

# EXECUTIVE SUMMARY

## Technology Action Plan

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Brewster, Jeff Davis,  
and Presidio Counties, Texas



October 2021

## TABLE OF CONTENTS

<b>01 OVERVIEW</b> .....	2
Brewster County .....	5
Jeff Davis County .....	6
Presidio County .....	7
<b>02 INFRASTRUCTURE</b> .....	8
Brewster County .....	9
Jeff Davis County .....	11
Presidio County .....	13
<b>03 HOUSEHOLD DETAILED FINDINGS</b> .....	16
Brewster County .....	17
Jeff Davis County .....	21
Presidio County .....	25
<b>04 RECOMMENDED ACTIONS</b> .....	29



# OVERVIEW

01

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 Tri-County Broadband Team, composed of representatives from Brewster, Jeff Davis, and Presidio counties, 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 2021 and June 2021, Brewster, Jeff Davis, and Presidio counties conducted a comprehensive survey of broadband technology access and adoption across all three communities. Brewster County collected responses from 326 households, Jeff Davis collected responses from 143 households, and Presidio County collected responses from 194 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

Tri-Counties, Texas		
BREWSTER	JEFF DAVIS	PRESIDIO
Population		
9,546	1,996	6,131
Households		
4,230	965	2,435
Median Household Income		
\$47,080	\$53,088	\$25,098
Poverty Rate		
14%	4%	39%
Adults with a Bachelor's Degree or Higher		
40%	30.5%	21.2%
Homeownership Rate		
57.8%	81.6%	57.8%
Hispanic or Latino		
41.5%	30.7%	81.4%
Households with Broadband Access <sup>1</sup>		
80.49%	37.94%	33.58%

Source: <https://data.census.gov/cedsci/profile?q=0500000US48043>

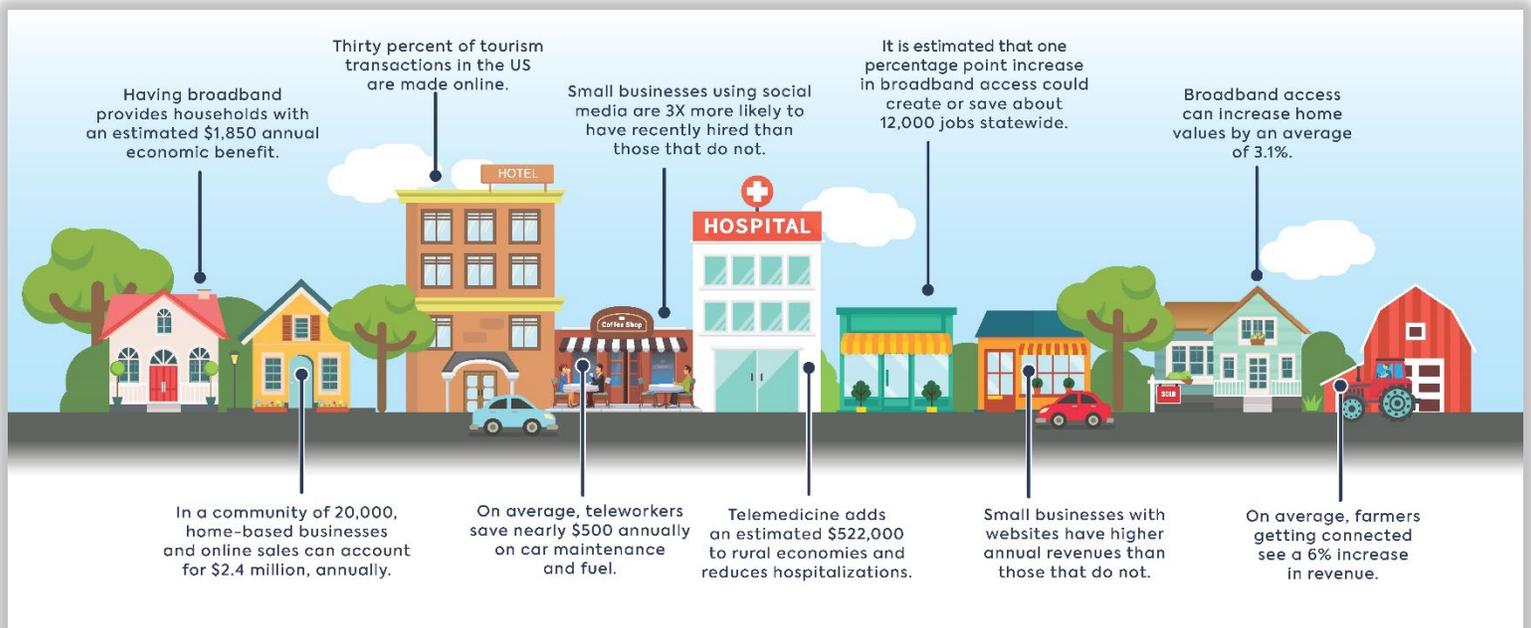
Source: <https://data.census.gov/cedsci/profile?q=0500000US48243>

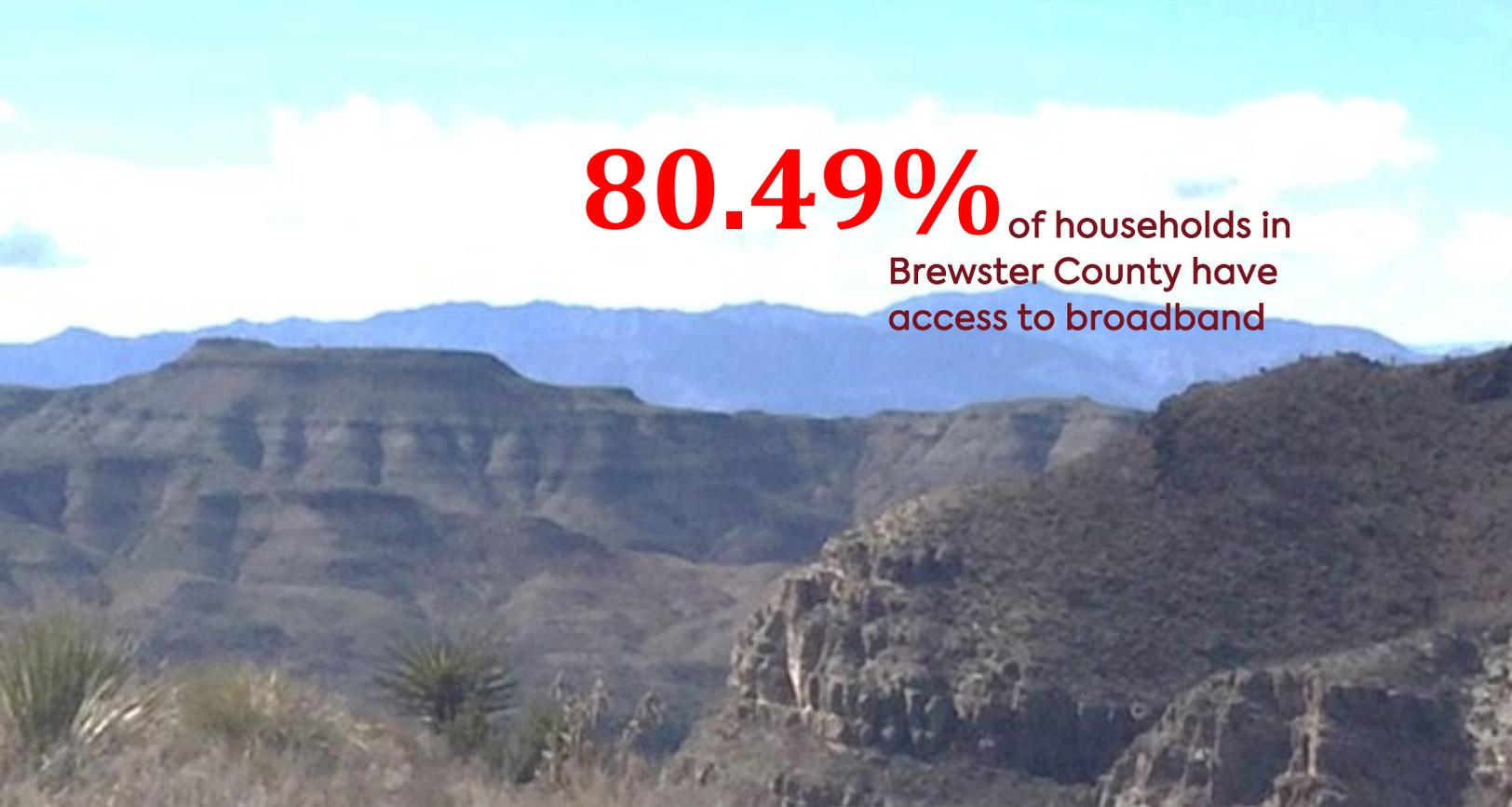
Source: <https://data.census.gov/cedsci/profile?q=0500000US48377>

<sup>1</sup>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://connectednation.org/texas/planning/>

All three counties are in a good position to improve broadband access, adoption, and use throughout the region. With potential National Telecommunications and Information Administration (NTIA) Broadband Infrastructure Deployment grants, Rural Digital Opportunity Fund (RDOF) money (once approved), and Coronavirus State and Local Fiscal Recovery funds flowing into each 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 each county will contribute to greater quality of life.

To highlight these key findings, CN Texas created an interactive map for these counties. It provides data on broadband availability in each county overlaid with survey data from the recent broadband assessment. To access the map 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.





**80.49%** of households in  
Brewster County have  
access to broadband

*For households that said they do not subscribe to home internet service, the top barriers cited are: “internet service is too expensive,” followed by “we do not know enough about the internet to feel comfortable using it.” In total, **cost** and **digital literacy** are the leading barriers to broadband adoption per survey respondents.*

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***80.49%** of households in Brewster County have access to internet service at speeds needed to run many modern applications (100 Mbps downstream and 10 Mbps upstream). Statewide, **92.05%** of households have internet access at this speed.*

