

GRAHAM COUNTY

# DIGITAL INCLUSION PLAN

2023



Graham County is part of  
Region A in Western NC.

# EXECUTIVE SUMMARY

## Region A in WNC



The goal:  
to create a  
digitally  
equitable  
region.

**THIS PLAN ADDRESSES THE DIGITAL  
DIVIDE IN REGION A AND IDENTIFIES  
STRATEGIES TO CLOSE IT.**

Southwestern Commission recognizes the role that digital access has in people's lives and the impact it has on community empowerment and engagement. Region A's Digital Inclusion Plan recommends ways to remove barriers to success for our citizens in rural Western North Carolina who all need the digital access, devices, skills and confidence to obtain jobs, earn degrees and participate fully in the world around them. "Closing the Digital Divide" will help level the playing field and bring Western North Carolina up to speed with the rest of the state, country, and world.



# WHAT IS DIGITAL INCLUSION?

Digital inclusion (or reducing digital exclusion) is about ensuring all people and businesses have access to and the ability to use the internet and other digital channels in order to obtain the many benefits that being online can bring.

# WHAT IS DIGITAL INCLUSION?

Digital Inclusion is based on the basic principles that to fully participate in the world of today, every person will have:

## 1 / ACCESSIBILITY

access to adequate and reliable internet

## 2 / AFFORDABILITY

ability to afford internet access and digital devices

## 3 / DEVICES

internet-enabled, fully-functioning devices

## 4 / KNOWLEDGE

digital literacy and skills that support an understanding of computers and digital technology

## 5 / SUPPORT

technical support to troubleshoot, maintain and repair devices

## 6 / CONFIDENCE

a belief in being capable and self-sufficient

## 7 / MOTIVATION

a desire to take advantage of opportunities only available in a digital world



# WHY DOES DIGITAL INCLUSION MATTER?

**Digital Inclusion is needed** to reduce and hopefully eliminate historical, geographic and socio-economic barriers to access and technology. **Broadband is a critical tool** for economic, educational, and healthcare **growth and opportunity**. This access is even more important for the sparsely populated counties of Region A, where internet connectivity enables residents to obtain services and take advantage of other opportunities that might otherwise only be available in more populated, urban areas. It's clear that the internet is important for accessing opportunities no matter where a person lives. However, **in Western North Carolina, where rural communities are sometimes already lacking basic essentials such as healthcare, job and business options... AND the internet is often unreliable or unavailable, it could be life changing.**

This severity of the "Digital Divide" became even more evident during the pandemic of 2020 when it suddenly became imperative for virtually everyone to work, learn and heal from home. **Populations who were unable to make that shift quickly were left scrambling** and immediately fell even further behind. The pre-existing digital inequities were worsened as a consequence, and the region has struggled to recover since.

Fewer than  
1 in 4  
Western NC  
residents has  
access to  
fiber.

- NCDIT data

"Broadband  
internet  
access  
should be a  
public  
utility".

- Jackson County  
Broadband  
Committee

**Broadband  
is essential  
infrastructure.**



# WHY DOES DIGITAL INCLUSION (DI) MATTER?

Broadband is critical infrastructure that connects everything and everyone. It is a tangible element that can benefit every person across all social, economic and geographic dimensions.

The internet is no longer a luxury, but essential to education & opportunity.

10% of WNC households are forced to use a satellite internet provider.

- NCDIT data

**In Region A, it's often the case that the people who need to access the internet the most are the ones who are least able to do so.**

## DI improves education.



provides online access to learning, flexible environment, more learning options and availability of quality instruction, specialized content, communication, collaboration

## DI improves healthcare.



access to telehealth and more quality providers, flexible format, less exposure to sickness, information, improved overall physical and mental health

## DI improves economic growth.



population, earning potential, industry & small business growth, tourism, lower unemployment

## DI improves business.



workforce skills, e-commerce, communication, research, marketing, telecommuting, employee recruitment, sourcing, collaborating, virtual meetings, "live" online events

## DI improves financial stability.



access to jobs, improved earning potential, saving money with more purchasing options

## DI improves social involvement.



improving confidence, morale, sense of safety & mental health, reducing isolation

**\*low income individuals are disproportionately harmed by a lack of digital resources.**



# FIRST-HAND ACCOUNTS OF WHY DIGITAL INCLUSION MATTERS

Here are some real-life stories from WNC residents who deal with the reality of the "digital divide" every single day.

