

# SHELBY COUNTY, TEXAS

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Technology Action Plan Summary  
August 2021



## OVERVIEW

Today, technology plays a pivotal role in how businesses operate, how institutions provide services, and where consumers choose to live, work, and play. The success of a community has become dependent on how broadly and deeply the community adopts technology resources, which includes access to reliable, high-speed networks; the digital literacy of residents; and the use of online resources locally for business, government, and leisure.

The Connected Nation Texas (CN Texas) Connected Program partnered with the Shelby County Broadband Team to conduct a study designed to determine the availability of broadband infrastructure; how its residents are adopting and using broadband services; and what steps would have the greatest impact toward improving broadband access, adoption, and use across every sector locally.

Pursuant of this goal, between December 2020 and April 2021, Shelby County conducted a comprehensive survey of broadband technology access and adoption across the community that collected responses from 597 households. CN Texas staff also met with community officials to determine community needs and to gather qualitative data for consideration in the study. Overall, the assessment was designed to identify issues and opportunities to close the local Digital Divide.

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

### Shelby County – Quick Facts

Population	25,349
Number of Households	9,648
Median Household Income	\$42,522
Poverty Rate	22.6%
Bachelor’s Degree or Higher	13.8%
Homeowner Rate	73.6%
Hispanic or Latino Population	18.3%
Households Served with Broadband <sup>1</sup>	27.56%

Source: U.S. Census 2019

<https://data.census.gov/cedsci/profile?q=0500000US48419>

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<sup>1</sup> The current FCC definition of broadband is a minimum of 25 Mbps download and 3 Mbps upload. These data are derived from Connected Nation Texas, July 2021. [https://connectednation.org/texas/wp-content/uploads/sites/19/2021/07/TX\\_Broadband\\_Availability\\_SpeedTier\\_Counties\\_2021\\_07\\_31.pdf](https://connectednation.org/texas/wp-content/uploads/sites/19/2021/07/TX_Broadband_Availability_SpeedTier_Counties_2021_07_31.pdf).



## KEY FINDINGS

- The average internet speed reported by households in Shelby County (10.9 Mbps) is **well below the speeds that the FCC defines as “broadband”** (25 Mbps download and 3 Mbps upload).
- Only **14.18%** of households in Shelby 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.
- Shelby County households paid more for access to the internet on average (**\$88.63**) compared to all Connected communities (\$70.77).
- **Nearly seven out of 10 households (69%) and 76% of businesses** reported that they were dissatisfied with their current internet service. The top reasons for dissatisfaction were slow speeds and an unreliable connection.
- **More than 19 out of 20 households (95.2%)** said they would like to have improved or additional options for home internet service.