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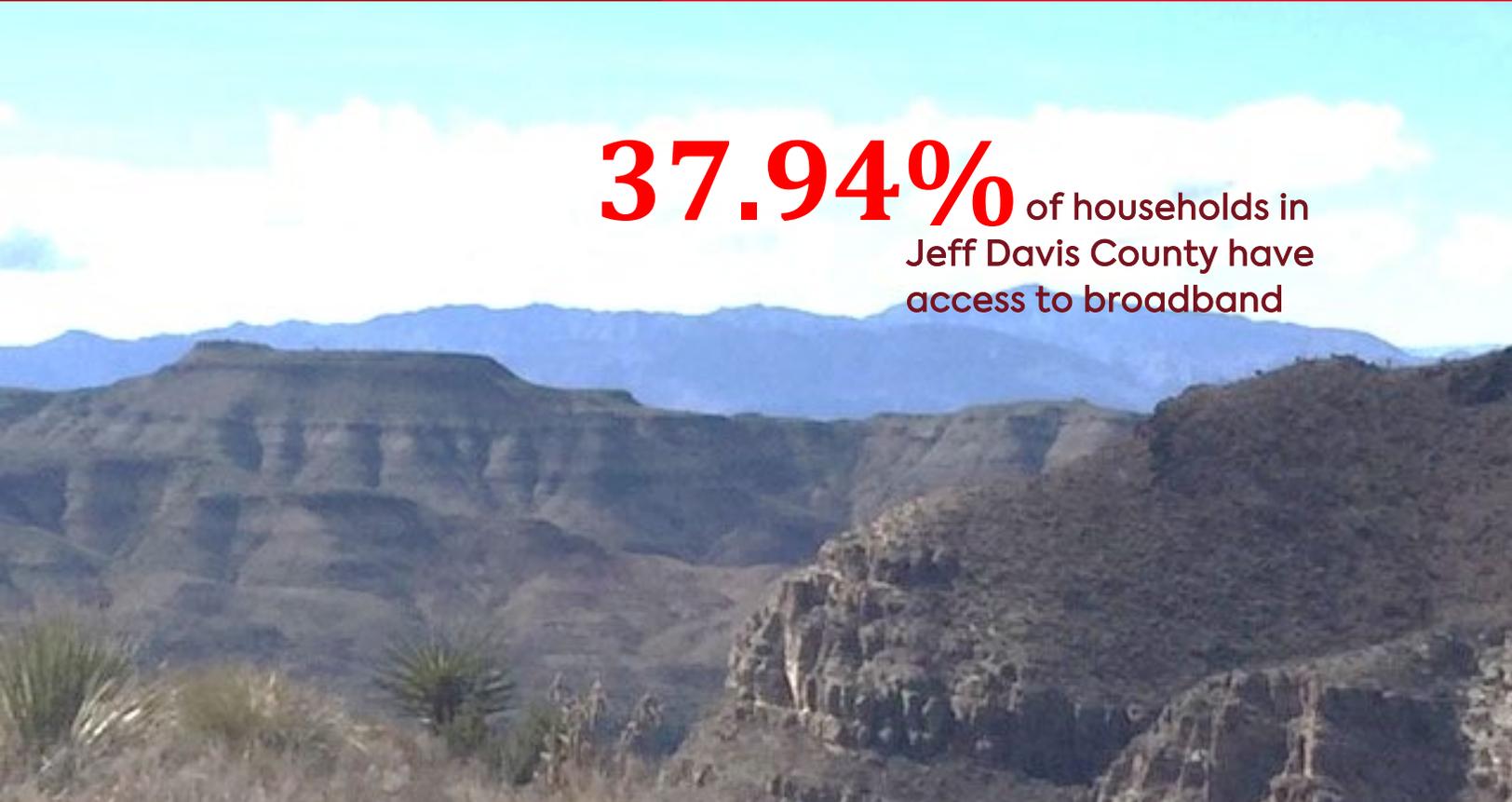
*Brewster County households **pay more** on average for access to the internet (**\$77.14**) than other Connected communities (\$71.15).*

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***Nearly four out of ten households (39%) and 50% of businesses** reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and high prices.*

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*More than four out of five households (**84.5%**) said they would like to have improved or additional options for home internet service.*



**37.94%** of households in  
Jeff Davis County have  
access to broadband

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

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*Only **37.94%** of households in Jeff Davis County have access to internet service at speeds needed to run many modern applications (100 Mbps downstream and 10 Mbps upstream). Statewide, **92.05%** of households have internet access at this speed.*

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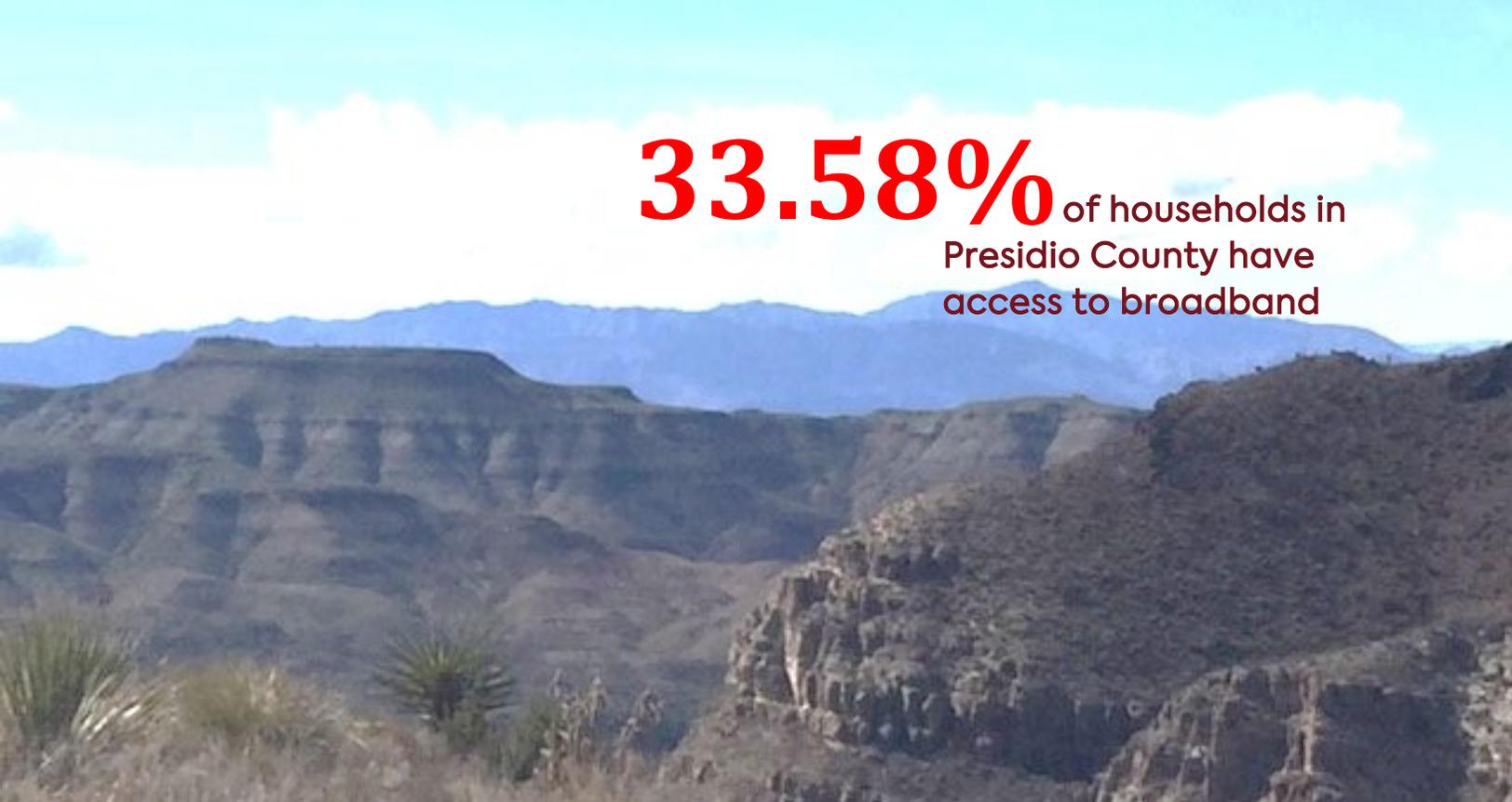
*Jeff Davis County households **pay considerably more** on average for access to the internet (**\$88.59**) than other Connected communities (\$71.15).*

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***Nearly three-fifths of Jeff Davis County households (57%) and 25% of businesses** reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and an unreliable connection.*

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***Nine out of ten** households (**90.5%**) said they would like to have improved or additional options for home internet service.*



**33.58%** of households in  
Presidio County have  
access to broadband

*For households that said they do not subscribe to home internet service, the top barriers cited include **cost of internet service** followed by **not owning a computer**.*

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*Only **33.58%** of households in Presidio County have access to internet service at speeds needed to run many modern applications (100 Mbps downstream and 10 Mbps upstream). Statewide, **92.05%** of households have internet access at this speed.*

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*Presidio County households **pay considerably more** on average for access to the internet (**\$83.11**) than other Connected communities (\$71.15).*

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***Six out of ten Presidio County households (61%) and 45% of businesses** reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and an unreliable connection.*

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***Over nine out of ten** households (**94.1%**) said they would like to have improved or additional options for home internet service.*



# INFASTRUCTURE RESULTS

02

**A**ccording to CN Texas broadband data initially released in July 2021 – followed by additional public feedback, field validation, and provider input – many households in Brewster County do have access to broadband of at least 25/3 Mbps, the current definition of broadband set forth by the Federal Communications Commission (FCC). Broadband service in Brewster County is concentrated near and south of Alpine, as well as surrounding Terlingua. Community institutions such as schools, businesses, and government buildings currently have access to fiber. Below is the list of internet service providers (ISPs) in Brewster County.

BROADBAND INFRASTRUCTURE QUICK FACTS	
Unserviced Households (25/3 Mbps)	<b>821</b>
Households Served (10/1 Mbps)	<b>97.21%</b>
Households Served (25/3 Mbps)	<b>80.49%</b>
Households Served (50/5 Mbps)	<b>80.49%</b>
Households Served (100/10 Mbps)	<b>80.49%</b>

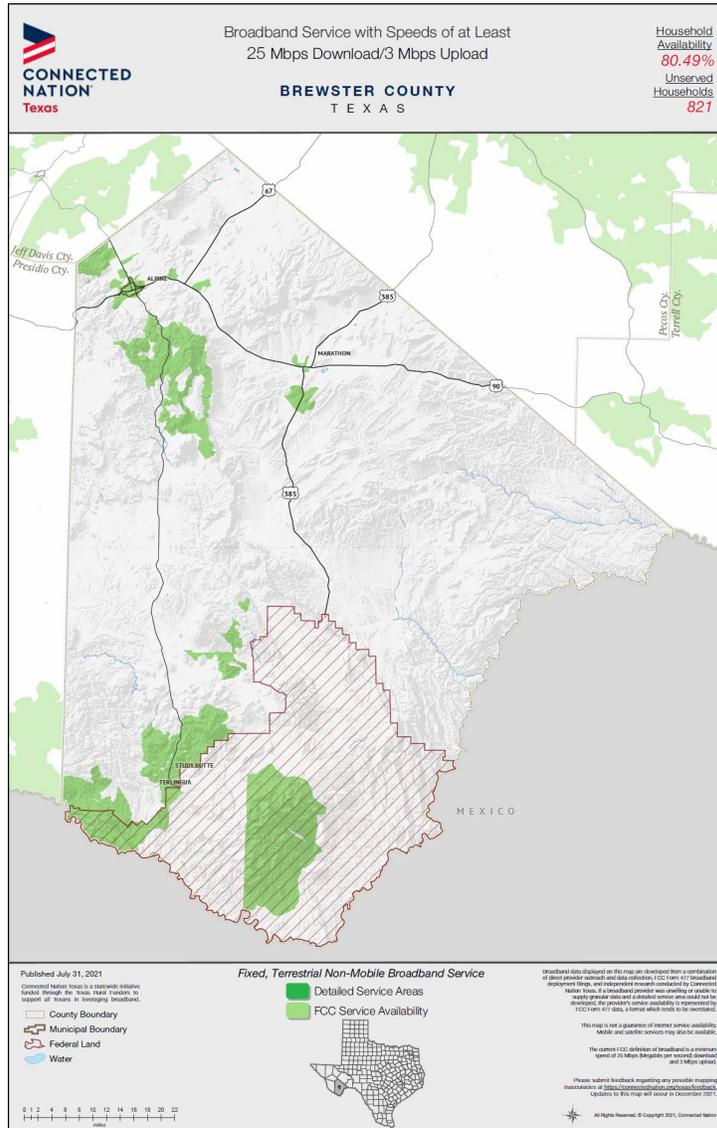
*Broadband data released by CN Texas in July 2021:  
<https://connectednation.org/texas/mapping-analysis/>*

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
AT&T Southwest	DSL	18	1
Big Bend Telecom	Fiber	1000	1000
	Fixed Wireless	18	3
	DSL	12	1
Neu Ventures	Cable	20	3
	Fixed Wireless	20	6
TDS Telecommunications Corporation	Cable	600	200

# INFRASTRUCTURE: Brewster County



Below is Brewster County's (25/3 Mbps) map. To access the full map, go to <https://connectednation.org/texas/county-maps/> and select Brewster County from the list. Please note other portions of the county are served by ISPs offering slower advertised speeds and not shown on this map.