Lee sat in her WNC home, hunched over a laptop- pulling the small computer closer to her face. It was her first telehealth appointment, a routine check-up with her primary care physician, and she couldn't hear what the doctor was saying. She thought about telling the doctor to speak up, but then she remembered her house, fastened at the end of a 17-house subdivision in a small WNC town, doesn't often invite steady internet connection.

Lee isn't hard of hearing, and she's not unskilled when it comes to the internet. The 73-year-old retired school teacher frequently runs speed tests on her own WiFi, which she gets through her local cable provider, Optimum.

This scenario not only means that most of the region is unable to leisurely stream Netflix, but that other more critical facets of life that are becoming dominantly virtual, such as connecting to a doctor, are impossible for many.

• taken from Carolina Public Press article, October 2022

When the pandemic sent Kate home to work remotely for 18 months, she had to unplug all devices that use the internet except for her computer before starting her day. Her home has limited access to steady internet, which means no more than one device can be connected to the internet if she needs to do her work online. Further complicating the challenge, her kids were also at home trying to do remote learning. There was a schedule on a white board in the kitchen where everyone in the household had to "reserve their internet time", and that was the only window they were allowed to be online. Work video calls or live, online class sessions were out of the question, even after they borrowed multiple hot-spots that were "supposed to" improve their internet capability.

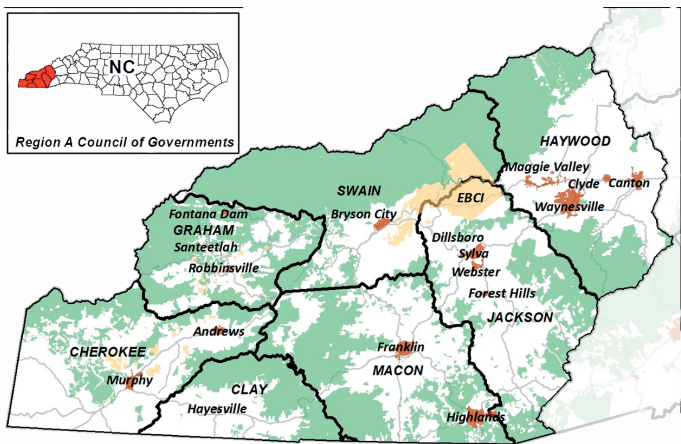
• shared during community meeting, Aug 2022

Jeff had spent many long hours and thousands of dollars renovating a small cabin nestled in the mountains of NC. After months of hard work, he was able to finally list his rental property online. Bookings came in immediately and he was relieved to know that his hard work would finally pay off and he would be able to pay back the money he had borrowed for the improvements.

That relief was short-lived. Bob's first couple who rented the cabin for a weekend were upset when they missed an important online meeting due to unanticipated, spotty internet coverage.

Upon realizing the impact to potential renters, Bob updated his property listing to accurately reflect this concern and his bookings immediately declined by more than 50%.