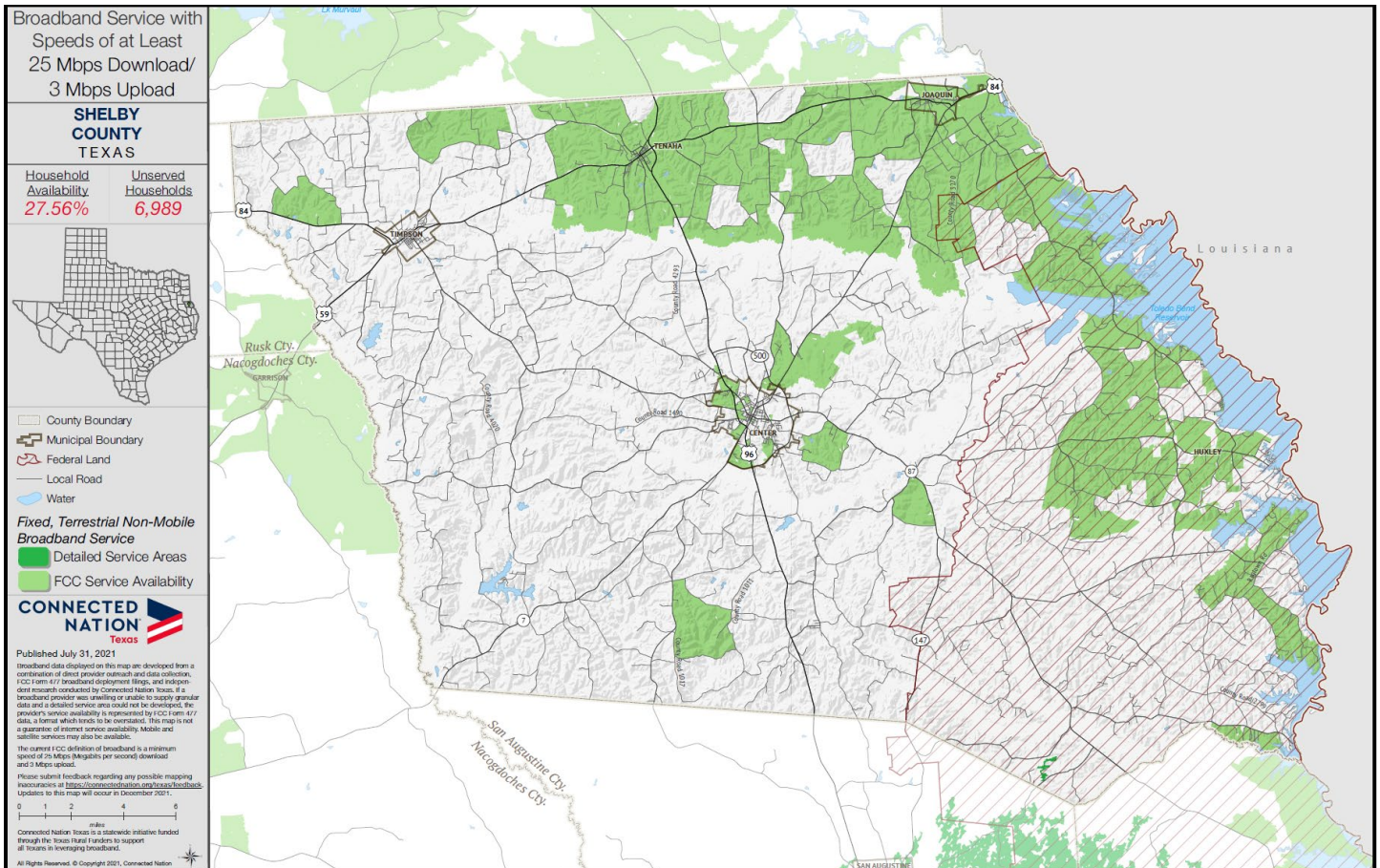
## INFRASTRUCTURE

According to CN Texas broadband data initially released in July 2021 — followed by additional public feedback, field validation, and provider input — most households in Shelby County do not have access to broadband at least 25/3 Mbps, the current definition of broadband set forth by the Federal Communications Commission (FCC). Broadband service in Shelby County is concentrated in the northeast portion of the county, in the city of Joaquin, in Tenaha, as well as the southeastern region near Huxley.

### Broadband - Quick Facts

Number of Unserved Households	6,989
Households served (10/1 Mbps)	97.50%
Households served (25/3 Mbps)	27.56%
Households served (50/5 Mbps)	16.75%
Households served (100/10 Mbps)	14.18%