The first step in understanding the state of broadband infrastructure in Brewster County and the rest of Texas is having accurate maps. Accordingly, CN Texas works with providers to develop a variety of broadband maps at the state and county level. Data shown on this map 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 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.

**A**ccording to CN Texas broadband data initially released in July 2021 – followed by additional public feedback, field validation, and provider input – a low number of households in Jeff Davis County have access to broadband of at least 25/3 Mbps, the current definition of broadband set forth by the Federal Communications Commission (FCC). Broadband service in Jeff Davis County is present in Fort Davis, Valentine, and many rural areas throughout the County. Community institutions such as schools, businesses, and government buildings currently have access to fiber.

Below is the list of providers in Jeff Davis County.

## BROADBAND INFRASTRUCTURE QUICK FACTS

Unserved Households (25/3 Mbps)  
**642**

Households Served (10/1 Mbps)  
**91.67%**

Households Served (25/3 Mbps)  
**37.94%**

Households Served (50/5 Mbps)  
**37.94%**

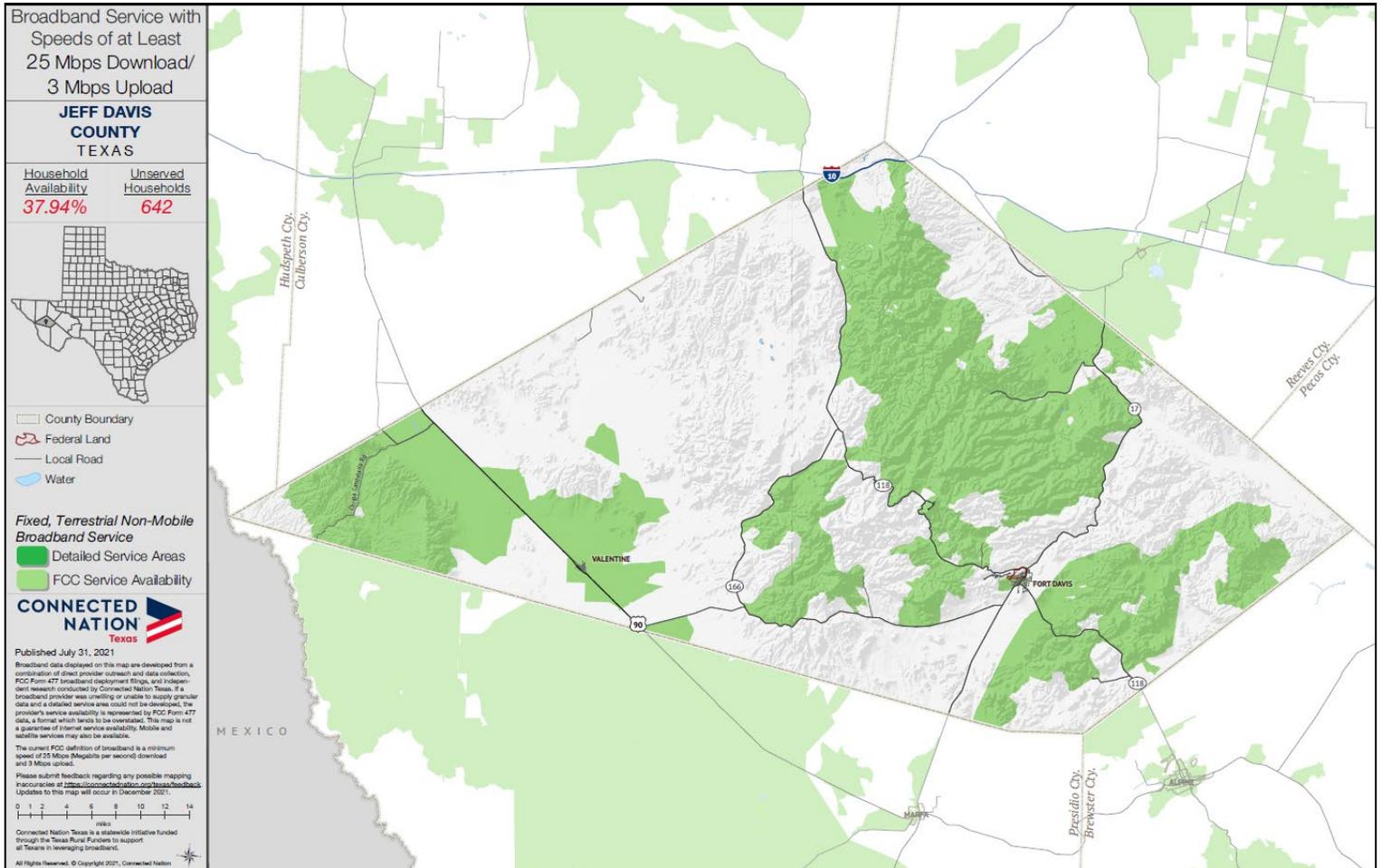
Households Served (100/10 Mbps)  
**37.94%**

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

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
AMA TechTel Communications	Fixed Wireless	100	10
AT&T Southwest	DSL	18	1
Big Bend Telecom	Fiber	1000	1000
	Fixed Wireless	18	3
	DSL	12	1
Dell Telephone Coop	Fiber	100	100
	Fixed Wireless	10	1
Neu Ventures	Cable	20	3
	Fixed Wireless	20	6
Valor Telecommunications	DSL	200	200

# INFRASTRUCTURE: Jeff Davis County

Below is Jeff Davis County's (25/3 Mbps) map. To access the full map, go to <https://connectednation.org/texas/county-maps/> and select Jeff Davis County from the list. Please note other portions of the county are served by ISPs offering slower advertised speeds and are not shown on this map.



The first step in understanding the state of broadband infrastructure in Jeff Davis 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 this map 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 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.

**A**ccording to CN Texas broadband data initially released in July 2021 – followed by additional public feedback, field validation, and provider input: a low number of households in Presidio County have access to broadband of at least 25/3 Mbps, the current definition of broadband set forth by the Federal Communications Commission (FCC). Community institutions such as schools, businesses, and government buildings currently have access to fiber.

Below is the list of internet service providers (ISPs) in Presidio County.

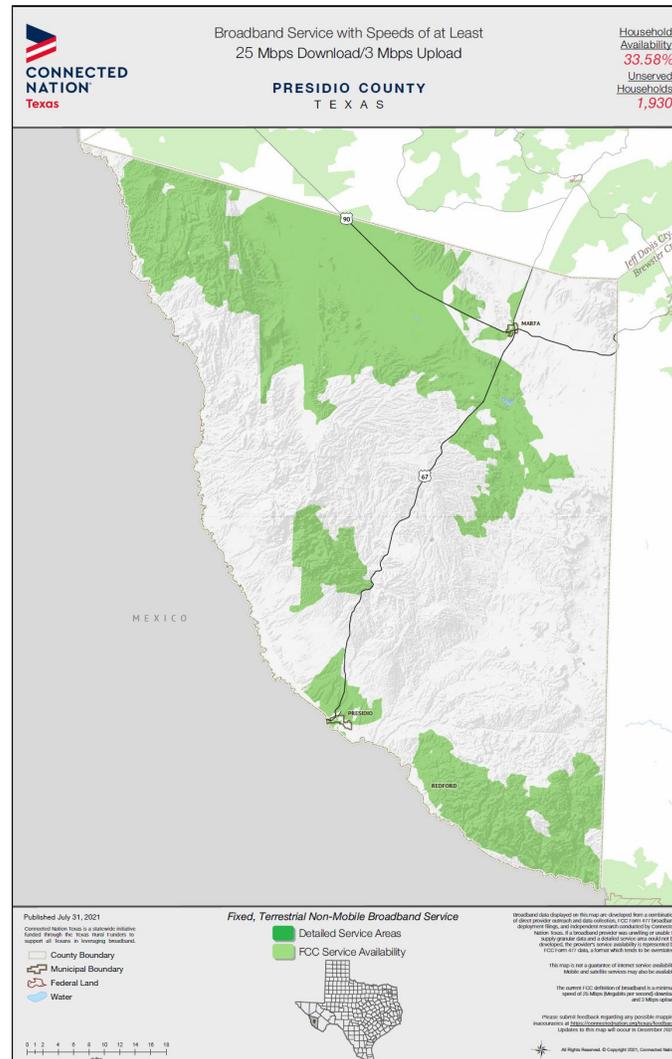
BROADBAND INFRASTRUCTURE QUICK FACTS	
Unserved Households (25/3 Mbps)	<b>1,930</b>
Households Served (10/1 Mbps)	<b>99.54%</b>
Households Served (25/3 Mbps)	<b>33.58%</b>
Households Served (50/5 Mbps)	<b>33.58%</b>
Households Served (100/10 Mbps)	<b>33.58%</b>

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

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
AMA TechTel Communications	Fixed Wireless	100	10
AT&T Southwest	DSL	18	1
	Fixed Wireless	10	1
Big Bend Telecom	Fiber	1000	1000
	Fixed Wireless	18	3
	DSL	12	1
Neu Ventures	Cable	20	3
	Fixed Wireless	20	6

# INFRASTRUCTURE: Presidio County

Below is Presidio County's (25/3 Mbps) map. To access the full map, go to <https://connectednation.org/texas/county-maps/> and select Presidio County from the list. Please note other portions of the county are served by ISPs offering slower advertised speeds and not shown on this map.



The first step in understanding the state of broadband infrastructure in Presidio County and the rest of Texas is having accurate maps. Accordingly, CN Texas works with providers to develop a variety of broadband maps at the state and county level. Data shown on this map 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 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.



