EXECUTIVE SUMMARY
Technology Plan

Jasper County, Texas

November 2021

CONNECTED NATION

CELEBRATING 20 YEARS OF SERVICE

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OVERVIEW
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oday, 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 Jasper 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 usage across every sector locally.

Pursuant of this goal, between June and November 2020, Jasper County conducted a comprehensive survey of broadband technology access and adoption across the community. Jasper County collected responses from 1,231 households. CN Texas staff also met with community officials to determine community needs and gather qualitative data for consideration in the study. Overall, the assessment was designed to identify issues and opportunities to close the Digital Divide.

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

To highlight key findings, CN Texas created an interactive map. It provides data on broadband availability in the community overlayed with survey data from the recent broadband assessment. To access the map, click HERE.

JASPER COUNTY, TEXAS
QUICK FACTS
Population
32,980
Households
12,936
Median Household Income
$44,370
Poverty Rate
18.5%
Adults with a Bachelor's Degree or Higher
12.9%
Employment Rate
48.1%
Disabled Population
15.8 %
Households with Broadband Access[1]
35.46%

Source: https://data.census.gov/cedsci/profile?g=0500000US48241
1. https://cn-maps.hatfield.marketing/US/TX/v4/tx_jasper-county_25x3.pdf

CONNECTED
NATION℠
Texas
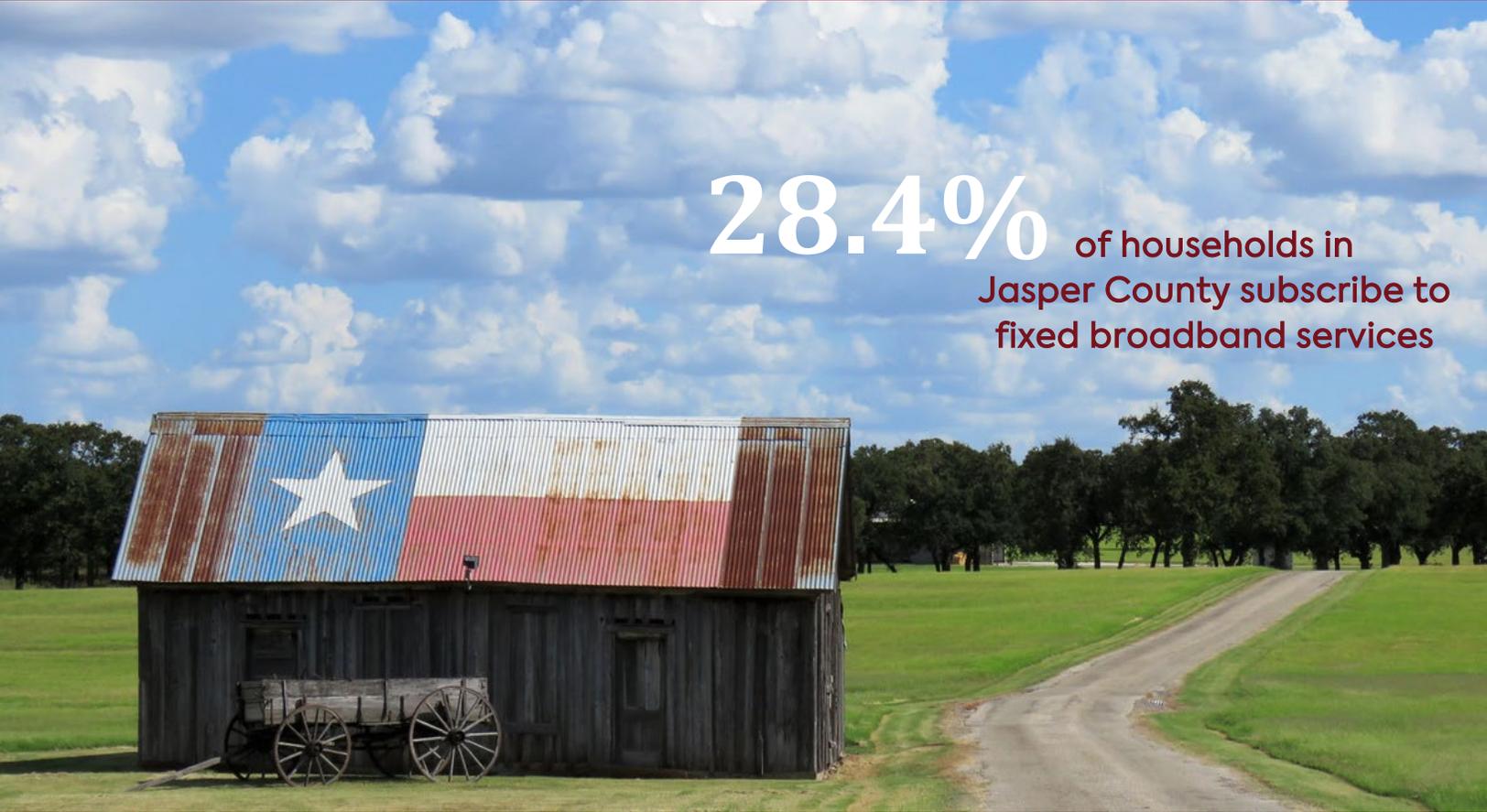
28.4% of households in
Jasper County subscribe to
fixed broadband services