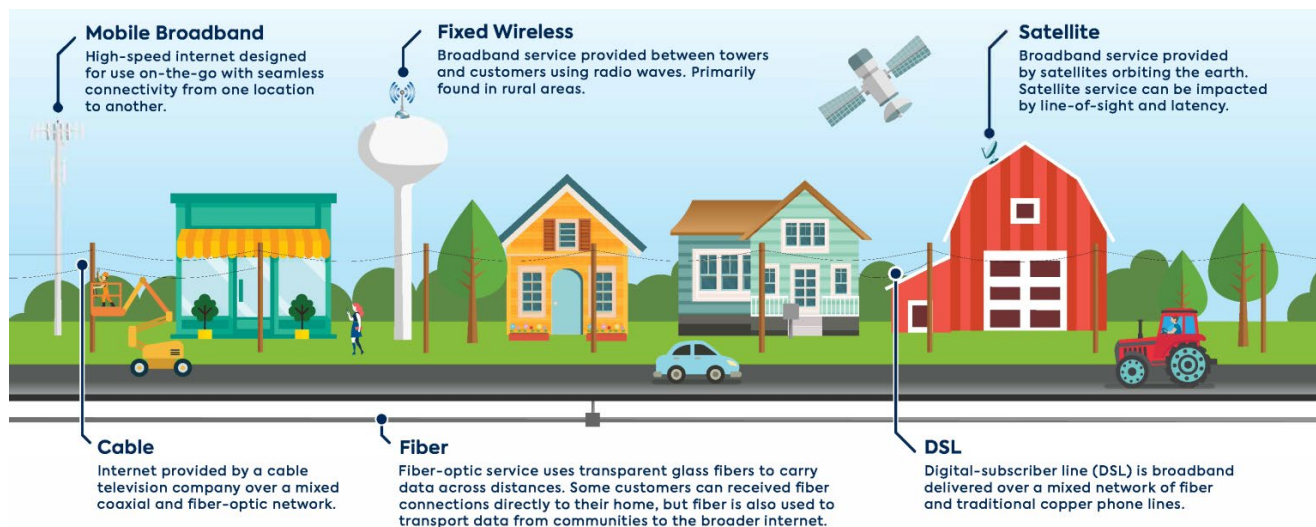
Broadband data collected by CN Texas in 2021  
<https://connectednation.org/texas/mapping-analysis/>.



Access the full map in PDF here: [https://cn-maps.hatfield.marketing/US/TX/v4/tx\\_shelby-county\\_25x3.pdf](https://cn-maps.hatfield.marketing/US/TX/v4/tx_shelby-county_25x3.pdf).

Other portions of the county are served by internet service providers (ISPs) offering slower advertised speeds.

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
AT&T Southwest	DSL	25	2
	Fixed Wireless	10	1
Eastex Net	Fiber	100	100
	DSL	25	3
NDemand	Fixed Wireless	10	3
Suddenlink Communications	Cable	30	5
Valor Telecommunications of Texas LP	DSL	300	300
	Fiber	200	200
Vexus	Fiber	1000	1000



## HOUSEHOLDS – DETAILED FINDINGS

The following provides an overview of results from a broadband survey conducted in Shelby County between December 2020 and April 2021. Altogether, CN Texas received 597 completed surveys from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Shelby County are compared to data from across dozens of other rural Connected participating communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

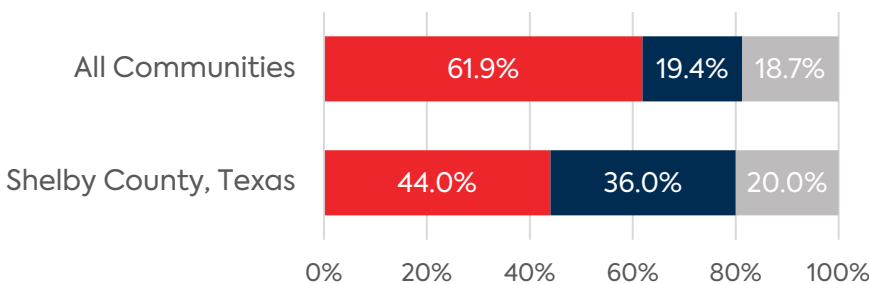
Households – Quick Facts	
Fixed Home Broadband Adoption <sup>2</sup>	44.0%
Average Monthly Cost of Internet	\$88.63
Average Download Speed	10.9 Mbps
Households Satisfied with Service	31.0 %

Source: Shelby County Household Survey conducted by CN Texas

## ADOPTION

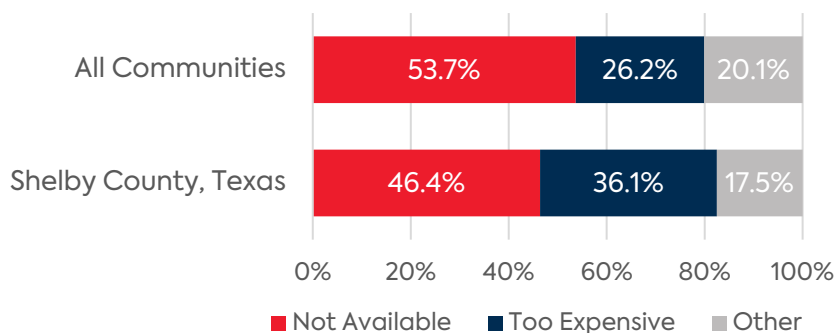
### Home Broadband Adoption

■ Fixed ■ Non-Fixed ■ No Connection



In Shelby County, 44% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. More than one-third of respondents (36%) indicate they have internet service delivered via dial-up, satellite, or a mobile wireless service. This leaves one-fifth (20%) of survey respondents without internet access at home.

