



THE STATE OF TENNESSEE DIGITAL OPPORTUNITY (DE) PLAN

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TENNESSEE DEPARTMENT OF ECONOMIC AND
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V.1

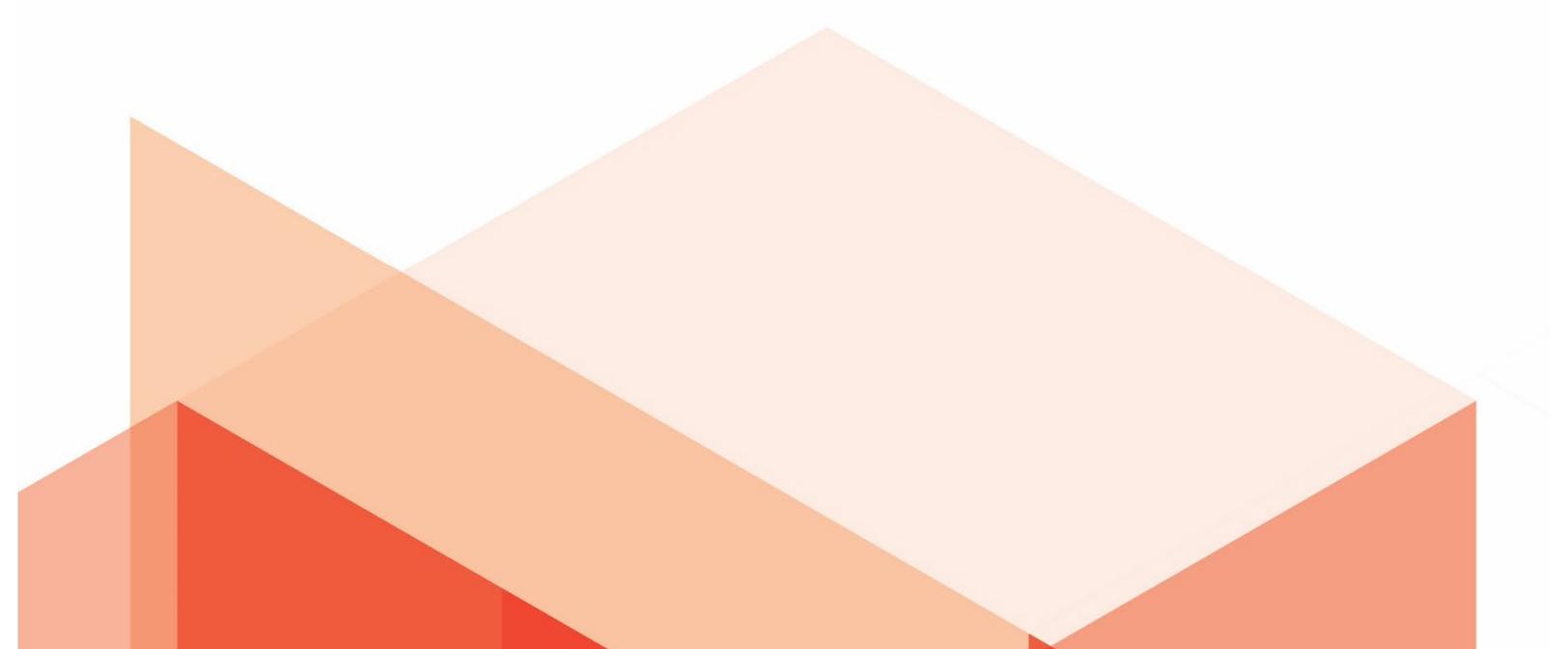


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1. Executive Summary

Digital Opportunity in Tennessee

The State of Tennessee is home to rich cultures, histories, and diverse communities that drive innovative and creative work ranging from healthcare, agriculture, entertainment, and much more. For over a decade, Tennessee has experienced explosive population and economic growth, consistently attracting thousands of people to move to the state each year.

However, amidst the remarkable innovation and economic potential, the digital divide (defined as the economic, educational, and social inequalities between those with computers and online access and those without) remains prevalent in Tennessee.