# HOUSEHOLD SURVEY RESULTS

03

## HOUSEHOLD QUICK FACTS

Fixed Home Broadband Adoption  
**72.5%**

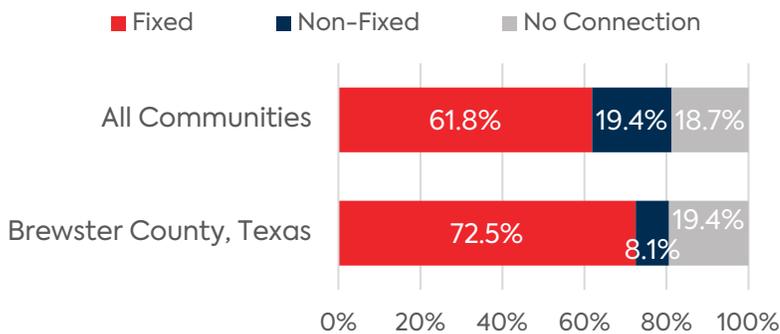
Average Monthly Internet Cost  
**\$77.14**

Average Download Speed  
**24.82**

Households Satisfied with Service  
**61%**

The following section provides an overview of results from a broadband survey conducted in Brewster County between January 2021 and June 2021. Altogether, CN Texas received 326 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Brewster County are compared to data from hundreds of other rural Connected participating communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

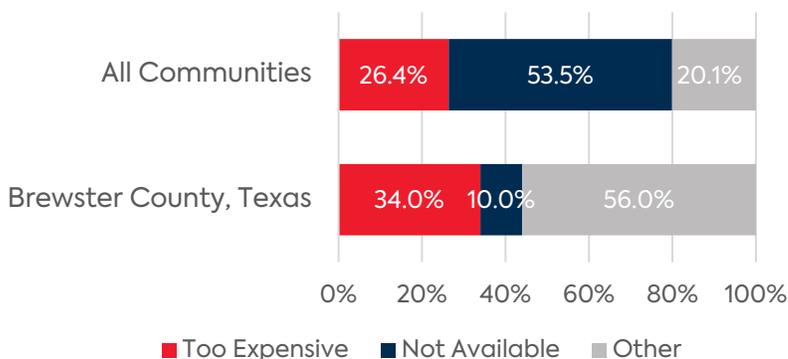
### Home Broadband Adoption



### ADOPTION

In Brewster County, 72.5% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Less than one-tenth of respondents (8.1%) indicate they have internet service delivered via dial-up, satellite, or a mobile wireless service. This leaves nearly one-fifth (19.4%) of survey respondents without internet access at home.

### Primary Barrier

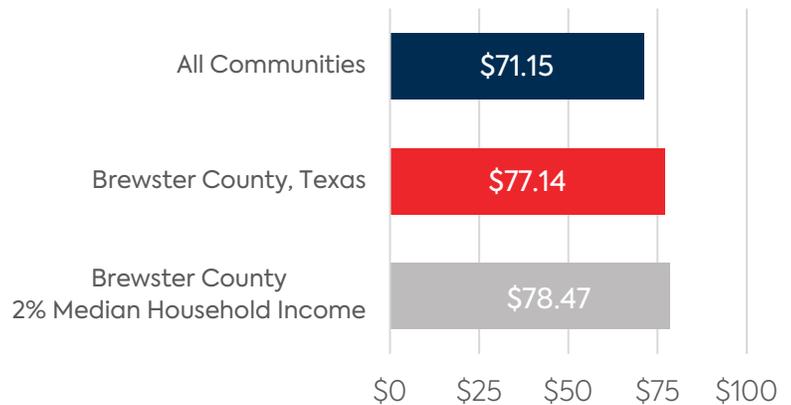


Among those without a home internet connection, 10% said they did not have broadband because it was not available to them, while just over one-third (34%) indicated that it was too expensive. Nearly one in four non-adopters (24%) noted that they are not comfortable using the internet, with an additional 6% indicating they do not own a computer at home.

## CONNECTION DETAILS

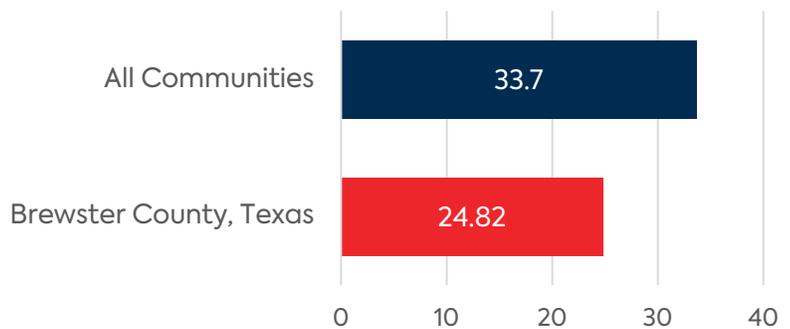
Two percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Respondents indicate that, on average, their internet connection costs about \$77.14 per month. This is higher than monthly cost in other communities (\$71.15). Two percent of the median household income in Brewster County is \$78.47 per month.

### Average Monthly Cost

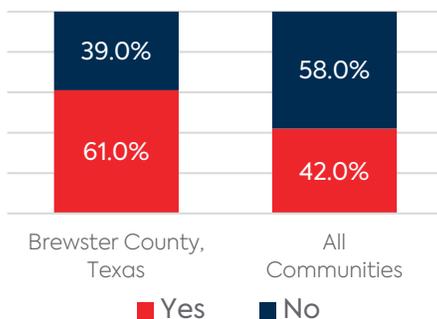


The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 24.82 Mbps, which is slightly below the minimum defined speed of broadband - 25 Mbps, but much lower than the connection in other communities.

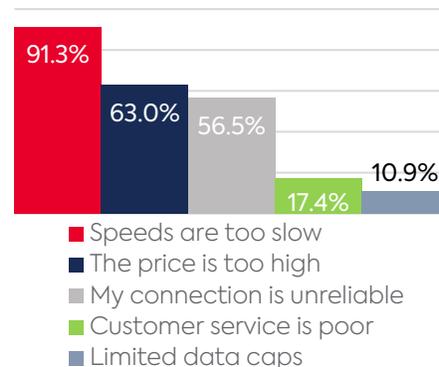
### Average Speeds (Mbps)



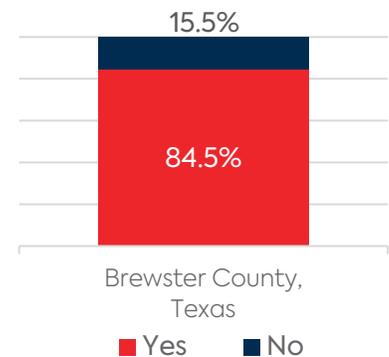
### Does Your Internet Meet Your Needs?



### Why Doesn't Your Internet Meet Your Needs?



### Are You Interested in More Choices at Home?



# HOUSEHOLD SURVEY RESULTS: Brewster County

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 five Brewster County respondents (39%) indicate that their internet connection does not meet their needs. This is a lower rate of dissatisfaction than among households in other communities (58%).

When asked why their connection does not meet their needs, 91.3% of dissatisfied households indicate that their speed is too slow. 63% say the price is too high, and over one-half (56.5%) indicate that the connection is unreliable (respondents could choose more than one reason).

Finally, 84.5% indicate that they are interested in additional internet choices for their home.

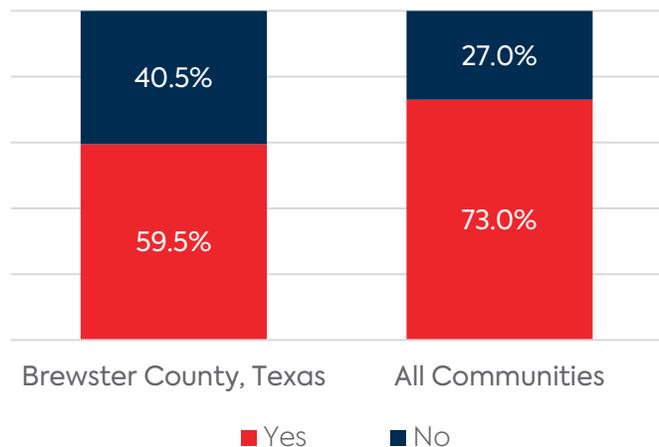


## MOBILE CONNECTIVITY

Almost three out of five households (59.5%) report subscribing to mobile internet service which they access via a smartphone or similar mobile device. This is considerably lower than reported in other Connected communities (73.0%).

Additionally, 17.8% of households that have mobile connections report that they rely on that 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



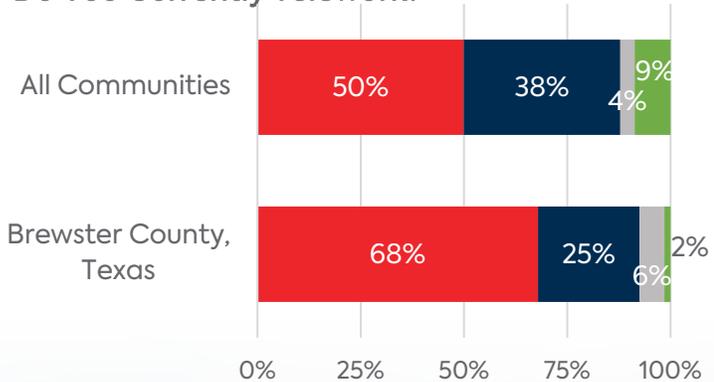
## TELEWORK

Teleworking, or telecommuting, refers to working outside of the conventional workplace by way of telecommunications or computer-based technology. The COVID-19 pandemic forced many organizations to allow staff to telework. In Brewster County the lack of broadband access was a significant barrier to organizations being able to operate virtually if needed.

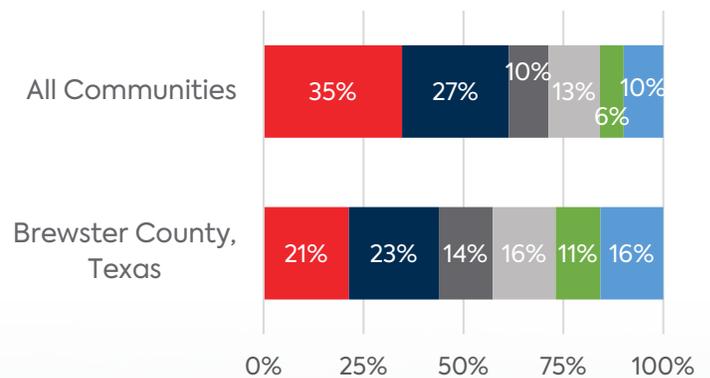
Teleworking is quickly becoming a critical part of growing a local economy because it represents an opportunity to attract or retain employees even though their employer may not be located within the community. However, this only works if those employees have access to advanced broadband infrastructure.

Approximately 68% of employed respondents in Brewster County telework in some capacity; 21% telework every day, which is less than residents in other communities.