• shared during community meeting, June 2022

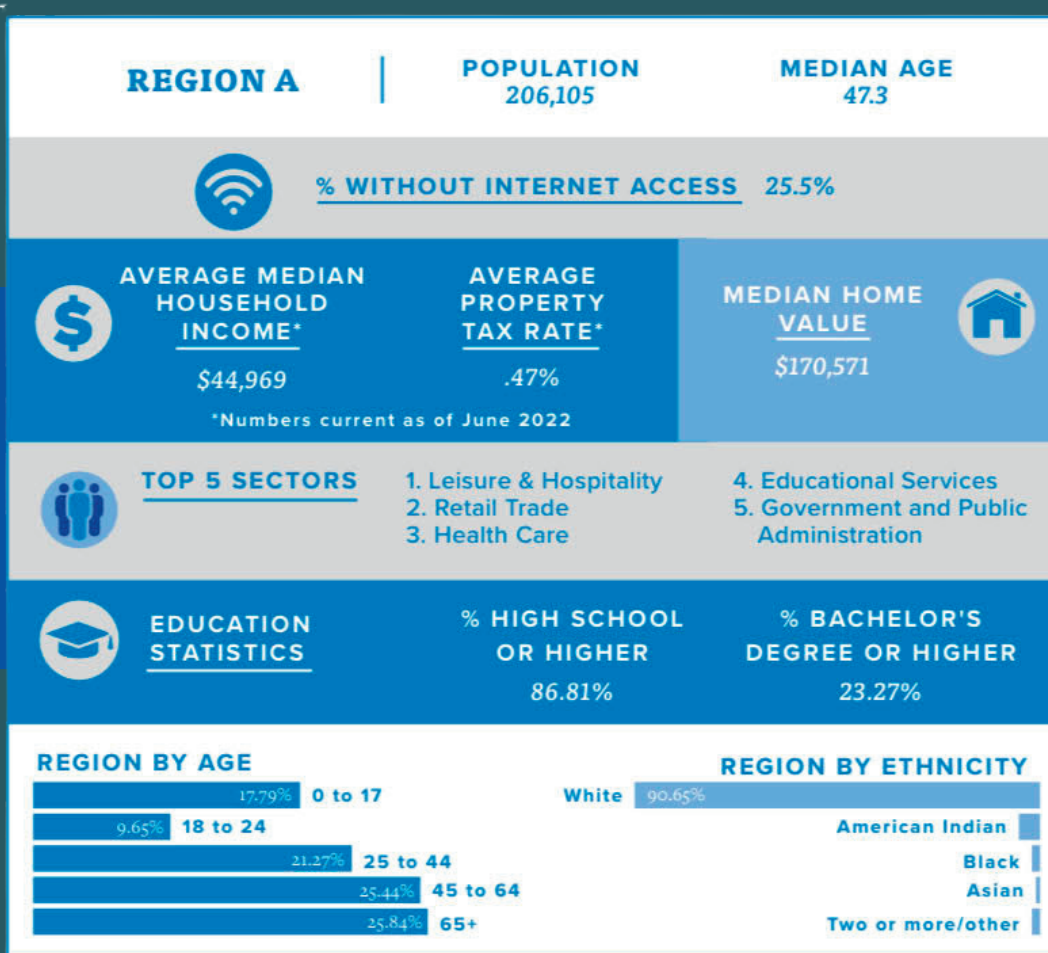


# UNDERSTANDING REGION A:

The Southwestern Commission is the regional council of government that covers North Carolina's 7 westernmost counties, the 17 municipalities therein, and the Qualla Boundary. The region is mostly rural and forested, with a total land area of **3,098 square miles**. **More than 70% of the region is public land**, which is substantial compared to other areas in the eastern US. This public land includes two National Parks (The Great Smokies and the Blue Ridge Parkway), two National Forests (Nantahala and Pisgah), and four TVA lakes (Appalachia, Chatuge, Fontana and Hiwassee).

The landscape and topography that makes Western North Carolina such a beautiful place to live and visit also presents a challenge in creating digital inclusion. A NC Health News article by Liora Engel-Smith in July 2021 titled, "In North Carolina's Mountains, Broadband Isn't a Given" perhaps said it best- **"Internet dead zones are as much a staple of Appalachia as the mountains, lakes and rivers that have made the region so popular among tourists."** Rural broadband is an issue of volume and feasibility. Laying fiber in the mountains can be enormously expensive, especially when the population is not large enough to make it financially feasible. Data from NCDIT shows that the cost of connecting 300 mountain homes and businesses in Region A is expected to cost \$2 million. Internet providers simply don't foresee a return on their investment and show very little interest in exploring options.