### Primary Barrier to Home Broadband Adoption

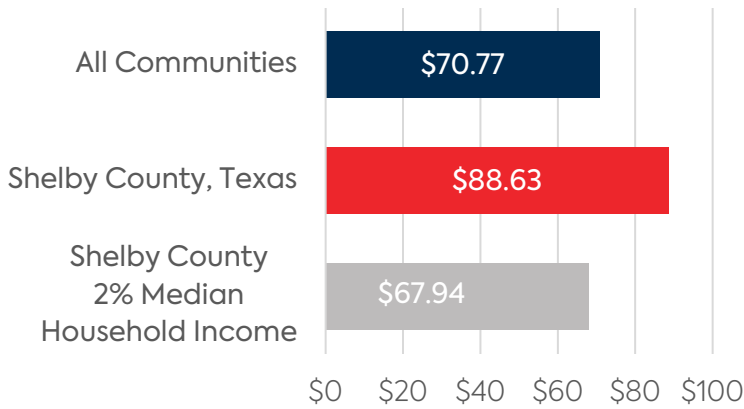


Among those without a home internet connection, 46% said they did not have broadband because it was not available to them, while more than one in three (36%) indicate that it was too expensive. Like in many communities, cost and availability are the two primary barriers to home broadband adoption.

<sup>2</sup> Fixed home broadband connections are those provided by cable, DSL, fiber, or fixed wireless technology.

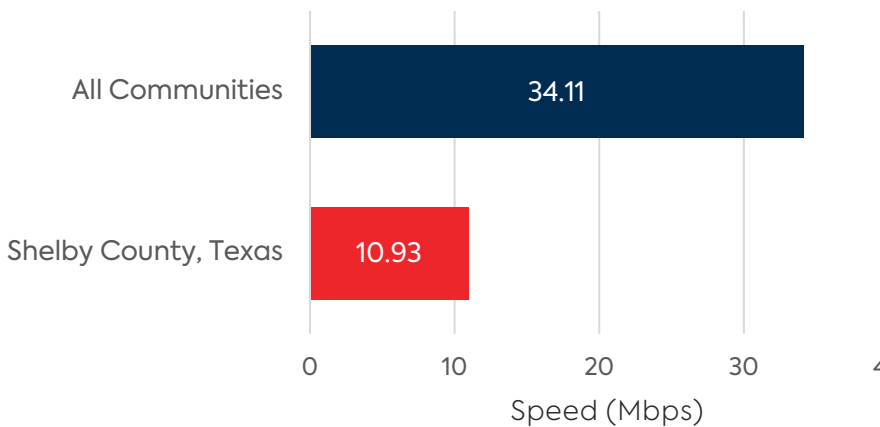
## CONNECTION DETAILS

### Average Monthly Cost for Home Internet Service



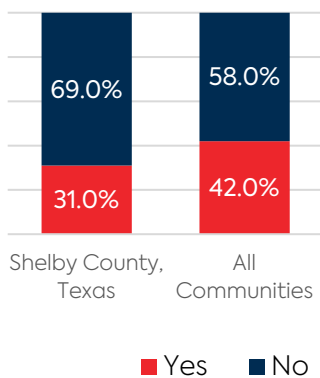
A recognized standard for measuring the affordability of a home internet connection is 2% of monthly income. Respondents indicate that, on average, their internet connection costs about \$88.63 per month. This is higher than monthly costs in other communities (\$70.77). In Shelby County, 2% of the median household income is \$67.94 per month. These results show that the average cost of service is unaffordable for many in the county.