**Do You Currently Telework?**



**How Frequently Do You Telework?**



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

■ 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

# HOUSEHOLD SURVEY RESULTS: Jeff Davis County



## HOUSEHOLD QUICK FACTS

Fixed Home Broadband Adoption  
**65%**

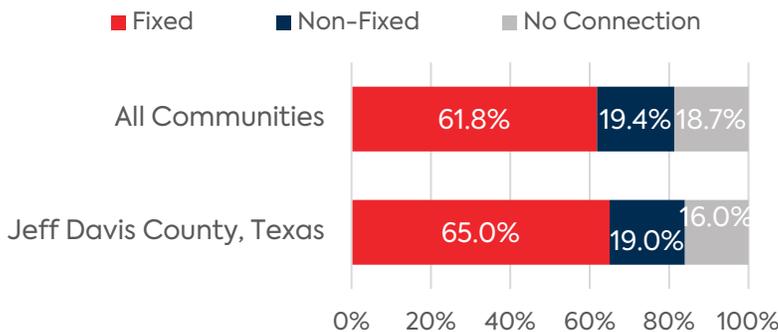
Average Monthly Internet Cost  
**\$88.59**

Average Download Speed  
**12.41 Mbps**

Households Satisfied with Service  
**43%**

The following provides an overview of results from a broadband survey conducted in Jeff Davis County between January 2021 and June 2021. Altogether, CN Texas received 165 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Jeff Davis County are compared to data from hundreds of other rural Connected participating communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

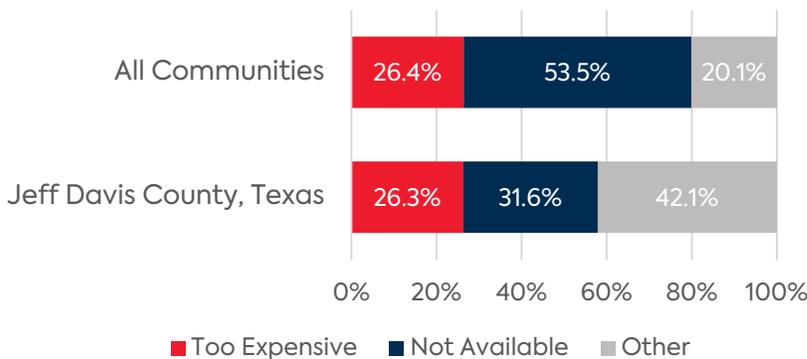
### Home Broadband Adoption



### ADOPTION

In Jeff Davis County, 65% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Nearly one-fifth of respondents (19%) indicate they have internet service delivered via dial-up, satellite, or a mobile wireless service. This leaves 16% of survey respondents without internet access at home.

### Primary Barrier



Among those without a home internet connection, 31.6% said they did not have broadband because it was not available to them, while more than one-quarter (26.3%) indicate that it was too expensive. Like in many communities, cost and availability are the two primary barriers to home broadband adoption.

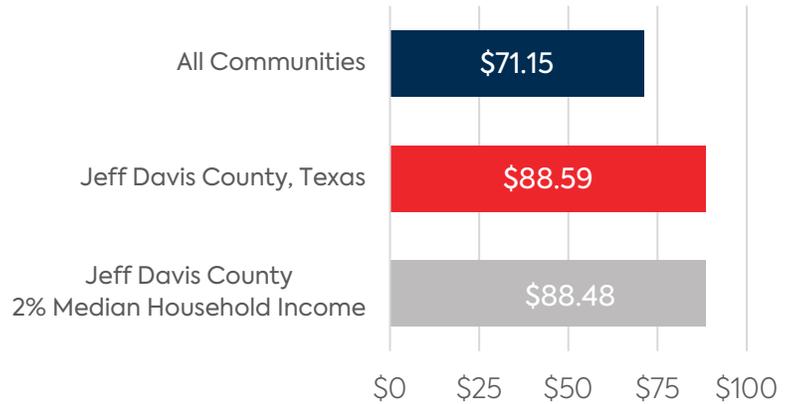
# HOUSEHOLD SURVEY RESULTS: Jeff Davis County



## CONNECTION DETAILS

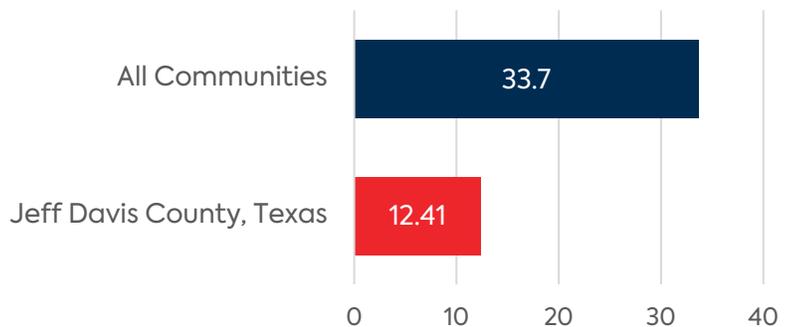
Two percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Respondents indicate that, on average, their internet connection costs about \$88.59 per month. This is much higher than monthly cost in other communities (\$71.15). Two percent of the median household income in Jeff Davis County is \$88.48 per month. These results show that the average cost of service is much higher than other communities.

### Average Monthly Cost

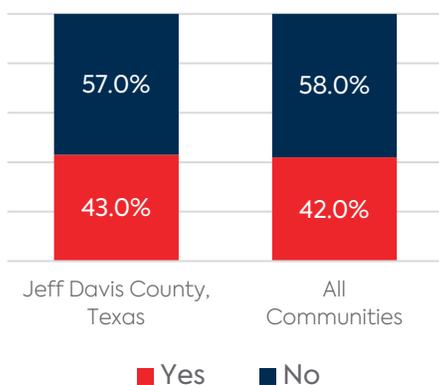


The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 12.41 Mbps, which is less than half the minimum defined speed of broadband – 25 Mbps.

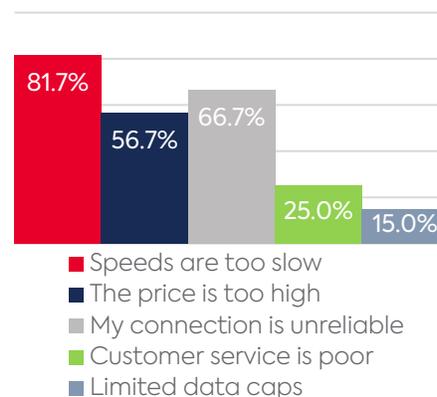
### Average Speeds (Mbps)



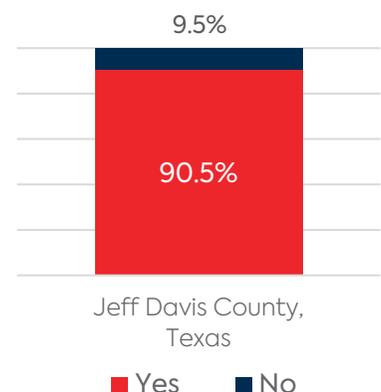
### Does Your Internet Meet Your Needs?



### Why Doesn't Your Internet Meet Your Needs?



### Are You Interested in More Choices at Home?



# HOUSEHOLD SURVEY RESULTS: Jeff Davis County



Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. Half of Jeff Davis respondents (57%) indicate that their internet connection does not meet their needs. This is a similar rate of dissatisfaction compared to households in other communities (58%).

When asked why their connection does not meet their needs, 81.7% of dissatisfied households indicate that their speed is too slow. More than one-half (56.7%) say the price is too high, and two-thirds (66.7%) indicate that the connection is unreliable (respondents could choose more than one reason).

Finally, nine out of ten (90.5%) indicate that they are interested in additional internet choices for their home.

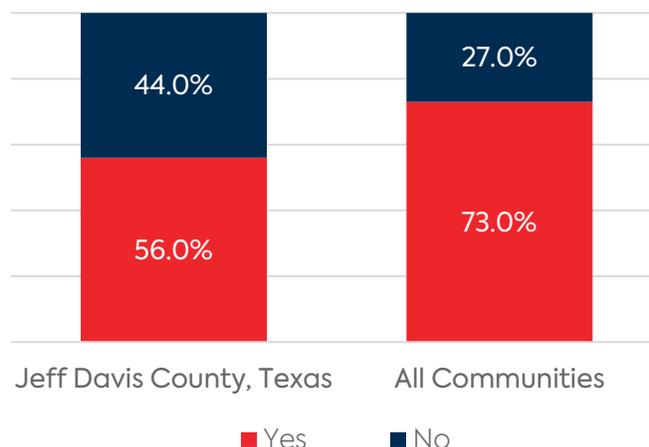


## MOBILE CONNECTIVITY

Over one-half of Jeff Davis County households (56%) report that they subscribe to mobile internet service which they access via a smartphone or similar mobile device. This is slightly lower than reported in other Connected communities (73.0%).

Additionally, 30% of mobile-connected 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



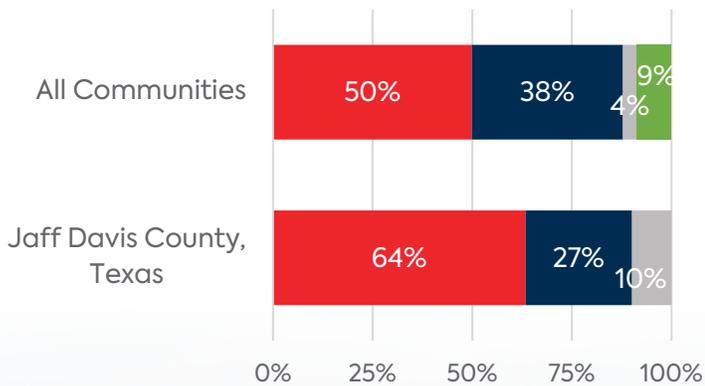
## TELEWORK

Teleworking, or telecommuting, refers to working outside of the conventional workplace by way of telecommunications or computer-based technology. The COVID-19 pandemic forced many organizations to allow staff to telework. In Jeff Davis County the lack of broadband access was a significant barrier to organizations being able to operate virtually if needed.

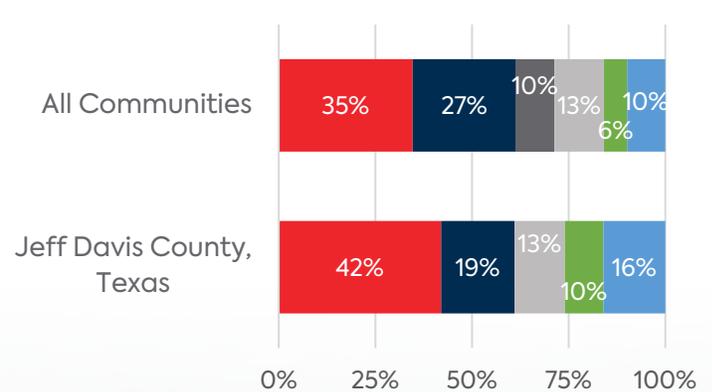
Teleworking is quickly becoming a critical part of growing a local economy because it represents an opportunity to attract or retain employees even though their employer may not be located within the community. However, this only works if those employees have access to advanced broadband infrastructure.

Approximately 64% of employed respondents in Jeff Davis County telework in some capacity.

### Do You Currently Telework?



### How Frequently Do You Telework?



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

■ 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

**HOUSEHOLD  
QUICK FACTS**

Fixed Home Broadband Adoption  
**76.6%**

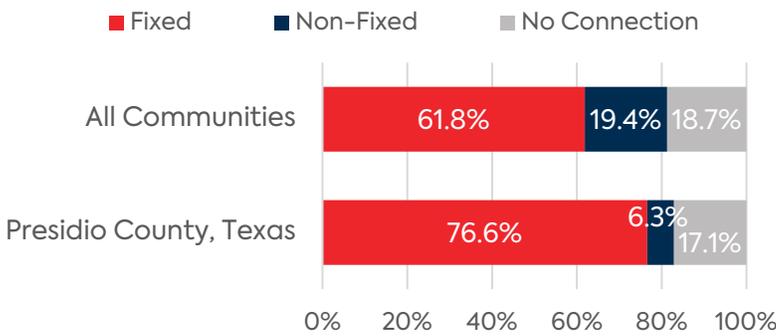
Average Monthly Internet Cost  
**\$88.11**

Average Download Speed  
**12.08 Mbps**

Households Satisfied with Service  
**39%**

The following provides an overview of results from a broadband survey conducted in Presidio County between January 2021 and June 2021. Altogether, CN Texas received 194 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Presidio County are compared to data from hundreds of other rural Connected participating communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

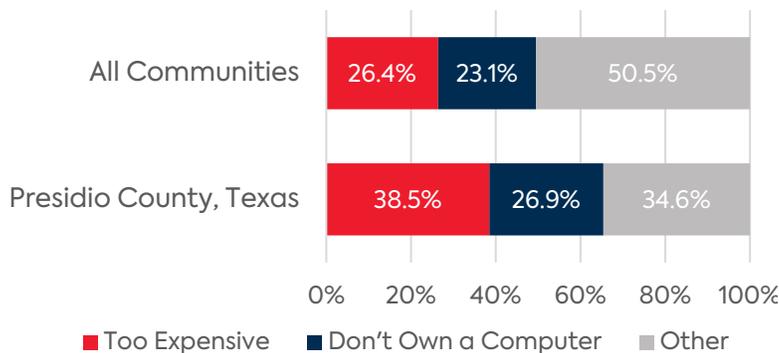
**Home Broadband Adoption**



**ADOPTION**

In Presidio County, 76.6% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Just 6.3% indicate they have internet service delivered via dial-up, satellite, or a mobile wireless service. This leaves 17.1% of survey respondents without internet access at home.