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

Jasper County households **pay more** on average for access to the internet (**$81.27**) than other Connected communities (**$69.99**).

About **67% of residents and 72.5% of businesses** reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and unreliable connections.

More than nineteen out of twenty (**96.3%**) residents said they would like to have improved or additional options for home internet service.

INFRASTRUCTURE
RESULTS
02

INFRASTRUCTURE:
Jasper County

A ccording to CN Texas broadband data initially released in July 2021 – followed by additional public feedback, field validation, and provider input: just over one-third of households in Jasper 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 Jasper County covers much of the county with unserved areas between the main thoroughfares.

Below is the list of providers in Jasper County.

BROADBAND INFRASTRUCTURE QUICK FACTS
Unserved Households (25/3 Mbps) **8,887**
Households Served (10/1 Mbps) **96.27%**
Households Served (25/3 Mbps) **35.46%**
Households Served (50/5 Mbps) **35.35%**
Households Served (100/10 Mbps) **35.35%**

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	25	5
	Fixed Wireless	10	1
NDemand	Fixed Wireless	10	3
NewWave	Cable	300	10

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

The first step in understanding the state of broadband infrastructure in Jasper 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 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.

CONNECTED NATION℠
Texas
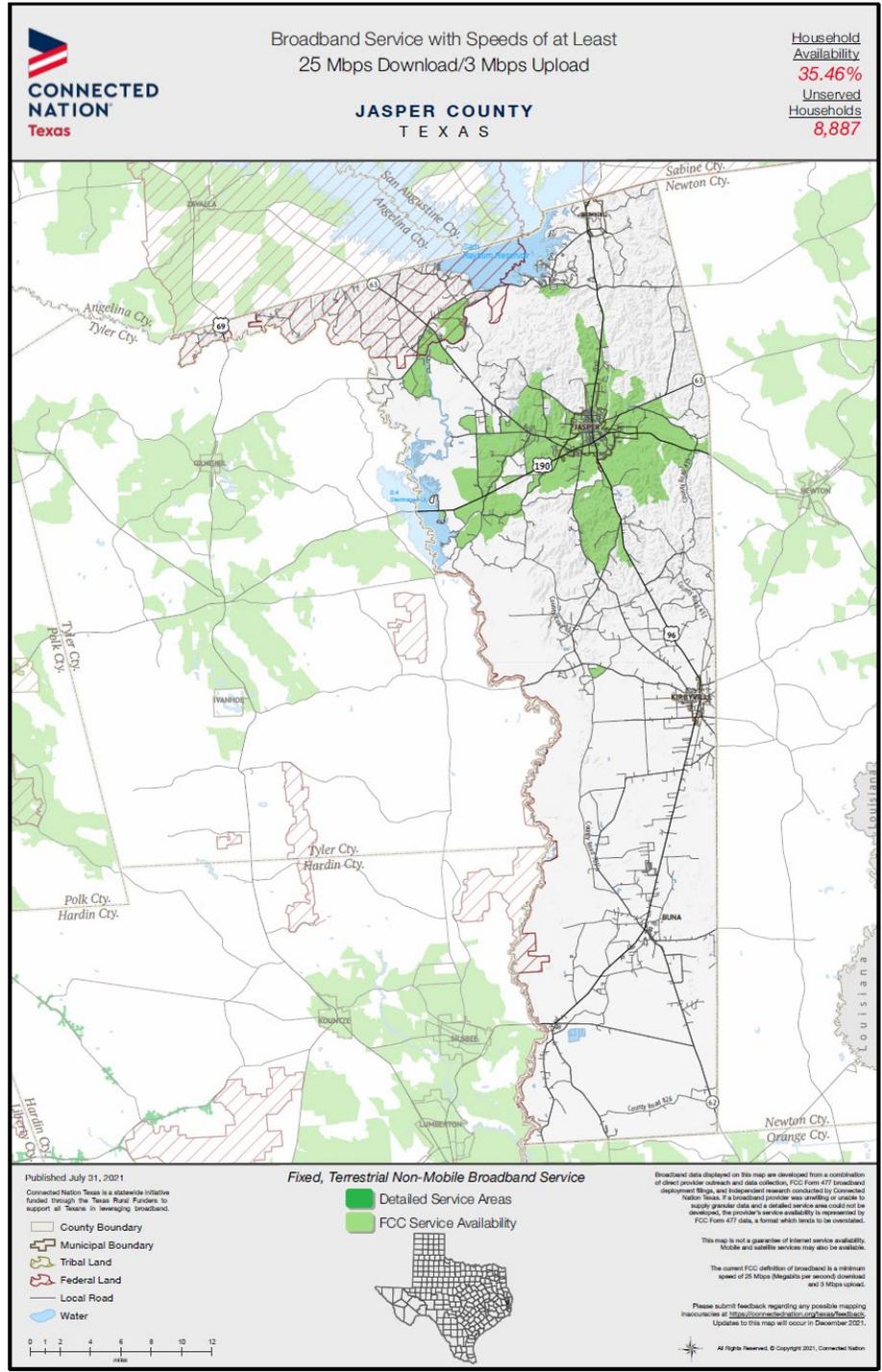
8,887

Jasper County households cannot access broadband

What Is Broadband?

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

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

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

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

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

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

HOUSEHOLD
SURVEY RESULTS
03

HOUSEHOLD
QUICK FACTS
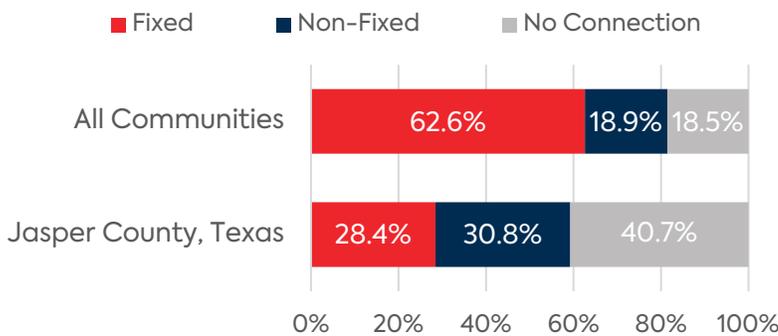
Fixed Home Broadband Adoption
28.4%

Average Monthly Internet Cost
$81.27

Average Download Speed
15.8 Mbps

Households Satisfied with Service
33%

The following provides an overview of results from a broadband survey conducted in Jasper County between June and November 2020. Altogether, CN Texas received 1,231 completed surveys from households across the county, and respondents provided insights into their internet connectivity or lack thereof. Data from Jasper County are compared to data from across hundreds of other rural Connected participating communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