Region A has an approximate population of 206,105. **77% of the region is rural**, compared with 41% of the state population.

The most significant demographic trend is the “graying” of the region. Only 18% of the region is under the age of 18 (compared with 21% in 2017) and 1 in 4 is over the age of 65. This trend has an impact on every aspect of life in the region, including the need for digital inclusion. This demographic shift will change demands for housing, transportation, basic delivery services and telehealth services. It has also had an impact on the workforce of the region. The average unemployment rate is 3.5%, leading to an overall lack of available workers. Businesses across the region have struggled to find workers and often reduce available shifts because of this.

**The poverty rate across Region A is higher than both the state and national averages.** Additionally, the **median household income is significantly lower** than both the state and national averages.

# **Our plan to prioritize Digital Inclusion in Western North Carolina is directly in-line with current state and regional priorities.**

Exhibit #1:

## **NC's Appalachian Development Plan for 2021-2024**

*This plan is a document created for the Appalachian Regional Commission funds by NC Governor Roy Cooper outlining NC's priorities for investing Appalachian funds to enhance the economic development potential of North Carolina's portion of the Appalachian Region. **All 7 Region A counties are within this identified region.***

- The plan lists **broadband** as a significant **economic challenge**, citing the **lack of affordable broadband access** in many communities in WNC. The Appalachian Regional Commission states in their plan that they intend to continue and expand their efforts to overcome this challenge.
- The plan lists **telecommunications** as a significant **economic opportunity**, stating that continuing to expand broadband and cell service capabilities to all Western North Carolina rural communities will **increase educational and workforce training opportunities and encourage business and industry development.**

**Only 8 counties in NC have less than 70% connectivity. Five of these are in Region A.**

**NC Governor Roy Cooper has included broadband in his short list of priorities for improving North Carolina's economic development potential.**

**Objective 3.2 is to "Ensure that all Appalachians have access to quality and affordable telecommunications and broadband services."**



**Our plan to prioritize Digital Inclusion in Western North Carolina is directly in-line with current state and regional priorities.**

Exhibit #2:

**Comprehensive Economic Development Strategy Plan,**  
**September 2022**

*The CEDS is a guiding document written to drive regional planning efforts and capitalize on regional economic development opportunities. It is researched and written by the Southwestern Commission.*

**Lack of Broadband access and lack of cell coverages** were identified as the top two hindrances to economic development.

Stakeholders listed **Broadband** as a key focus area.

**Strategy 1:**  
**Partner with communities and Internet Service Providers to extend infrastructure into unserved and underserved communities.**

**Strategy 2:**  
**Create and implement Digital Inclusion Plans for every county in the region.**

**Strategy 3:**  
**Convene stakeholders and partners to continue to draw attention to the challenges and opportunities for broadband expansion and adoption in the region.**



SOUTHWESTERN COMMISSION  
COUNCIL OF GOVERNMENTS

# OUR PLANNING PROCESS:



Our planning process consisted of 4 key activities: community meetings, 1-on-1 conversations, surveys and research. All of those activities were designed to **keep the focus on stakeholder input and engagement**. We made efforts to include anyone and everyone who was interested in the project.

- 1 Convene regional kickoff meetings
- 2 Conduct individual county meetings
- 3 Identify missing stakeholders and sectors and solicit feedback
- 4 Conduct regional questionnaire
- 5 Analyze data
- 6 Complete plan



# SECTORS REPRESENTED IN THE PLANNING PROCESS:

Overall, the **level of interest** and **quality of information** from participants provided a strong foundation for this plan. **Representation from a variety of community stakeholders was a key requirement.**

At each community meeting, we asked the question, "Who are we missing?" and "Who isn't here that we need to talk to?" We were able to gather names from each session, and followed up with those individuals.

## *We wanted to seek their input.*

The following list represents the broad community sectors that participated in this process.