**Primary Barrier**



Among those without a home internet connection, 38.5% said they did not have broadband because it was too expensive, while more than one-quarter (26.9%) indicate that they don't own a computer, compared to 1.7% in other connected communities. An additional 11.5% of respondents indicate they do not subscribe because it is not available at their address.

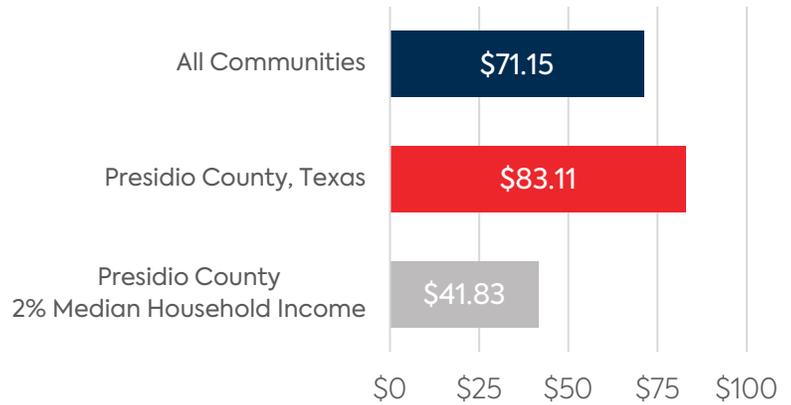
# HOUSEHOLD SURVEY RESULTS: Presidio County



## CONNECTION DETAILS

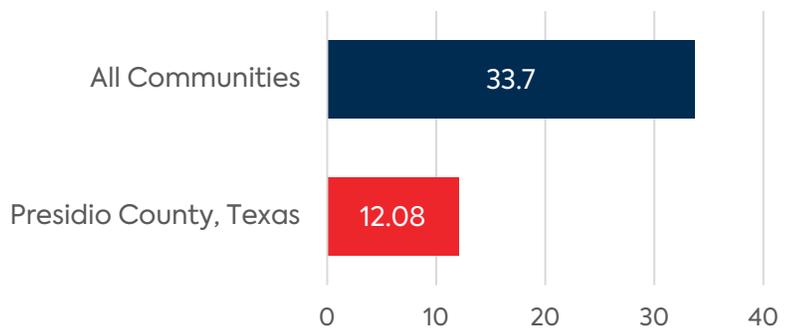
Two percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Respondents indicate that, on average, their internet connection costs about \$83.11 per month. This is almost \$12 higher than monthly cost in other communities (\$71.15), and nearly double 2% of the median household income in Presidio County (\$41.83) per month. These results show that the average cost of service is higher than other communities, and much higher than the 2% median income metric.

### Average Monthly Cost

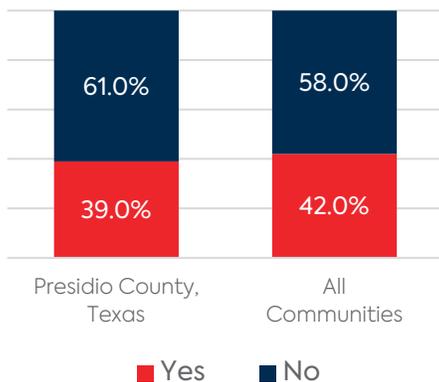


The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 12.08 Mbps, which is below the minimum defined speed of broadband - 25 Mbps.

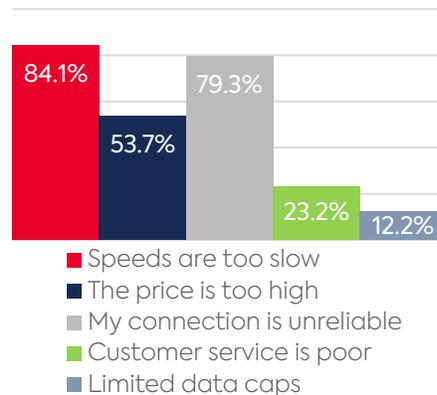
### Average Speeds (Mbps)



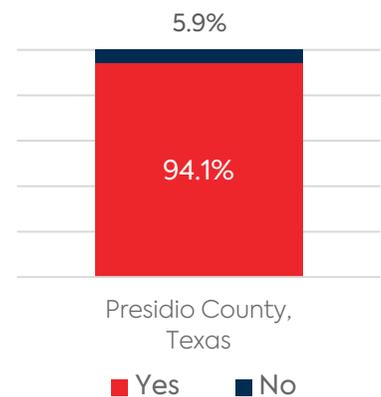
### Does Your Internet Meet Your Needs?



### Why Doesn't Your Internet Meet Your Needs?



### Are You Interested in More Choices at Home?



# HOUSEHOLD SURVEY RESULTS: Presidio County

Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. Six out of ten (61%) indicate that their internet connection does not meet their needs. This is a slightly higher rate of dissatisfaction than among households in other communities (58%).

When asked why their connection does not meet their needs, 84.1% of dissatisfied households indicate that their speed is too slow. 53.7% say the price is too high, and almost four out of five (79.3%) indicate that the connection is unreliable (respondents could choose more than one reason).

Finally, nearly all respondents (94.1%) indicated that they are interested in additional internet choices for their home.

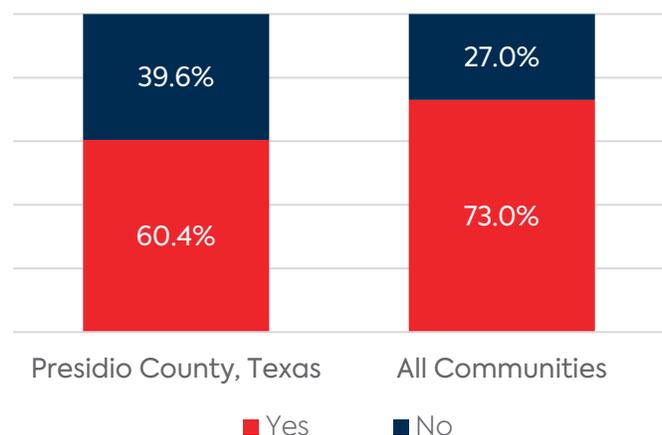


## MOBILE CONNECTIVITY

Over three-fifths of Presidio County households (60.4%) report that they subscribe to mobile internet service which they access via a smartphone or similar mobile device. This is lower than reported in other Connected communities (73.0%).

Additionally, about 22.3% of all mobile-connected households report that they rely on those mobile connections as their primary source of internet connectivity at home or they use mobile service to connect other household devices to the internet.

Households Subscribing to Mobile Internet Service



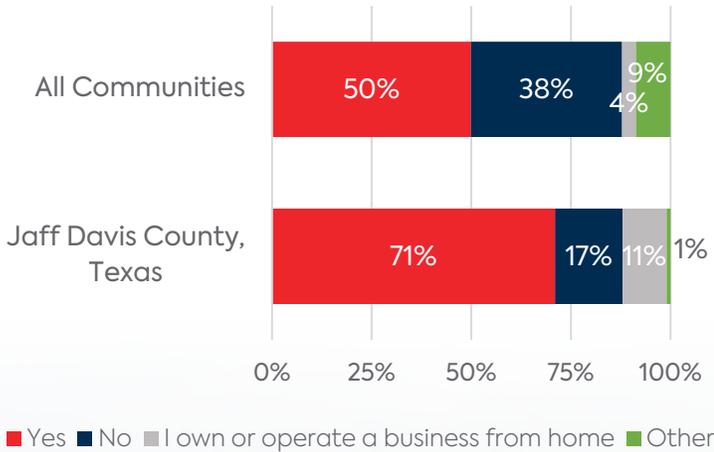
## TELEWORK

Teleworking, or telecommuting, refers to working outside of the conventional workplace by way of telecommunications or computer-based technology. The COVID-19 pandemic forced many organizations to allow staff to telework. In Presidio County the lack of broadband access was a significant barrier to organizations being able to operate virtually if needed.

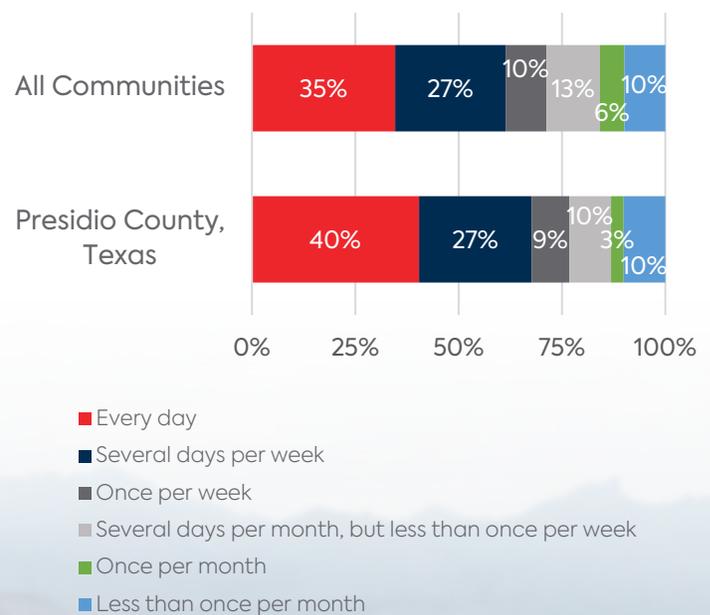
Teleworking is quickly becoming a critical part of growing a local economy because it represents an opportunity to attract or retain employees even though their employer may not be located within the community. However, this only works if those employees have access to advanced broadband infrastructure.

Approximately 71% of employed respondents in Presidio County telework in some capacity.

Do You Currently Telework?



How Frequently Do You Telework?





# RECOMMENDATIONS

*04*

The following recommendations are presented to assist Brewster, Jeff Davis, and Presidio counties in expanding broadband access and adoption throughout their communities.