### Average Download Speed (Mbps)

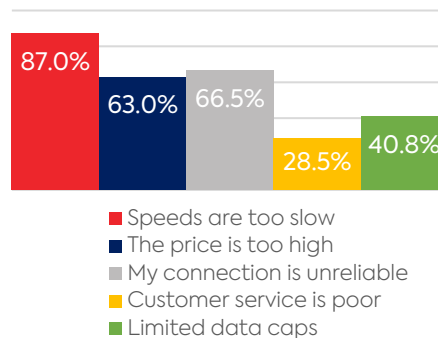


The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 10.93 Mbps, which is much lower than household connections in other communities and well below the defined speed of broadband, which is 25 Mbps.

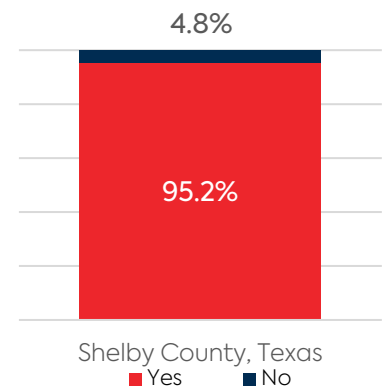
### Does Your Internet Connection Meet Your Needs?



### Why Does Your Connection Not Meet Your Needs?



### Are You Interested in Additional Internet Choices at Home?



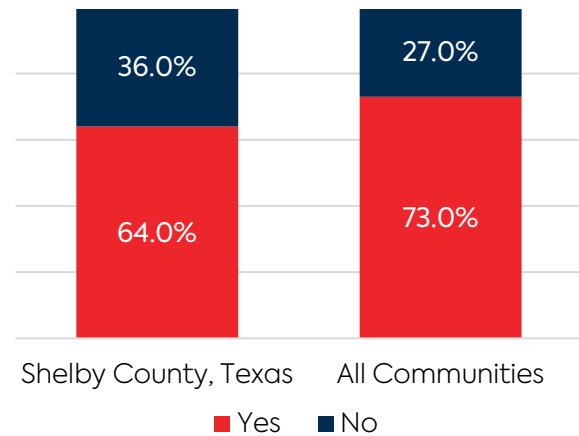
Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. Nearly seven out of 10 respondents (69%) indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction than among households in other communities (58%). When asked why their connection does not meet their needs, 87% of dissatisfied households indicate that the speed is too slow. Nearly 63% say the price is too high, and nearly 66.5% indicate that the connection is unreliable (respondents could choose more than one reason). Finally, nearly every respondent (95.2%) indicate that they are interested in additional internet choices for their home.

## MOBILE CONNECTIVITY

Nearly two-thirds of Shelby County households (64%) 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 32.6% of all households report that they rely on their mobile connection at homes 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