Home Broadband Adoption

- ■ Fixed ■ Non-Fixed ■ No Connection

	Fixed	Non-Fixed	No Connection
All Communities	62.6%	18.9%	18.5%
Jasper County, Texas	28.4%	30.8%	40.7%

0% 20% 40% 60% 80% 100%

Primary Barrier

	Too Expensive	Not Available	Other
All Communities	25.9%	55.1%	19.0%
Jasper County, Texas	34.5%	50.8%	14.7%

0% 20% 40% 60% 80% 100%

- ■ Too Expensive ■ Not Available ■ Other

ADOPTION

In Jasper County, 28.4% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. Three out of ten respondents (30.8%) indicate they have internet service delivered via dial-up, satellite, or a mobile wireless service. That leaves 4 out of 10 (40.7%) survey respondents without internet access at home.
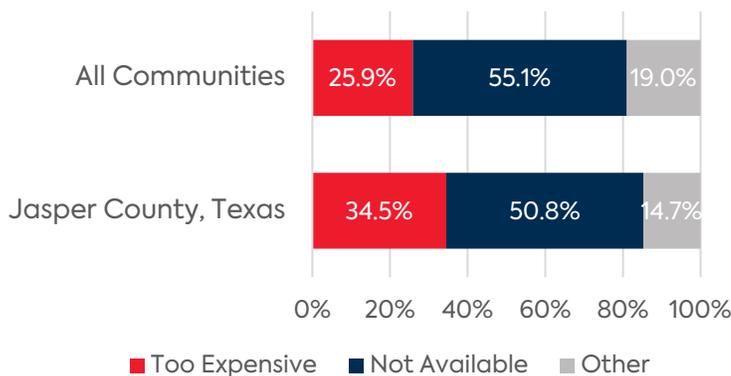
Among those without a home internet connection, 50.8% said they did not have broadband because it was not available to them, while 34.5% indicate that it was too expensive. Other responses included the lack of a computer at home and the ability to access the internet someplace other than home. Cost and availability are the two most cited barriers to home broadband adoption in Jasper County.

CONNECTED NATION℠ Texas
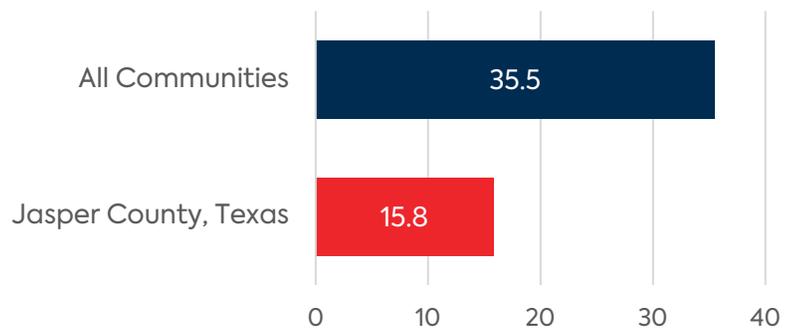
CONNECTION DETAILS

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 $81.27 per month. This is higher than monthly cost in other communities ($69.99). Two percent of the median household income in Jasper County is $73.95 per month.

Average Monthly Cost

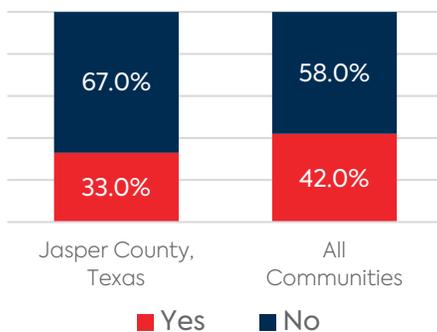|	
All Communities	$69.99
Jasper County, Texas	$81.27
Jasper County 2% Median Household Income	$73.95