- Local Government
- Local Business Owners
- Churches
- Non-profit organizations
- Public School Staff & Administrators
- IT Staff
- Senior Centers
- Libraries
- Internet Service Providers
- Elected Officials
- Small Business Centers
- Travel & Tourism
- Economic Development
- Local Newspapers
- Volunteer Fire Departments
- County EMS
- Healthcare Professionals
- Workforce Programs
- Social Services
- Cooperative Extension
- Law Enforcement
- Tri County Community College
- Southwestern Community College
- Haywood Community College
- Western Carolina University
- Banks
- IT Small Businesses
- Chamber of Commerce
- Small Business & Technology Development Center
- Co-Working Spaces

# OUR SURVEY:

Our survey was sent out to The Southwestern Commission's comprehensive email list, as well as the additional contacts that were uncovered during the planning process. Every effort was made to include those who were willing to participate, as well as seek out and encourage those who were less involved, whether from lack of time, interest or information.

## OUR SURVEY QUESTIONS:

For what purpose do your clients/participants use the internet?

Where is free public WiFi available in your county?

Where in your county can the public access free devices (device lending programs, public devices in a public lobby, etc.)?

Do you know of any hotspot lending programs in your county?

Do you know of any organizations in your county that teach classes on how to use the internet, devices, or specific computer applications?

Do you know of any other assets that exist in your county that were not captured in the questions above?

Are there other factors that are not mentioned above that you believe to be a priority in your community?

Do you believe people in your county would take advantage of these digital inclusion assets if they were made available or do you feel like more education is needed to help people understand their value?

What makes your county different from other counties in Western NC (for example, what demographics, culture, environmental issues are unique to your county)?

What are the unique factors/considerations/challenges related to digital inclusion that are specific to your county that we should be aware of?

Do you feel like the people in your county appreciate and understand the importance of this project?

On a scale of 1-10, how would you rate the digital skill level of the overall population in your county?

Rank these needs as they exist in your county? (3 is high, 1 is low)

Broadband Availability  
Digital Skills Training  
Device Lending Program

Broadband Affordability  
Relevancy  
Reliable Cellular Service

## **VISION**

### **EVERYONE HAS ACCESS.**

All citizens in Region A should have the ability to use the internet effectively with access to broadband infrastructure. Promoting affordable internet service and a digital device, along with basic computer skills, training and support will ensure individuals, businesses and communities participate fully and positively in the region's economy and society.

## **MISSION**

### **OVERCOME ALL OBSTACLES.**

The mission of Digital Inclusion in Region A is to overcome ALL the digital inclusion challenges faced in Region A- not just one. As the digital world continues to move forward, we plan to ensure our citizens will participate fully, thereby increasing their quality of life and improving the economic prosperity of the region.

**THESE WERE DERIVED FROM STAKEHOLDER FEEDBACK.**





## **GRAHAM COUNTY, NC**

### **D I G I T A L I N C L U S I O N P L A N**

Graham County resembles many rural communities in the challenges it faces regarding the digital inclusion landscape. It is the third-least populated county of NC. The county is 302 square miles and the county seat is Robbinsville. Like the other Region A counties, the terrain is beautiful and mountainous and the population is sparse, with a population density of 27 people per square mile. Graham County is home to many lakes including Fontana, Santeelah, Cheoah, Calderwood and Nantahala, as well as the Cheoah River which is well-known for its class IV and V whitewater rapids. Fontana Dam is the tallest dam east of the Rockies and is located here. It is owned by the TVA (Tennessee Valley Authority), the largest public power company in the United States. Two-thirds of the county is in the Nantahala National Forest.

## **CURRENT STATE & DIGITAL DIVIDE OF GRAHAM COUNTY**

For the past 10 months, stakeholders in Graham County were engaged in a variety of ways including community meetings, 1-on-1 discussions and public surveys to determine the county's current digital inclusion ASSETS and NEEDS.

Following is the list of information that was compiled during that process.