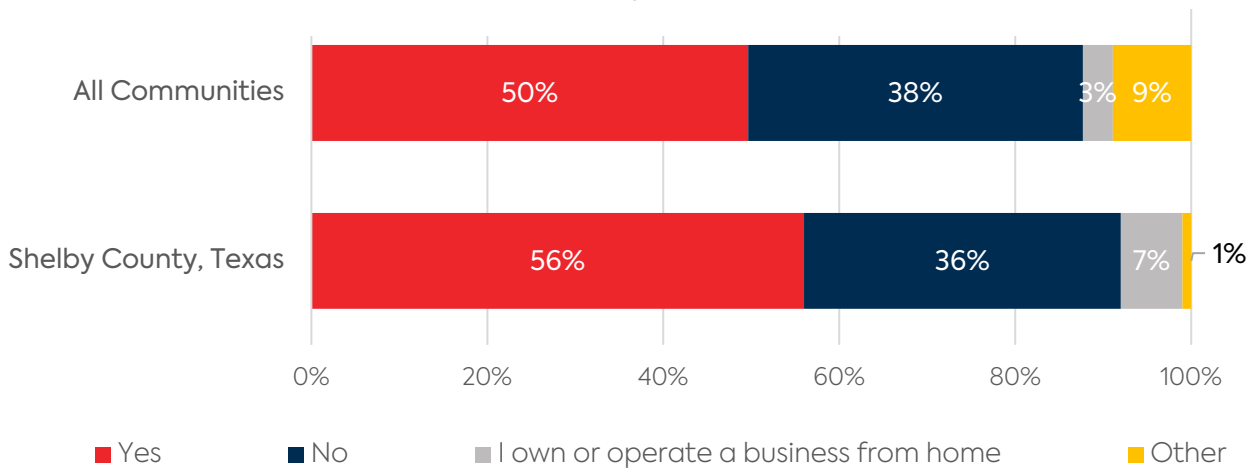


## TELEWORK

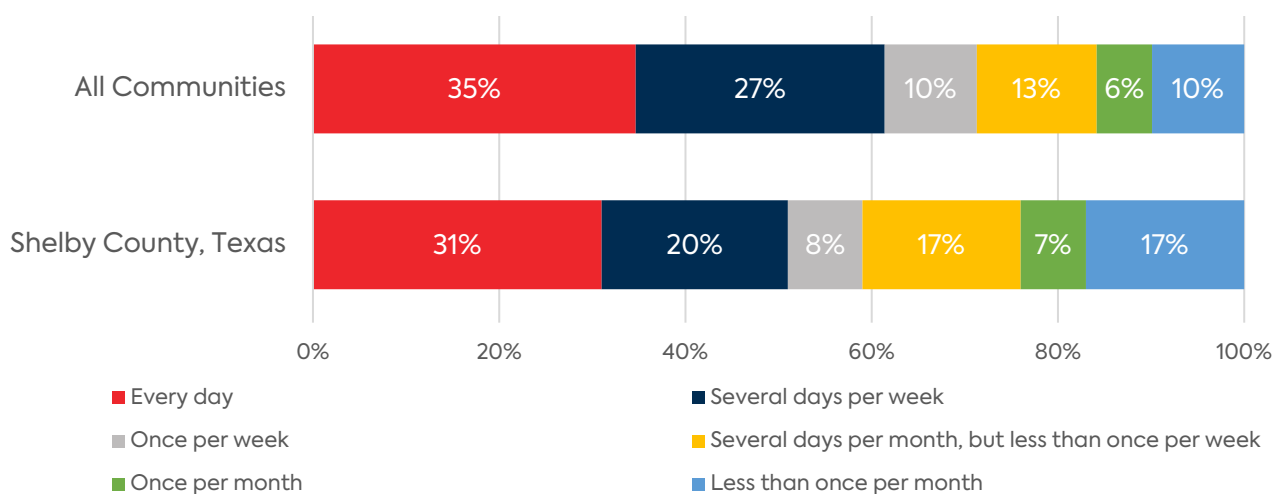
Teleworking, or telecommuting, refers to working outside of the conventional workplace by way of telecommunications or computer-based technology. The COVID-19 pandemic forced many organizations to allow staff to telework. In Shelby County, the lack of broadband access was a significant barrier to organizations 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 56% of employed respondents in Shelby County telework at least part of the time. This is more than residents in other communities, though teleworkers in Shelby County work from home just about as often as teleworkers in other communities.

Do You Currently Telework For Your Job?



How Frequently Do You Telework?



## RECOMMENDATIONS

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

### Goal 1: Develop Local Telecommunications Policies and Ordinances

Shelby County is set to receive \$4,909,178 in Fiscal Recovery Funds, and Charter Communication is receiving up to \$11,586,752 in Rural Development Opportunity Funds, pending approval from the FCC. Making this a seamless process to do business in Shelby County will allow for quicker deployment of broadband throughout the county. Particularly given the low broadband availability level (27.56%) in Shelby County, this warrants urgent attention.

**Objective:** Shelby County should review and update ordinances and policies to minimize any barriers to broadband deployment to bring faster broadband buildout to the county.