$0 $25 $50 $75 $100
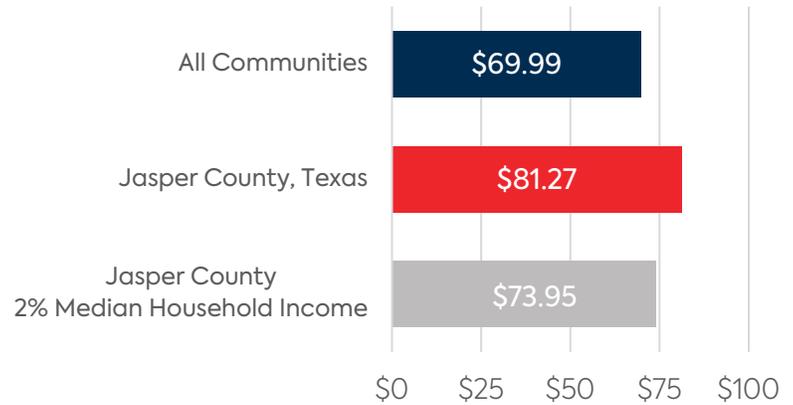
The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 15.8 Mbps, which well is below the minimum defined speed of broadband, which is 25 Mbps.
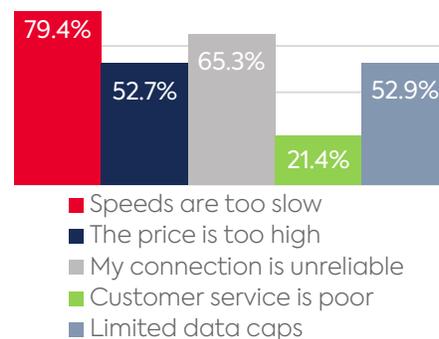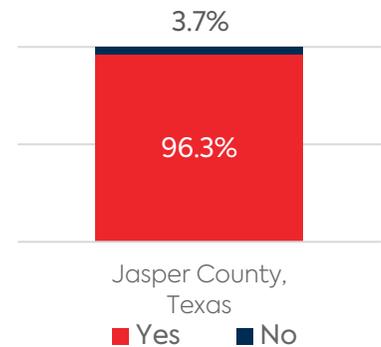
Average Speeds (Mbps)

All Communities	35.5
Jasper County, Texas	15.8

0   10   20   30   40

Does Your Internet Meet Your Needs?

	Jasper County, Texas	All Communities
No	67.0%	58.0%
Yes	33.0%	42.0%

■ Yes ■ No

Why Doesn't Your Internet Meet Your Needs?

- 79.4% ■ Speeds are too slow
- 52.7% ■ The price is too high
- 65.3% ■ My connection is unreliable
- 21.4% ■ Customer service is poor
- 52.9% ■ Limited data caps

Are You Interested in More Choices at Home?

Jasper County, Texas	
No	3.7%
Yes	96.3%

■ Yes ■ No

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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 (67%) of residents indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction than among households in other communities (58%).

When asked why their connection does not meet their needs, 79.4% of dissatisfied households indicate that their speed is too slow. 52.7% say the price is too high, and almost two-thirds (65.3%) indicate that the connection is unreliable. Respondents could choose more than one reason for dissatisfaction.

Finally, 96.3% of all respondents indicate that they are interested in additional internet choices for their home.

MOBILE CONNECTIVITY

Almost three-quarters of respondents (74.4%) report that they subscribe to mobile internet service that they access via a smartphone or similar mobile device. This is on par with what is reported in other Connected Communities (74.0%).

Additionally, 58.9% of mobile-connected households report that they rely on their mobile connection as their primary source of internet connectivity at home or use their mobile service to connect other household devices to the internet.

