Fixed	No Connection
All Communities	62.6%	18.9%	18.5%
Liberty County, Texas	46.0%	25.0%	29.0%

In Liberty County, only 46% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. One-quarter of respondents indicate they have internet service, but it is delivered via dial-up, satellite, or a mobile wireless service. This leaves nearly 30% of households without internet access at home.
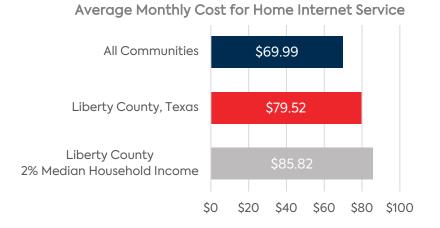
Primary Barrier to Home Broadband Adoption

	Too Expensive	Not Available	Other
All Communities	25.9%	55.1%	19.0%
Liberty County, Texas	23.9%	62.9%	13.2%

■ Too Expensive ■ Not Available ■ Other

Among those without a home internet connection, 62.9% said they did not have broadband because it was not available to them, while nearly 23.9% 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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[3] Fixed home broadband connections are those provided by cable, DSL, fiber, or fixed wireless technology.
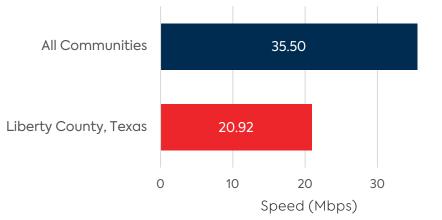
CONNECTION DETAILS

Average Monthly Cost for Home Internet Service

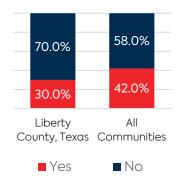|	
All Communities	$69.99
Liberty County, Texas	$79.52
Liberty County 2% Median Household Income	$85.82

$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 $79.52 per month. This is higher than monthly costs in other communities. Two percent of the median household income in Liberty County is $85.52 per month.

Average Download Speed (Mbps)

All Communities	35.50
Liberty County, Texas	20.92

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 20.92 Mbps, which is well below the speed of household connections in other communities and below the defined speed of broadband which is 25 Mbps.
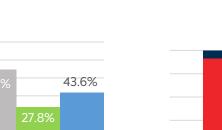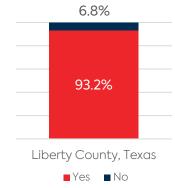
Does Your Internet Connection Meet Your Needs?

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

- Yes
- No

Why Does Your Connection Not Meet Your Needs?

- Speeds are too slow: 87.2%
- The price is too high: 53.8%
- My connection is unreliable: 69.1%
- Customer service is poor: 27.8%
- Limited data caps: 43.6%

Are You Interested in Additional Internet Choices at Home?
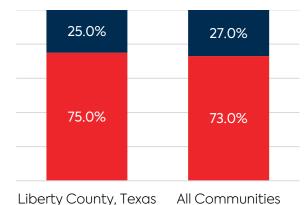
Liberty County, Texas: Yes 93.2%, No 6.8%

- Yes
- No

Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. About 70% of respondents indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction to households in other communities. When asked why their connection does not meet their needs, 87.2% of households indicate that the speed is too slow. Over half (53.8%) say the price is too high, and almost 70% indicate that the connection is unreliable; (respondents could choose more than one reason). Finally, more than nine out of ten indicate that they are interested in additional internet choices for their home.

MOBILE CONNECTIVITY

75% of Liberty County households report that they subscribe to mobile internet service which they access via a smartphone or similar mobile device. This is almost equal (74%) to mobile subscriptions reported by Connected communities.

Additionally, about 18% of mobile-connected households report that they rely on their mobile service as their primary source of internet connectivity at home, and 28.9% use their mobile service to connect other household devices to the internet.

Households Subscribing to Mobile Internet Service

	Liberty County, Texas	All Communities
No	25.0%	27.0%
Yes	75.0%	73.0%

■ Yes ■ No

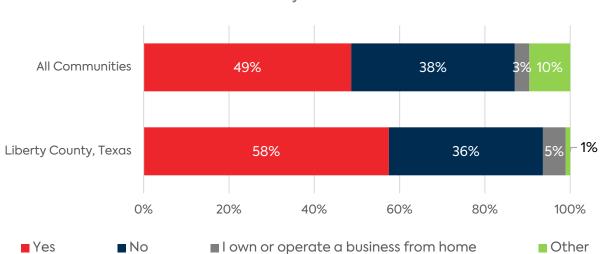# 18%
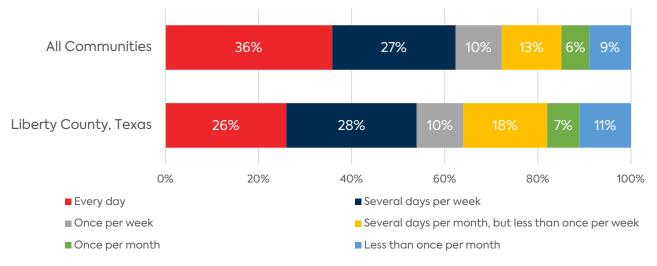## of mobile-connected households use their mobile service as their primary home internet source

TELEWORK

Teleworking, or telecommuting, refers to working outside of the conventional workplace and communicating with it by way of telecommunications or computer-based technology. 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 58% of residents in Liberty County indicate that they telework at least part of the time. This is more than residents in other communities.

Do You Currently Telework For Your Job?

	Yes	No	I own or operate a business from home	Other
All Communities	49%	38%	3%	10%
Liberty County, Texas	58%	36%	5%	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%
Liberty County, Texas	26%	28%	10%	18%	7%	11%

RECOMMENDATIONS

The following recommendations are presented to assist Liberty 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.

Incorporate or expand 1:1 programs in schools to get internet-connected computers into the hands of every student.

Online content and web-enabled course delivery can provide opportunities for learning beyond the traditional face-to-face course format found in many K-12 institutions. These applications can be further bolstered by providing students with their own internet-enabled devices. Advancements in technology and personal computing provide new opportunities for student engagement and learning. Implementing a 1:1 device program is not a light undertaking, and it requires the input and dedication of administrators, teachers, and students.
Create 1:1 vision and leadership teams.

- Research implementations that have been used in other school systems.
- Assess your district's readiness, including long-term funding, staff skills, internet connectivity and wireless capabilities, etc.
- Create a strategic and financial plan, including assessing community infrastructure needs.
- Ensure that curricula and plans embrace the new technology.
- Develop and/or participate in collaborative and ongoing professional development.

These recommendations are described in greater detail at www.connectednation.org/liberty-county-texas.