## **Goal 1: Centralize broadband leadership through a broadband council known locally as the Tri-County Broadband Alliance.**

To ensure the success of the community action plan and to equip Brewster, Jeff Davis, and Presidio counties with the necessary tools for broadband growth, the communities should centralize broadband expansion and improvement efforts in a single entity: a broadband council to be known as the Tri-County Broadband Alliance (TCBA). To date, TCBA has been actively involved in promoting community surveys and attending monthly meetings with CN Texas. With a refreshed mission, TCBA should be comprised of three broadband liaisons—one from each county— and a board of advisors. Community members who currently serve as broadband champions can continue advising on broadband matters as part of the refreshed TCBA to ensure the successful implementation of this action plan. Overall, this proposed goal takes the already existent TCBA and provides further direction to empower community broadband advocates to further the broadband agenda in Brewster, Jeff Davis, and Presidio counties. For the sake of this document, “Council” and “TCBA” are synonymous.

**Individually**, each liaison (one per county) should represent his/her distinct county’s broadband needs and wants. While alike in many ways, each county is unique and could benefit from a designated voice on this important topic. **Collectively**, the broadband council should work together to share resources and wholistically bridge the digital divide in the Tri-County region. The council should also include a board of advisors who represent distinct community sectors, such as government, healthcare, and education. As a whole, the council will serve as the go-to resource for broadband questions, grants, opportunities, and meetings. Each member of the council (liaison and advisor) should be passionate about broadband and its greater good for the community and informed of community demographics. While alike in many ways, each community is still unique, and the demographics reflect this. For example, Brewster County is the largest geographically in the state of Texas covering over 6,000 miles. Brewster County has a population of just over 9,000 people and a poverty rate of 14%. In contrast, Presidio County has a population of about 6,000 people and a poverty rate of nearly 40%. A broadband liaison should understand how these statistics inform, both community and regional, broadband agendas.

**Objective:**

Form a broadband council with **one** liaison from each county dedicated to ensuring the expansion of broadband access, adoption, and use across the Tri-County region.

## Actions:

**Action 1** – The Commissioners Courts in Brewster, Jeff Davis, and Presidio counties should appoint a broadband liaison to serve on a local broadband council. The liaison should be knowledgeable about broadband and passionate about extending service to the unserved and underserved populations of the community. It is an added bonus if the liaison is bilingual, given the large population of Spanish speakers in each community. According to the US Census, Spanish is spoken in 79% of homes in Presidio County. In Brewster, 31.8% of homes speak Spanish, and in Jeff Davis, 40.5% of homes speak Spanish. Based on these statistics, the broadband liaison needs to be committed to providing broadband resources in English and Spanish to ensure all residents can access information on broadband.

Ideally this broadband liaison will 1) promote broadband and technology access, adoption, and use; 2) serve as the go-to resource for broadband and technology needs; 3) seek ways to educate and empower the community regarding broadband and related technology; 4) take priority action on recommendations from the community action plan and implement other programs that are necessary and beneficial to the growth of the community; and 5) monitor federal grant applications and expenditures.

Commissioners Court includes:

### Brewster County:

Judge Eleazar Cano

Commissioners Jim Westermann, Sara Allen Colando, Ruben Ortega, Mike “Coach” Pallanez

### Jeff Davis County:

Judge Curtis Evans

Commissioners Jody Adams, Todd Jagger, John Davis, Albert Miller

### Presidio County:

Judge Cinderela Guevara

Commissioners Brenda Bentley, Eloy Aranda, Jose Cabezuela, Frank “Buddy” Knight

**Action 2** – In addition to the broadband liaisons, the broadband council should include a board of advisors. These advisors should represent the key community sectors, including healthcare, education,

government, etc. These advisors should bring their industry-specific expertise to the council and inform a community-wide broadband agenda that serves the greatest need.

Members could include:

- **Healthcare:** Local clinic directors, family practitioners, hospital staff
- **Government:** County Judge, County Commissioners, Mayor, City Council, Rio Grande Council of Governments
- **Education:** Superintendents, School IT Directors (Valentine ISD, Fort Davis ISD, Marathon ISD, Alpine ISD, Terlingua CSD, Marfa ISD, Presidio ISD, San Vicente ISD)
- **Public Safety:** Sheriff, Fire Chief (and volunteer), EMS, Police Chief
- **Agriculture:** County Ag Agent, Leading Ag Producers, Soil Conservation District
- **Communications:** Telecommunication, Government Affairs, Comms. Director of ISPs
- **Business:** Chamber of Commerce and EDC President, Tourism entities
- **Community At-Large:** Passionate community members who are interested in broadband initiatives

**Action 3** – The liaisons from Brewster, Jeff Davis, and Presidio counties should meet at least once a month to discuss ongoing broadband projects in each community. It is paramount that the counties recognize the value of partnership in the broadband sphere. Broadband expansion and improvement projects can be expensive, time-consuming, and competitive, making a Tri-County partnership valuable for all parties. Not only will the partnership be marketable to broadband providers, but it will bolster general broadband opportunities.

**Action 3A** – The Broadband Council should remain informed and up to date on any publications, events, and policy briefs published by the (1) Governor’s Broadband Development Council and (2) Broadband Development Office (BDO). The Council should coordinate ongoing community outreach efforts and initiatives in accordance with the long-term objectives of the aforementioned entities. Local broadband teams should mirror the successes and objectives laid out by the State.

#### **Responsible Parties:**

Local units of government; Broadband providers; Community and regional organizations.

#### **Timeline:**

The Commissioners Court should designate the broadband ambassador within 12 weeks of the publication of this plan. The first broadband council meeting should convene within four weeks of appointment of its members.

## Resources:

Guide to Federal Broadband Funding Opportunities in the U.S.

<https://www.internetsociety.org/resources/doc/2021/guide-to-broadband-funding-opportunities-in-us/>

Current Broadband Funding

<https://connectednation.org/current-broadband-funding>

BroadbandUSA: Federal Funding Guide

<https://broadbandusa.ntia.doc.gov/resources/federal>

Texas Broadband Providers by County

<https://connectednation.org/texas/planning/>

Municipal Boards: Best Practices for Adoption Technology

<https://insights.diligent.com/boardroom-technology-local-government/municipal-boards-best-practices-for-adopting-technology>

Smart Cities Readiness Guide

<https://rg.smartcitiescouncil.com/>

US Census: Brewster County

<https://data.census.gov/cedsci/profile?g=0500000US48043>

US Census: Jeff Davis County

<https://data.census.gov/cedsci/profile?g=0500000US48243>

US Census: Presidio County

<https://data.census.gov/cedsci/profile?g=0500000US48377>

**Goal 2: Leverage community assets and strategic partnerships to increase broadband access in unserved and underserved areas of the Tri-County region.**

According to the broadband survey conducted in Brewster, Jeff Davis, and Presidio Counties, in partnership with Connected Nation Texas, the average download speed reported by residential survey respondents was 24.82 Mbps, 12.41 Mbps, and 12.08 Mbps respectively. This is significantly lower than the FCC's definition of broadband at 25/3 Mbps. These average download speeds would support one to two devices at any given time, a standard that is not sustainable in an increasingly digital society. Many households in the Tri-County area rely on their internet connections for work and school; more than 60% of survey respondents in each county indicated that they telework, while more than one-half of respondents in each county said they go online to interact with institutions of higher education such as colleges, universities, or trade schools. Families with school-age children also have to accommodate their childrens' educational needs; K-12 schools in Brewster and Presidio counties report that at least 85% of their curricula are delivered via classes that are web-facilitated, blended online/in-person classes, or classes that are taught completely online. Neither teleworkers nor students can be successful or competitive in their job fields or studies without reliable and fast internet connections. Beyond telework, it is important to recognize how slow internet speeds negatively impact and deter digital engagement and overall quality of life. In partnership with community organizations, internet service providers, elected officials, and local utility providers, the Tri-County region can capitalize on funding, infrastructure, and resources intended to improve broadband access, adoption, and use for community residents in unserved and underserved locations.

**Objective:** Increase broadband access and speeds in the Tri-County region through infrastructure development and improvement projects.

**Actions:**

**Action 1** – The broadband council should stay abreast of all current and planned infrastructure improvement projects in the Tri-County area. To understand the current infrastructure landscape, the council should meet with providers who currently serve or have plans to build in the region to understand the progress and viability of projects. This includes internet service providers (ISPs) who receive funding through the National Telecommunications and Information Administration (NTIA) grants, the Rural Digital Opportunity Fund (RDOF), and any other funding sources identified in the resources listed herein. Please note: as of now, RDOF awards are pending review at the federal level. The FCC must determine the viability of RDOF projects during a long form review process before issuing funding. For more information about the RDOF program, please see the accompanying links in the resource section. Additionally, the U.S. Department of Commerce's NTIA is reviewing applications for associated grant funding. The program received more than 230 applications which will make for a highly competitive awards process. As of the writing of this report, broadband provider BBT applied for and is awaiting word on the status of their NTIA grant application.

## Brewster:

NTIA Broadband Development Grant Application:

- BBT, 577 county locations for \$4,103,451.00
- BBT, 1,767 Alpine locations for \$2,535,840.00
- BBT would offer a 50 Mbps x 50 Mbps for \$60.00 per month

RDOF Phase I Winning Auction Bids:

- LTD Broadband, 3 locations for \$4,998.00
- Resound Networks, 493 locations for \$1,385,890.00

## Jeff Davis:

NTIA Broadband Development Grant Application:

- BBT, 370 county locations for \$1,737,872.00
- BBT would offer a 50 Mbps x 50 Mbps for \$60.00 per month

RDOF Phase I Winning Auction Bids:

- LTD Broadband, 1,015 locations for \$4,366,210.00

## Presidio:

NTIA Broadband Development Grant Application:

- BBT, 134 county locations for \$846,900.00
- BBT, 617 Marfa locations for \$1,251,365.00
- BBT would offer a 50 Mbps x 50 Mbps for \$60.00 per month

RDOF Phase I Winning Auction Bids:

- LTD Broadband, 4 locations for \$8,904.00
- Resound Networks, 169 locations for \$236,046.00

## Broadband providers who attended the May provider meeting:

- Big Bend Telephone Company
- LTD Broadband
- Resound Networks

Additional information on the NTIA Broadband Development Grant and RDOF Program are below. Information on these and other grant programs/funding sources have been linked in the following resources section.

- **National Telecommunications and Information Administration (NTIA) Broadband Development Grants** – In 2021, the NTIA awarded \$288 million in grant funding for broadband

infrastructure to local government/ISP partnerships. The grant requires speeds of 25/3Mbps or greater with latency at or below 100 milliseconds. The NTIA offers additional broadband funding through other programs such as the Tribal Broadband Connectivity Program.

- **Rural Digital Opportunity Fund (RDOF)** – In RDOF Phase I in 2020, the FCC awarded \$9.23 billion in funding to 180 bidders to be completed over 10 years. In RDOF Phase II, an additional \$11.17 billion could be available to bidders, again over 10 years. The FCC utilizes a competitive reverse auction (Auction 904) to prioritize higher speeds and lower latencies when qualifying bids, resulting in most winning bidders committing to gigabit-speed service, and almost all locations are expected to receive at least 100/20 Mbps.

**Action 2** – During meetings with providers, community leaders should discuss the role the county or a city could play (through financial backing or strategic partnership) in the ongoing project. Ultimately, Brewster, Jeff Davis, and Presidio counties should play a strategic role in ongoing or planned projects that will widely benefit the most residents. In pursuit of equitable broadband access for all, broadband providers should discuss how they plan to bring availability to all homes within a designated area; this would include both hard to reach and easily accessible homes.