Households Subscribing to Mobile Internet Service

	Jasper County, Texas	All Communities
No	25.6%	26.0%
Yes	74.4%	74.0%

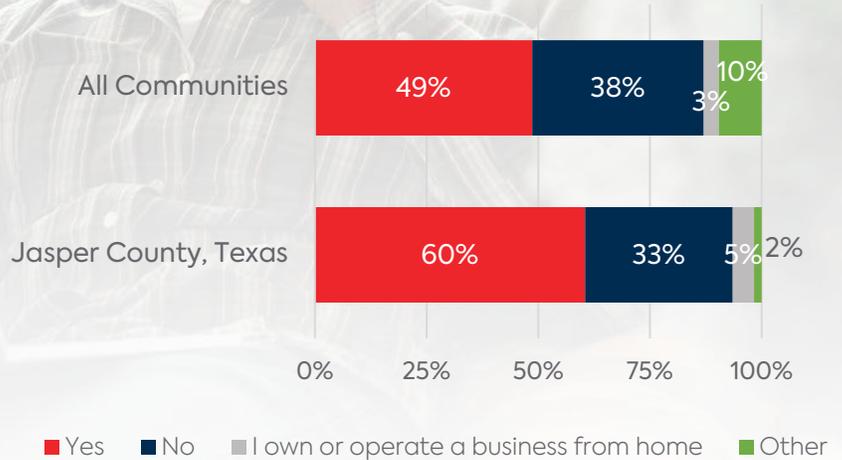■ Yes ■ No
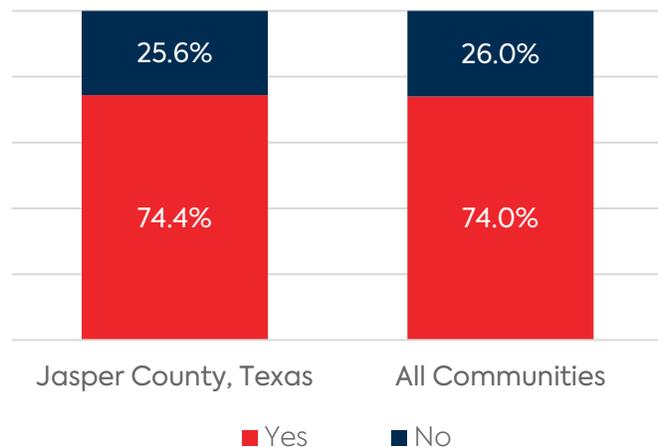
HOUSEHOLD SURVEY RESULTS:
Jasper County

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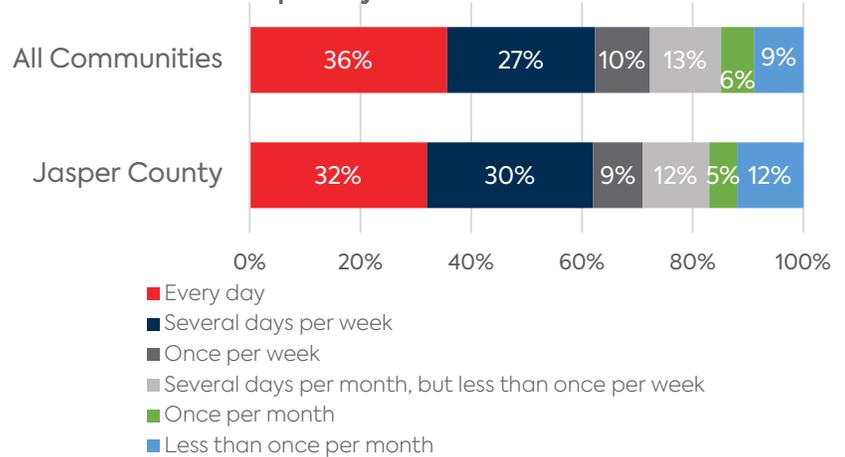
Teleworking is quickly becoming a critical part of growing a local economy because it represents an opportunity to attract or retain employees even though their employer may not be located within the community. However, this only works if those employees have access to advanced broadband infrastructure.

Three out of five employed respondents (60%) telework at least part of the time. Approximately 71% of these teleworkers said they work remotely at least once per month., while 32% telework every day.

Do You Currently Telework?

	Yes	No	I own or operate a business from home	Other
All Communities	49%	38%	3%	10%
Jasper County, Texas	60%	33%	5%	2%

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%
Jasper County	32%	30%	9%	12%	5%	12%

RECOMMENDATIONS

04

T he following recommendations are presented to assist Jasper County in expanding broadband access and adoption throughout the community.