The challenges presented in achieving Digital Opportunity for all Tennesseans are immense.¹ The National Telecommunications and Information Administration (NTIA) estimates that over 80% of Tennesseans belong to a covered population or a group of people that may be disproportionately impacted by the digital divide.² Urban and rural communities as well face significant barriers in closing the digital divide. Accessibility gaps and the lack of broadband infrastructure, often influenced by rugged terrains and low population densities, prevent many rural Tennesseans from accessing high-speed internet service. Tennesseans in urban communities face similar challenges due to aging infrastructure, the need for upgraded future-proof technology, and historical patterns of underinvestment. For both urban and rural Tennesseans, the most significant barrier to accessing the Internet and other digital resources is the cost of reliable, high-speed internet.

Since 2017, the State of Tennessee has invested in expanding broadband infrastructure and digital adoption programs. More than \$800 million has been invested in broadband infrastructure, with over \$50 million invested in programs

¹ Digital opportunity is the idea that all individuals and communities have the resources to access the internet, including existing broadband infrastructure in their communities, affordable internet service, access to technology, and digital literacy tools.

² Digital Equity Act Population Viewer (census.gov). NTIA has identified eight covered populations including: aging individuals (persons aged 60 and up, individuals with language barriers and/or low levels of literacy, individuals with disabilities, incarcerated individuals, individuals who live in a covered household, racial/ethnic minorities, rural residents, and veterans).

supporting adoption, including basic digital skills training, advanced digital skills certifications, the establishment of broadband-focused community facilities, and free public Wi-Fi access points.

Despite our historic investments into infrastructure and adoption programs, many Tennesseans still lack access to high-speed internet, devices, and the digital skills necessary to make full use of the opportunities presented by the digital economy. The Department of Economic and Community Development (TNECD) is working to address these challenges by creating a comprehensive strategy for Digital Opportunity where all Tennesseans have the resources needed to thrive in the 21st century.

Our Vision for Digital Opportunity

Tennessee's vision for digital opportunity is ensuring that all Tennesseans have access to affordable and reliable internet service, dependable technology, and the digital literacy skills necessary to empower individuals to access all digital opportunities fully.

In leading statewide efforts to achieve digital opportunity for all Tennesseans, TNECD aims to achieve three main things: serve as a catalyst to magnify current efforts, convene stakeholders and communities to develop new relationships, and communicate success stories and best practices that unfold across the state.

Alignment with Tennessee's Broader Goals

The Digital Equity Plan's stated objectives (see section 2.3) will interact with the State's broader goals around economic and workforce development, educational outcomes, health outcomes, civic and social engagement, and the delivery of other essential services.³

Broadly, Tennessee's goals as a state are:

- Economic and Workforce Development: To be the #1 State in the Southeast for high quality jobs.
- Educational Outcomes: To be the fastest improving state in the country.
- Health Outcomes: To promote healthy behavior and provide high quality services to our most vulnerable populations.

³ Goals listed can be found at [Governor's Priorities - Transparent Tennessee - TN.gov](https://www.tn.gov/governor/priorities).

- Delivery of other Essential Services: To be the best managed state, providing high-quality services at the lowest possible price to taxpayers.

Creating the Plan

In the fall of 2022, TNECD began undertaking efforts to assess the state of Digital Opportunity in Tennessee. To do this, TNECD engaged in extensive stakeholder engagement efforts to build new relationships with other state agencies, local governments, non-profits, and other organizations serving covered populations in the state. These efforts included:

- Forming Tennessee's first Digital Opportunity Taskforce
- Hosting 17 community-based listening sessions across the state
- Creating the Digital Opportunity Listening Session Facilitator Toolkit
- Deploying online surveys to identify needs and barriers
- Launching of a statewide Digital Opportunity Asset Inventory
- Convening of covered population working groups
- Hosting Tennessee's first Digital Opportunity Summit with 84 participants
- Countless stakeholder presentations and meetings

From these efforts, TNECD gathered information and data surrounding the needs of Tennesseans as they relate to accessing the Internet and its resources. Additionally, a Digital Opportunity Asset Inventory was built to understand what resources exist today to help close the digital divide for Tennesseans.