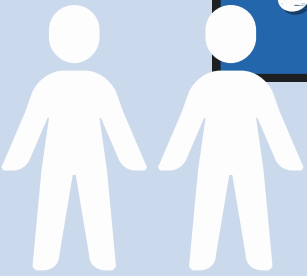
A S N A P S H O T O F  
**GRAHAM COUNTY-NC**

**8,043 RESIDENTS**

**3,393 HOUSEHOLDS**

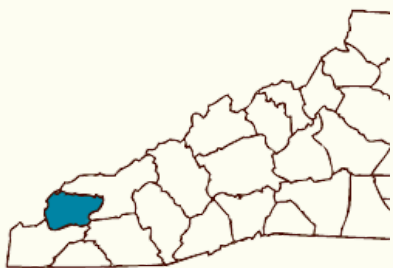
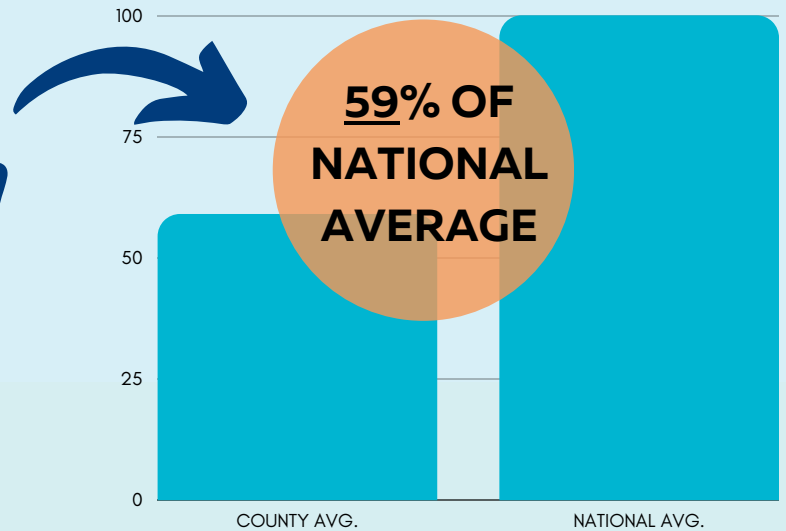
**30-YEAR GROWTH: 11%**

**MEDIAN HOME VALUE: \$119,000**



**AVERAGE MEDIAN HOUSEHOLD INCOME: \$42,207**

**PERSONS IN POVERTY: 16.6%**



**TIER 1**

*NC Dept. of Commerce  
County Economic  
Classification*

**AT-RISK**

*Appalachian Regional Commission  
Economic Status Classification*



**HIGHSCHOOL OR HIGHER:**

**82%**

**BACHELOR'S DEGREE OR HIGHER:**

**13.3%**

**UNEMPLOYMENT RATE:**

**5%**

\*DECEMBER 2022 DATA



# DIGITAL INCLUSION DATA FOR GRAHAM COUNTY, NC

**92.2 %**

*% population with  
25/3 mbps*

**82.2 %**

*% population with  
100/20 mbps*

**13.2 %**

*% population with  
Fiber*

**2.89 %**

*% population with  
no providers*

**3.98 %**

*% population with  
DSL only*

**55.2 %**

*% population  
with broadband  
subscription*

**23.3 %**

*% population with  
no internet access*

**20.9 %**

*% population with  
no computer or  
device*

**8.1 %**

*% population with  
only smartphone*

**38.8 %**

*% population that has a household income  
less than \$20,000 and does not have an  
internet subscription*



# ASSET INVENTORY

*\*this is not an exhaustive list, but discloses most information gathered*

for Graham County

## BROADBAND

### MOBILE/FIXED

Broadband exists in some areas. Unreliable and weak in many situations.

Providers include  
Balsam West,  
Frontier,  
StarLink,  
Hughes Net,  
Zito Media

### PUBLIC WIFI

Public WiFi is limited, but available at:

Library, Town,  
Methodist Church,  
Five Points Ctr.,  
Elementary & High  
School, Wendys,  
McDonalds

### HOTSPOTS

Hotspot capability is tied to cell service, which is non-existent and unreliable in many areas.