#### Actions:

#### Action 1 – Assign a person dedicated to leading provider engagements and broadband project review.

Judge Harbison and the Commissioners Court should appoint this person with input from the soon-to-be-named Center Economic Development Director and the County Treasurer, Anne Blackwell. The city of Center is the county seat for Shelby County and houses the Center Economic Development Team, which also launched a separate broadband survey for the city. Housing a dedicated person to be the point of contact is helpful for incoming vendors. The person should be knowledgeable about broadband and remove barriers as appropriate. This appointee's job description can be expanded, but to start, they should concentrate on bringing faster fixed broadband to Shelby County by making it easy to do business. Part of their duties include working with the Center City Council and the Commissioners Court to update polices and ordinances, along with updating social media sites and government sites with information. A second option is housing a dedicated person in the Shelby County Treasurer's Office where vendor information is currently stored.

#### Action 2 – The new broadband manager, Judge Harbison, and the Commissioners Court should review current policies to ensure they are working efficiently and effectively.

Below are some strategies for review:

- Compare local polices around zoning, permitting, and access to rights-of-way (ROW) to other communities that are nearer completion of broadband build-out to enable Shelby County to learn best practices.
- Reach out to providers and host listening sessions to determine any barriers they have encountered with deployment. These may include complicated right-of-way negotiations; leasing pole attachments; county approvals; fees; and other challenges. If patterns emerge, consider policy or process changes. Hosting a listening session with providers can speed up the time it takes to deploy internet in Shelby. Providers can discuss their biggest barriers, such as:
  - Permitting processes
  - Relationships with pole owners
  - Right-of-way issues

**Action 3 – Review and update any Shelby County websites with detailed information about broadband deployment in Shelby County.**

Currently, vendors are directed to <http://www.co.shelby.tx.us/page/shelby.County.Treasurer> to start the process of registering with Shelby County, but there is no information available about the process.

Other websites that should be linked to “how to do business in Shelby County” include <http://www.co.shelby.tx.us/>, <https://shelbycountychamber.com/>, <https://www.centertexas.org/city-council/history-center>, <http://texassizedopportunities.com/>. Additionally, the following information should be made available:

- The local point of contact for broadband deployment projects
- The most current broadband availability maps (available [here](#))
- Detailed application and permit fees and guidance on submitting payment for these fees
- Standards for construction of poles and other infrastructure
- Maintenance policy after the infrastructure is deployed

**Action 4 – If necessary, Judge Harbison and the Commissioners Court should update any policies and ordinances that are deemed to create significant and avoidable barriers to broadband deployment.**

#### **Responsible Parties:**

- Judge Harbison
- The Commissioners Court
- The Center Economic Development Director (a new director is being named at the time of this writing) and County Treasurer Anne Blackwell
- Local broadband providers, including Charter Communications

#### **Resources:**

- Removing barriers to broadband expansion <http://www.connectmycommunity.org/wp-content/uploads/2016/09/Local-Policy-Guide.pdf>
- Example of county with on-line resources – <https://onlinepermits.mcallen.net/Portal/default.aspx>
- Becoming Broadband Ready <https://nextcenturycities.org/becoming-broadband-ready/>
- Examining state broadband programs – <https://www.pewtrusts.org/en/research-and-analysis/reports/2020/02/how-states-are-expanding-broadband-access>

## Goal 2: Increase Adoption of Broadband throughout Shelby County

### Objective:

Coordinate, develop, and promote digital skills training and the use of public Wi-fi, which can have a significant impact on the quality of life within Shelby County.

### Actions:

**Action 1 – Partner with local organizations to promote and provide free and/or low-cost classes.** The broadband engagement head should lead the effort to provide training to eliminate the skills barrier to broadband adoption. The classes can be taught by local experts, nonprofits, or via online classes. Some examples of potential partners include Shelby Chamber of Commerce, Fannie Brown Booth Memorial Library, Timpson Public Library District, Panola College, public school districts (Timpson ISD, Shelbyville ISD, Center ISD, Joaquin ISD, and Tenaha ISD), and Shelby County Health Department. The basic prerequisites for offering these classes include a facility with training computers, adequate high-speed internet service, and a trainer with the required skills.