Recommendation 1: Become a Digital Ready Community.

Local community policies and a lack of local coordination are often major hurdles to broadband providers, as they work to expand their networks and advance access to broadband services. This solution seeks to streamline this process, by eliminating unnecessary policies, consolidating information, and appointing a single point of contact that can ensure that the community is working as efficiently as possible with providers and gaining access to the networks and services that are needed. All community stakeholders, local governing bodies, agencies, utilities, etc. should meet and identify all of the local policies, regulations, and permits required of a telecommunications provider. These disparate elements should be organized into a set of requirements, and a website established with all necessary forms available electronically and capable to be electronically signed. This group will also appoint a single point of contact (SPOC) for all telecommunications infrastructure development projects. This individual should be the community liaison with providers, assist both the community and the providers through any necessary communications, and work through any necessary issues. As a commitment to this process, the local governing bodies should pass language that requires this. along with agreed-upon times for responses to provider outreach, permit approval times, and authorizes the SPOC.

Goals:

Provide a framework through which a community can demonstrate that they are a "Digital Ready Community" that has streamlined policies, cleared barriers, and is committed to making broadband infrastructure deployment in the community a priority. Being a Digital Ready community can result in several benefits:

- It provides the community with the opportunity to understand their requirements and makes it easier for the community to assist and work with providers who seek to expand services.

- It gives providers a centralized location to identify necessary regulations, and the opportunity to work with a local jurisdiction to address those regulations in an effective manner.

- Through the Community Broadband SPOC, a liaison is established that helps providers and the community work together and improve communication.

Actions

Action 1 – Conduct an initial meeting of involved parties, with a request that any needs/concerns they have related to broadband be brought to this formative meeting.

Action 2 – Hold a second meeting of this group (and any others who were identified during the first meeting) to review the local regulations and requirements, and to discuss any new requirements that may have been thought of.

Action 3 – Hold a third meeting to review the final list of local regulations and ensure that the responsible bodies have the necessary action items to amend those requirements/policies and to identify the Community Broadband POC candidates.

Action 4 – Pass the necessary language in the governing bodies to amend any necessary regulations or policies, as well as authorizing the SPOC according to local law.

Action 5 – Publish the list of requirements along with the necessary electronic documentation as well as the contact information for the SPOC.

Action 6 – Promote the Digital Ready Community site and SPOC, and apply for Certification by completing the application and submitting all necessary documentation

Responsible Parties

Local government, utilities, planning commissions, zoning boards, other right-of-way managers, etc

Resources:

Model Ordinances/Resolutions from various states:

MN Telecommuter Forward: https://mn.gov/deed/assets/telecommuter-forward-application-model-resolution-word_tcm1045-413760.docx

Indiana Broadband Ready: https://www.in.gov/indianabroadband/2632.htm

Tennessee Broadband Ready: https://www.tn.gov/content/dam/tn/ecd/documents/broadband/Broadband_Ordinance_SAMPLE.PDF

Georgia Broadband Ready: https://broadband.georgia.gov/media/4/download

Stark County, Indiana Ordinance for a Broadband Ready Community:
http://co.starke.in.us/ordinances/2020/Ordinance%20for%20a%20Broadband%20Ready%20Community.pdf

Recommendation 2: Develop Public-Private Partnerships to Deploy Broadband Service.

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 non-profit organizations to develop networks in collaboration with private carriers or provide seed investment to jump start 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.

Goals

Leverage existing community assets in partnership with private sector carriers to expand broadband network deployment.

Actions

Action 1 - Determine Priorities: Competition, enhanced service, equity and service to all, public control over infrastructure, risk avoidance, redundancy, etc.

Action 2 - Examine different models of partnership: 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. Model 2: Private Execution, Public Funding: Identify revenue streams that can be directed to a private partner, issue RFP for private turnkey execution. 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.