Graham County  
Public Schools

44%

RESIDENTS WITH BROADBAND SUBSCRIPTION

## LITERACY

### DIGITAL LITERACY & SKILLS OPPORTUNITIES

- 1-1 sessions available at Five Points Community Center
- Continuing education and small business classes at Tri County Community College

## DEVICES

### PUBLIC COMPUTER ACCESS POINTS & DEVICE LENDING PROGRAMS

- GCPS- enrolled students have access to a device for the school year
- Graham and Snowbird Public Libraries- computer lab on site available to the public
- Five Points Community Center- computers on site available to the public

# NEEDS IDENTIFIED

for Graham County

BROADBAND

LITERACY

DEVICES

- Better broadband infrastructure- coverage and reliability
- Improved cell phone service coverage- coverage and reliability
- Increased ISP competition
- More affordable ISP options
- More public WiFi accessibility- quantity and quality
- Indoor public WiFi locations like community centers and rescue squads
- Expanded town WiFi (area and bandwidth)
- Improved communications to enhance awareness and relevance of programs- highlighting opportunities and peaking interest to more people in the community
- Classes and tutoring for digital skills
- Better marketing of the benefits of learning digital skills
- Training that "meets people where they are"- physical location, language, skill and comfort level
- A training "go to" person or organization
- Devices that can be "checked out"
- Affordable device options
- More services for the most rural areas, where both cell service and broadband are non-existent
- Improved, realistic mapping of actual coverage areas

## DIRECT QUOTES FROM COMMUNITY INPUT ↓

"I missed an important online job interview because my internet stopped working."

"The entire road of houses I live on do not have broadband or hotspot access."

"I pay my internet bill every month even though it only works about half the time."

"Please teach people this is important and to move away from the 'make do' mentality."

There are many needs that were identified for Graham County through this Digital Inclusion Planning process. While the list above isn't all inclusive, it includes those most frequently discussed.

# Strategic Priorities for Graham County

## **#1 Improve **AVAILABILITY** of broadband throughout Graham County.**

- Pursue future funding opportunities that address broadband access. (1.1)
- Identify, promote, and increase free WiFi across the county, particularly in rural areas, to identify accessibility, engaging with local community groups and other partners to utilize potential sites. (1.2)
- Create a map that depicts accurate broadband and cell service availability. (1.3)

## **#2 Improve **ADOPTION** by creating digital programming that improves literacy, enhances skills, builds confidence and empowers residents to fully participate in the digital world.**

- Provide training that targets specific community needs. (2.1)
- Establish a comprehensive inventory of local digital literacy efforts. (2.2)
- Partner with trusted organizations to provide space for digital training centers and/or support training events. (2.3)
- Identify and/or develop Digital Navigator or similar programs to provide digital literacy training and support for other digital needs in the community. (2.4)
- Enroll more residents in affordability programs. (2.5)

## **#3 Improve **ACCESS** by ensuring that every person in Graham County has access to a device that meets their needs to fully participate fully in the digital landscape.**

- Enable accessible and user-friendly community centers and other public spaces with internet and device capabilities, particularly in low-adoption and low-access areas. (3.1)
- Promote and/or develop existing opportunities to remove barriers to device ownership. (3.2)
- Provide technical support for set-up, maintenance, and troubleshooting. (3.3)
- Create and promote a device donation, repair, and refurbishment program. (3.4)

## **#4 Build structure and organization to support long-term Digital Inclusion **SUCCESS**.**

- Designate a "Digital Champion" (a digital inclusion point-person) for Graham County. (4.1)
- Create and maintain an "information clearinghouse" to house all digital information for Graham County. (4.2)
- Build awareness by developing an outreach and communication strategy to assist with plan implementation and community engagement. (4.3)
- Pursue future funding opportunities that address digital inclusion. (4.4)
- Create and deploy a mobile maintenance/troubleshooting unit. (4.5)