What We Learned

Needs and Barriers

TNECD's outreach and engagement efforts yielded better understandings of the challenges faced by individuals and families in our state when trying to utilize the Internet. From our efforts, TNECD has both qualitative and quantitative insights into the key barriers faced by Tennesseans when trying to access digital opportunities.

Affordability emerged as the top barrier across all covered populations and communities in Tennessee. Many Tennesseans forgo an internet subscription to pay for basic needs like food and water. For others who may have internet access, the cost of high-speed internet services that can support online schooling and remote work remain out of their purchasing power or pose a financial burden.

Digital Skills surfaced as another key barrier for Tennesseans. Many communities across the state reported a need for both foundational skills and advanced workforce-related skills. Aging individuals reported lacking basic skills as a barrier at higher rates than other covered populations. During conversations surrounding employment opportunities and higher education, the need for advanced skills was reported statewide particularly in conversations focused on serving covered populations.

Technical Support for devices and internet equipment was communicated by Tennesseans to be a significant barrier. Tennesseans also reported limited resources around troubleshooting, technical repairs, and maintenance services.

Access to Quality Devices like laptops and tablets prevents many Tennesseans from accessing opportunities online. Most Tennesseans have a smartphone, but many lack access to a device that enable remote working, online education, and other useful digital applications.

Online Safety and Privacy is a major concern for many in our state. Tennesseans expressed concerns for the safety of both children and aging individuals utilizing the Internet. Ensuring that personal information remains secure surfaced as a key barrier preventing broader internet use for some in our state. In conversations with Tennesseans, TNECD noticed a correlation between a lack of digital skills and concerns about online safety.

Assets We Found

Across the state, TNECD's outreach efforts identified over 150 assets relating to digital opportunity. This effort entailed launching an online survey and calling campaign to connect with partners statewide. The assets identified ranged from programs and services provided by stakeholders like non-profits, state agencies, higher education institutions (Tennessee Colleges of Applied Technology (TCAT), Historically Black Colleges and Universities (HBCUs), etc.) and more. Identifying the existing assets helped TNECD build a catalogue of available services and forge new connections in our efforts to cultivate a broader awareness and community surrounding Digital Opportunity.

Digital Opportunity Strategies and Activities

The Digital Opportunity plan will outline the goals TNECD aims to achieve and the strategies we hope to deploy to close the digital divide for all Tennesseans.⁴ Our primary objective is to expand existing digital opportunities by working with our stakeholders to increase the availability and quality of services provided statewide. TNECD also seeks to build upon existing state programs to ensure longevity to the efforts we currently have underway.

TNECD has six major goals related to Digital Opportunity:

1. Increase digital adoption rates in Tennessee (Digital adoption is defined here as the act of subscribing to internet service)
2. Improve online accessibility and inclusivity of state agencies' resources
3. Expand workforce development opportunities through access to digital skills trainings
4. Increase number of resources that promote Internet safety and privacy practices
5. Expand Digital Opportunity Infrastructure and Awareness Statewide (i.e. telehealth, digital skills, online safety, technical certifications, etc.)
6. Expand access to affordable devices for personal and common use

Looking Forward

The Digital Opportunity Plan outlines proposed strategies and activities to address the needs of Tennesseans. They include launching programs to increase digital adoption rates, partnering with community anchor institutions to expand digital skills training opportunities, and investing in grassroots outreach campaigns to connect with covered populations. This plan is just the start of a long-term state investment in digital opportunity initiatives. The Digital Opportunity plan will serve as a guide to craft new programs tailored to the state's digital needs. Collaboration and stakeholder engagement is key to the successful implementation of this plan and monitoring our progress towards achieving Digital Opportunity for all Tennesseans.

Foundational to this effort is recognizing that digital opportunity is a need across the **entire state** of Tennessee. Communities, urban and rural, in our state face both similar but also distinct challenges. TNECD has and will continue to invite

⁴ Please see Section 2.3 for "Strategies and Objectives" and Section 5 for "Key Activities"

stakeholders from throughout our state into this conversation as we prepare to continue and expand our investments towards closing the digital divide. Only through a coalition representative of our state's unique and diverse communities can we truly hope to achieve digital opportunity for all Tennesseans. We approach current and future efforts through a growth-oriented mindset – meaning we look to craft solutions that build upon our strengths, leverage our existing assets, and enhance the economic potentials of our communities.