Action 3 – Understand 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

Local units of government; Broadband providers; Community anchor institutions; Residents and businesses

Resources

Broadband USA's Introduction to Effective Public-Private Partnerships for Broadband Investments: https://broadbandusa.ntia.doc.gov/sites/default/files/resource-files/bbusa_effective_public_private_partnerships.pdf

Building rural broadband from the ground up: http://bit.ly/2dx4MBw

United States Department of Agriculture: https://bit.ly/2yUGikq

Recommendation 3: Identify and Expand Wireless Hotspots in the Community.

To maximize the benefits that wireless hotspots provide, a community must ensure there are enough hotspots available, along with a published inventory of the locations of each wireless hotspot. Wireless hotspots are classified as free or available for a fee. Hotspots are often found at restaurants, train stations, airports, libraries, hotels, hospitals, coffee shops, bookstores, fuel stations, department stores, supermarkets, RV parks and campgrounds, public pay phones, and other public places. Many universities and schools have wireless networks on their campuses as well.

Goals

Expand access to broadband by increasing the number of publicly available Wi-Fi hotspots.

Actions

Action 1 – Develop an inventory of public Wi-Fi hotspots in the community, a Wi-Fi inventory.

Action 2 – Conduct an analysis to identify key areas and organizations for the expansion of local wireless hotspots.

Action 3 – The local Chamber of Commerce and tourism groups should promote the hotspots to ensure maximum visibility in the community.

Responsible Parties

Community and business leaders; Civic leaders and organization members; Citizens; Local Government; Broadband Providers; Community Anchor Institutions

Resources

Mapping Community Wi-Fi Access: http: //tech.ed.gov/stories/mapping-community-wifi-access/

Community Wi-Fi – A Primer: http://www.cablelabs.com/community-wi-fi-a-primer/

Map of Wi-Fi hotspots in Illinois:
https://www.arcgis.com/apps/webappviewer/index.html?id=23e8046edd2940bc8ad3ad1725e47cd0

Free Wi-Fi hotspot locator apps: https://www.lifewire.com/free-online-wifi-hotspot-locators-818276

Recommendation 4: Create a Telework Support and Attraction Program.

Teleworking offers significant benefits to employers, employees, self-employed individuals, and entrepreneurs. Benefits include business infrastructure savings, emissions reduction, and congestion management. Further, teleworking can help businesses and government agencies reduce real estate, energy, and other overhead costs. Research has shown that teleworking programs can increase an employer's productivity and enable it to continue operating without skipping a beat in the face of a natural disaster or other emergency that might otherwise bring business to a halt. Teleworking allows employees to lower their commuting costs, and accommodates people with disabilities, the elderly, working mothers, and rural residents who may not be able to work outside the home. It is unlikely that all employees will be able to telework. A good way to start is to identify types of positions or job types that can be performed remotely and initiate a trial period and track results. Get feedback from all involved regarding the benefits and challenges and fine-tune as needed.

Goals

Promote or develop flexible efficient and effective work arrangements.

Actions

Action 1 – Establish a cross-functional project team, including labor representatives, employers, educators, and other stakeholders.

Action 2 – Conduct assessment of teleworker and organization technology needs.

Action 3 – Identify eligibility criteria to ensure that teleworkers are selected on an equitable basis using criteria such as suitability of tasks and employee performance.

Action 4 – Promote the establishment of teleworking pilot programs among local employers.

Action 5 – Develop a telework agreement template for use between teleworkers and their managers.

Action 6 – Track changes to the teleworking needs among businesses and workers, adjusting the telework promotion to best suit your community's current and future needs.

Responsible Parties

Businesses; Business organizations, (e.g., chambers of commerce, economic development corporations, associations, etc.); Citizens and interest groups

Resources

Building a Telework Program: https://bit.ly/3bUaNWf

Teleworking Brings Jobs Home: https://bit.ly/2KST8SN

Job Opportunities via Digital Works Come to Cheboygan, MI: https://bit.ly/2So47YF

Publicly Operated Telework Facilities: An Economic Development Opportunity for Michigan's Rural and Tourism-Oriented Communities: https://bit.ly/2YkoSID