This is inexpensive to offer and should be done immediately. Some examples of courses to offer include:

- Digital skill classes
- Website building classes
- Social media classes
- Telehealth classes

Below are some free digital skills training resources:

- American Library Association – PLA, AT&T team up to bring digital literacy training to families <http://www.ala.org/news/press-releases/2021/05/pla-att-team-bring-digital-literacy-training-families>
- Digital Learn Curriculum: [Public Library Association:](#)
- A Connected Nation Initiative: <https://www.driveyourlearning.org/> –
- AARP Joins with Nonprofit to Teach Tech to Older Adults: [AARP](#)

**Action 2 – Support and Expand Publicly available Wi-Fi throughout Shelby County.** Shelby County public schools and government buildings are doing a good job providing free Wi-Fi to the public, but more needs to be done. More hotspots and fixed broadband sites need to be available in more public places. Examples include local hotels, Windham Civic Center, coffee shops, retail stores, libraries, and Center City Hall. Public Wi-Fi can be promoted through websites, social media, and businesses. Residents who cannot access the internet at home should have public Wi-Fi available to do business such as banking, insurance, and shopping online. Even with RDOF money coming into the Shelby County, there will always be a percentage of the population that will need public Wi-Fi due to the many barriers of adoption.

## Responsible Parties:

The broadband engagement lead should seek partnerships with organizations such as Shelby Chamber of Commerce, Fannie Brown Booth Memorial Library, Timpson Public Library District, Panola College, public school districts (Timpson ISD, Shelbyville ISD, Center ISD, Joaquin ISD, and Tenaha ISD), and Shelby County Health Department.

The broadband engagement lead should partner with local organizations that are currently providing free Wi-Fi.

## Resources:

- Examples of one Texas town meeting residents' broadband needs: <https://ilsr.org/how-mcallen-texas-quietly-built-residents-a-free-wi-fi-network-over-the-summer/>
- Wi-Fi hotspot locator apps: <https://www.lifewire.com/free-online-wifi-hotspot-locators-818276>
- Resources compiled by Connected Nation: <https://connectednation.org/coronavirus/resources-solutions-providing-connectivity/>
- 5 Reasons Why You Should Offer Free Wi-Fi to Your Customers: [Spectrio](#)

## Free Training Resources

- American Library Association - PLA, AT&T team up to bring digital literacy training to families: <http://www.ala.org/news/press-releases/2021/05/pla-att-team-bring-digital-literacy-training-families>
- AARP Joins with Nonprofit to Teach Tech to Older Adults: [AARP](#)
- Connected Nation Initiative: <https://www.driveyourlearning.org/>
- Telehealth information: <https://connectednation.org/telehealth/>
- Digital Learn Curriculum: [Public Library Association](#):

## Goal 3: Update the Public Safety Backhaul Connections

Although there was a low response from the public safety sector in the survey, after speaking with county leadership, it is of concern that the technology used to communicate in the National Forest terrain is not operational, thus leaving public safety entities unable to communicate. Action is being taken to replace inoperable microwaves on three towers to functioning microwaves. A third-party company has been identified to perform this work.

### Objective:

Shelby County needs to replace the inoperable backhaul network to current technology and obtain a maintenance and service contract through a third-party.

### Action:

**Action 1 – Facilitate discussions with public safety personnel.** Judge Harbison and the Commissioner Court should hold public discussions for public safety personnel to have input on their communication needs in the southeast part of the county where the National Forest is located. Participants should include Fire Department Chief Keith Byndom and Sheriff Kevin Windham. When hiring a third-party to replace inoperable microwaves, discuss and understand new technology, including newer microwave technology that can service the needs of the public safety network. Chief Keith Byndom of Center Fire Department and Sheriff Kevin Windham will be great resources.

**Action 2:** A request for proposals (RFP) should be deployed to find the right company to perform service and maintenance on the new technology, so the public safety emergency network never becomes inoperable again. This contract should be reviewed yearly by the Commissioners Court to make sure Shelby County's needs are being met.

### Responsible Parties:

- Judge Harbison and the Commissioner Court
- Fire Department Chief Keith Byndom and Sheriff Kevin Windham
- Third-party vendors specializing in RFP writing.

### Resources:

- FirstNet: <http://www.ntia.doc.gov/category/firstnet> ,
- Public Safety Communications <http://psc.apcointl.org>
- The Commissioners Court should review contract yearly with input from Chief Byndom and Sheriff Windham.

Connected Nation can help Shelby County construct a meaningful RFP and review responses to help the county make sense of the responses.