By working together with nonprofits, educational agencies, community-based organizations, and state and local governments, TNECD can enrich the lives of all Tennesseans and expand access to economic, educational, health, and social opportunities.

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2. Vision and Strategies

2.1 Vision

Today, access to high-speed, reliable internet is a necessity, not a luxury. The Internet touches every aspect of daily life, from education to healthcare, entertainment to housing, and civic participation to the labor workforce. Tennessee has long recognized that the Internet is a crucial tool that all residents should be afforded and has taken great strides to make that a reality. In 2017, the state passed the Tennessee Broadband Accessibility Act (TBAA), which allocated funds to build broadband infrastructure in previously unserved areas. Since then, more than \$800 million has been invested in broadband infrastructure and digital adoption programs.

Despite these efforts, several portions of the state still need to be equipped with infrastructure capable of sustaining high-speed, high-quality, internet access (here defined as 100mbps upload/20 Mbps download, formerly defined as 25mbps upload/3mbps download). The Department of Economic and Community Development estimates that 568,000 Tennesseans lack access to broadband infrastructure with 100/20mbps speeds. Thousands more in Tennessee struggle to afford internet service or lack the digital skills necessary to take advantage of remote job opportunities, online education programs, and other resources. Where a Tennessean lives often determines the quality of internet service that they have access to and shapes the quality of digital opportunities afforded to them. As the number of quality jobs created in the state increases, it is imperative to equip the entire population with the tools required to fulfill these job opportunities. Moreover, reliable internet access is crucial in accessing social services, receiving healthcare, and connecting with loved ones.

Tennessee's Vision Statement for Digital Opportunity:

Tennessee's vision for digital opportunity is ensuring that all Tennesseans have access to affordable and reliable internet service, dependable technology, and the digital literacy skills necessary to empower individuals to fully access all digital opportunities.

In a digitally equitable Tennessee:

- Students and teachers will not struggle to access assignments outside the classroom.
- Doctors and other medical professionals will be able to easily communicate with patients.

- Senior citizens and other vulnerable populations will know how to use digital devices safely and stay connected with friends and loved ones.
- Tennessee will become an even more competitive state for business opportunities once its entire workforce has access to high-speed internet.
- Tennessee can continue honoring its commitment to offering high quality, efficient services.
- All Tennessee communities, regardless of location, will be strengthened when all Tennesseans have access to high-speed internet and have the resources to adopt.

To achieve Digital Opportunity, all Tennesseans must have access to available and affordable broadband infrastructure regardless of their geographic location, educational attainment, or income level. We advocate for a long-term investment in broadband infrastructure maintenance and digital skills training across the state. In a digitally equitable Tennessee, an extensive network exists between internet service providers, digital inclusion non-profits, the state Broadband Office, and the public that collectively works towards closing the digital divide. Innovative and impactful digital opportunity work has been present in the state for years but often with limited resources. The State Broadband Office hopes to support existing digital opportunity work and develop new initiatives to guarantee that every Tennessean who wants to access the Internet can do so easily. The vision for the state's Digital Opportunity Plan is to develop strategies to establish sustainable digital opportunity programming that empowers Tennesseans to expand their capacity for employment, promote information sharing across partners, organizations, and agencies tied to digital opportunity, and most importantly, achieve Digital Opportunity in Tennessee through tangible programs and resources.

The broad goals that accompany our vision are as follows:

- Build a statewide network for Digital Opportunity of state agencies, nonprofits, local governments, and internet service providers.
- Increase job opportunities in Tennessee.
- Improve health outcomes by increasing access to healthcare providers via telehealth.
- Increase internet safety among vulnerable populations.

2.2 Alignment with Existing Efforts to Improve Outcomes

Digital Opportunity is inherently intersectional, touching almost every aspect of life and many communities in many ways. As such, Tennessee's Digital Opportunity Plan is intended to interact with, build upon, and support existing and/or planned efforts in the state to improve outcomes for community members. The section will outline how the Broadband Office anticipates the Digital Opportunity Plan interacting with existing and planned efforts and the ways in which the Broadband Office will coordinate its use of funds from the State Digital Equity Capacity Grant Program, the Broadband, Equity, Access, and Deployment (BEAD) Program, and other funding sources.