All three counties were allocated Coronavirus State and Local Fiscal Recovery Funds. Brewster received \$1,787,575.00, Jeff Davis received \$441,698.00, and Presidio received \$1,302,173.00. Additionally, individual cities were awarded funding. Alpine (Brewster County) received \$1,482,255.55; Marfa (Presidio County) received \$402,652.17; and Valentine (Jeff Davis County) received \$32,955.53. Should any of these communities choose to spend these federal funds on broadband, it is important to be prepared, informed, and readily equipped to begin working with reliable partners as soon as possible.

**Action 3** – The broadband liaisons (and the council as a whole) should establish and maintain relationships with regional organizations and elected officials. Additionally, the council should engage in regional broadband planning efforts with the express intent of improving broadband access, adoption, and use among residents and surrounding communities. Not only will residents benefit from broadband improvement inside county lines, but they will reap the benefit of broadband advancements in surrounding communities economically, technologically, and socially.

Regional, area, and local organizations and elected officials to partner with:

- Rio Grande Council of Governments, Workforce Solutions Borderplex

- US Congressman Tony Gonzales, State Senator Roland Gutierrez, State Senator César Blanco, State Rep. Eddie Morales
- Chambers of commerce and convention and visitors bureaus: Brewster County Chamber, Marfa Chamber, Alpine Chamber, Fort Davis Chamber, Presidio CVB, Marfa CVB, Alpine Downtown Association
- City and county officials
- Presidio Municipal Development District

**Action 4** – Following meetings with providers, the council should identify state and federal grant programs that are of benefit and interest to furthering the Tri-County’s broadband agenda. Broadband grants focus not only on infrastructure expansion and improvement but on device acquisition, digital literacy, improving connectivity in community organizations, and other related areas. In a time when broadband is at the forefront of state and federal legislative conversation, it is important for the broadband council to make the most of available funds.

#### **Responsible Parties:**

Local units of government; Broadband providers; Community and regional organizations

#### **Timeline:**

The broadband council should begin meeting with internet service providers within three months of receiving this plan. While Brewster, Jeff Davis, and Presidio counties do not have to allocate funding or spend federal dollars within that same three months, the council should outline the scope of broadband infrastructure projects (ongoing and planned) within that timeline.

#### **Resources:**

Guide to Federal Broadband Funding Opportunities in the U.S.

<https://www.internetsociety.org/resources/doc/2021/guide-to-broadband-funding-opportunities-in-us/>

Current Broadband Funding

<https://connectednation.org/current-broadband-funding>

BroadbandUSA: Federal Funding Guide

<https://broadbandusa.ntia.doc.gov/resources/federal>

Texas Broadband Providers by County

<https://connectednation.org/texas/planning/>

Auction 904: Rural Digital Opportunity Fund

<https://www.fcc.gov/auction/904>

Connect America Fund Phase II FAQs

<https://www.fcc.gov/consumers/guides/connect-america-fund-phase-ii-faqs>

Coronavirus State and Local Fiscal Recovery Funds

<https://home.treasury.gov/policy-issues/coronavirus/assistance-for-state-local-and-tribal-governments/state-and-local-fiscal-recovery-funds>

Coronavirus State and Local Fiscal Recovery Funds, County Allocation

[https://home.treasury.gov/system/files/136/fiscalrecoveryfunds\\_countyfunding\\_2021.05.10-1a-508A.pdf](https://home.treasury.gov/system/files/136/fiscalrecoveryfunds_countyfunding_2021.05.10-1a-508A.pdf)

NTIA's Broadband Infrastructure Program Receives Over 230 Applications, More Than \$2.5 Billion in Funding Requests

<https://www.ntia.doc.gov/press-release/2021/ntia-s-broadband-infrastructure-program-receives-over-230-applications-more-25>

**Goal 3: Promote free and reduced-cost services in the Tri-County area to make broadband accessible to the public through greater adoption and use rates.**

Broadband connects people to the world and opens the door to opportunity. Where there is broadband, there is development, achievement, and innovation. In rural Texas, broadband looks like economic development, greater scholastic achievement, workforce expansion, connection to telehealth services, infrastructure improvement, and general technological advancements. Ultimately though, the benefits of broadband will remain untapped if residents cannot afford to adopt or lack the digital skills needed to engage online. Vulnerable populations may require additional assistance connecting to, affording, and understanding broadband, but it is important that resources are available as everyone benefits from high-speed internet.

**Objective:** Address broadband affordability and accessibility barriers among vulnerable populations in the Tri-County area.

**Actions:**

**Action 1** – In the broadband survey, 34% of households in Brewster County who do not have internet stated cost was a barrier. In Jeff Davis County, 26% of households cited cost and in Presidio the number jumps to 38.5% of homes citing affordability as a reason for not adopting high-speed internet. Furthermore, according to the US Census, the median household income in Brewster County is \$47,080. In Jeff Davis, it is \$53,088 and in Presidio it is \$25,098. These numbers are significantly lower than the average median household income in the State of Texas (\$62,843) and present a distinct need for affordable broadband options in the Tri-County region. As such, it is important for qualifying residents to know there are options that exist to make broadband more affordable. Using online resources, Tri-County residents can identify local and national providers who offer special low-cost services for vulnerable populations, older adults, and low-income families with children. Such resources include [EducationSuperHighway](#) and [EveryoneOn](#).

Using the above resources, the following ZIP codes returned eligibility for multiple broadband assistance programs:

- Brewster: 79830, 79832, 79834, 79842, 79852
- Jeff Davis: 79734
- Presidio: 79845, 79843, 79854, 79846

**Action 2** – Community leaders and institutions should publicly promote programs and opportunities designed to reduce the cost of broadband service through notices in utility bills, advertising and public service announcements in the media, at frequently visited community and social service buildings and businesses, circulated in monthly school newsletters, and discussed at Commissioners Court, city council, and school board meetings.

Community leaders and institutions to consider:

- Sul Ross State University and school districts
- Local and county government political subdivisions:
  - Brewster County to include Alpine, Lajitas, Marathon, Study Butte, Terlingua
  - Jeff Davis County to include Fort Davis, Valentine
  - Presidio County to include Presidio, Marfa, Redford, Shafter, Candelaria, Ruidosa

- Local media: The Big Bend Sentinel, Presidio International, Alpine Avalanche, Jeff Davis County Mountain Dispatch, KVLV-AM and KALP-FM Alpine Radio, Marfa Public Radio, The Big Bend Gazette, Terlingua Moon, Valentine Radio
- Alpine, Marfa, Fort Davis, and Brewster Chambers of Commerce and local businesses
- Other: Convention and Visitor Centers, Public Libraries

#### Programs to promote:

- Lifeline
- Emergency Broadband Benefit (EBB)

**Action 3** – Reduced-cost broadband at home is but part of the solution. Case in point, 27% of Presidio County residents who do not have an internet connection at home stated it is because they do not own a computer. To ensure all residents have access to the internet, Brewster, Jeff Davis, and Presidio Counties should increase the number of publicly available computers in frequently accessed locations. This can include increasing the number of devices in locations that currently serve the public or the addition of computers, laptops, and tablets in locations that currently have none. The County, schools, and library can use funds or grant money to acquire new devices or partner with community organizations and internet service providers to outfit buildings with computing devices.

#### Locations to consider:

- Schools, libraries, community organizations
- Chambers of Commerce
- Government Buildings: City Hall, Courthouse
- Rio COG

**Action 4** – Ultimately, Tri-County leaders needs to educate residents, business owners, elected officials, students, and community stakeholders on the importance of digital engagement and equip them with the necessary tools to navigate online platforms and devices. In Brewster County, 24% of residents who do not have a home internet connection cited “we do not know enough about the internet to feel comfortable using it.” In a digital society, residents should not only feel comfortable engaging online, but they should seek out the benefits offered by online platforms and tools. As such, the broadband council should identify regional and community partners who possess resources and expertise in producing free digital literacy and digital skills workshops. Curriculum should be developed using publicly available programs, such as those provided by AARP, Digital Learn (resources linked below), and county-sourced information, and should be offered to the public. Classes should take place at local facilities, such as the library or school gym, and be promoted through local media.

Workshops should address specific topics ranging from skills necessary for the workforce to how to use broadband safely in your everyday life.

All three communities have large Spanish-speaking populations so all curricula and workshop presentations should take this into account. Programs and resources should be published in English and Spanish to reach as many people as possible.

Workshop topics to consider:

- Navigating social media
- How to use Microsoft Office Suite
- Online safety tips and tricks
- How to teleconference

Community Partners can include:

- Chambers of Commerce
  - Brewster County Chamber, Marfa Chamber, Alpine Chamber, Fort Davis Chamber
- Libraries
  - Marfa Public Library, Presidio Public Library, Jeff Davis County Library, Big Bend Library, Alpine Public Library, Marathon Public Library
- Schools:
  - Valentine ISD, Fort Davis ISD, Marathon ISD, Alpine ISD, Terlingua CSD, Marfa ISD, Presidio ISD, San Vicente ISD
- Community Organizations
  - Blackwell School Alliance, Marfa Education Foundation, Marfa and Jeff Davis Food Pantries, Fort Davis Historical Society, Sunshine House
- Institutions and businesses who would directly benefit from greater digital adoption
  - Banks
  - Telehealth providers: Presidio County Medical Clinic, Marfa County Medical Clinic, Big Bend Regional Medical Center
  - Higher Ed. Institutes: Sul Ross State University
  - Local Attractions: Big Bend National Park, Museum of the Big Bend, Big Bend Ranch State Park, Fort Leaton State Historic Site, Fort Davis National Historic Site, The Chinati Foundation, Judd Foundation, Ballroom Marfa, Davis Mountains State Park, McDonald Observatory

**Responsible Parties:**

Community institutions: businesses, schools, libraries, organizations; Local government leaders and elected officials; Broadband providers; Community residents

**Timeline:**

The broadband council should begin working with community organizations and leaders to market low-cost broadband programs immediately. Digital skills and digital literacy workshops should be available no later than the end of Q2 2022. Curriculum should be reviewed and updated every 3-4 months.

**Resources:**

Emergency Broadband Benefit

<https://connectednation.org/ebbprogram/>

Free Wi-Fi Hotspot Locator Apps

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

Texas Broadband Providers by County

<https://connectednation.org/texas/planning/>

The complete guide to digital skills

<https://www.futurelearn.com/info/blog/the-complete-guide-to-digital-skills>

AARP Joins with Nonprofit to Teach Tech to Older Adults

<https://www.aarp.org/about-aarp/info-2021/oats-senior-planet.html>

Digital Learn: Use a computer to do almost anything!

<https://www.digitallearn.org/>

Operation Connectivity: Initial connectivity guidance for LEAs

[https://tea.texas.gov/sites/default/files/covid/operation\\_connectivity\\_playbook.pdf](https://tea.texas.gov/sites/default/files/covid/operation_connectivity_playbook.pdf)

EveryoneOn

<https://www.everyoneon.org/>

K-12 Bridge to Broadband

<https://www.educationsuperhighway.org/bridge-to-broadband/>

Lifeline Support for Affordable Communications

<https://www.fcc.gov/lifeline-consumers>

Companies Near Me: USAC

<https://data.usac.org/publicreports/CompaniesNearMe/Download/Report>