Alignment with the BEAD, State Digital Equity Capacity Grant Program, and other Funding Sources

The strategies developed in the Digital Opportunity Plan will be implemented alongside multiple broadband infrastructure and digital adoption funding sources. These funds include Tennessee Emergency Broadband Fund-American Rescue Plan (TEBF-ARP) Act, ARPA State and Local Fiscal Recovery Fund, ARPA Capital Projects Fund, and BEAD funding.

The Digital Opportunity Plan and the NTIA State Capacity Grant funding will coordinate closely with the BEAD Five-Year Action Plan (FYAP) to create a tactical approach to closing the digital divide in Tennessee. The primary focus of the FYAP will be developing a strategy to equip the entire state with the infrastructure necessary to access high-speed internet. However, the FYAP will also address digital adoption strategies such as digital skills training, device access, broadband affordability, and workforce development. We believe that these factors all contribute to the success of broadband infrastructure projects and impact project take rates. Tennessee's Digital Opportunity Plan will complement the FYAP by crafting detailed strategies to deploy digital opportunity resources that coincide with the infrastructure projects funded through Tennessee's BEAD allocation. In doing so, Tennessee plans to have a comprehensive approach to addressing broadband and digital opportunity needs in the state.

TNECD is currently working to deploy \$185M in Last Mile and Middle Mile Infrastructure from the American Rescue Plan Act (ARPA) Capital Projects Fund. The Last Mile Program focuses on three specific counties that the state has identified as high-cost areas due to population density and geographic challenges. These counties

are Polk, Wayne, and Hardin. TNECD will deploy up to \$20M per county to connect the remaining unserved households and businesses. For the Middle Mile Program, applicants may apply for any eligible area (locations lacking 100/20mbps) in the remaining 92 Tennessee counties. The Middle Mile Program has a required last mile component and must demonstrate new and or improved service in an unserved (lacks 25/3mbps) or underserved area (lacks 100/20mbps). Both programs are being deployed on the same timeline, with applications due October 16, 2023. We anticipate award announcements to be made in January 2024. All awarded grant dollars must be spent within the 2-year contract period.

Additionally, in September 2022, TNECD invested \$447M in ARPA funding, through the TEBF-ARP Program, to deploy high-speed internet to over 124,000 households and businesses. This program will serve more than 310,000 Tennesseans across 75 projects in 58 counties by August 31, 2025. Construction has begun for many of these projects as of September 2023.

For all TNECD broadband infrastructure programs, we require applicants to participate in the ACP Program or a comparable low-cost plan. Adoption plans are considered as part of the application process and are reported upon in both quarterly and annual grant reports. Through all broadband infrastructure programs since 2018, TNECD has invested \$556.7M in state and federal funds to serve over 660,000 Tennesseans across 260,000 locations.⁵ These projects are being leveraged as we build a strategy to get the remaining Tennesseans served with high-speed internet, as well as address other digital opportunity concerns.

Alignment with Existing Broadband Programs

The Digital Opportunity Plan aligns with the State of Tennessee's goals to recruit high-paying, high-quality jobs to the state, improve rural health outcomes, and remove cost barriers to internet services. The plan will build upon two existing state programs that work towards digital adoption and inclusion: Tennessee State Library and Archives' Training Opportunities for the Public (TOP) Grants and TNECD's Broadband Ready Communities (BRC). Tennessee established both programs with the Broadband Accessibility Act (2017). The TOP grants allocate funds to public

⁵ [Broadband Assistance \(tn.gov\)](https://www.tn.gov/broadband-assistance) shows the various broadband programs that have been funded and which counties have received the funding.

libraries for hotspots, laptop equipment, and digital skills training for their local communities.

BRC encourages counties and localities to attract broadband infrastructure projects in their areas by removing local administrative barriers to deploying broadband. Counties that are “Broadband Ready” pass an ordinance recognizing broadband as an important need and commit to removing administrative barriers (*see Appendix B for sample BRC ordinance*). Historically, broadband infrastructure applications in counties with the “Broadband Ready” designation are awarded additional points on state grant applications. The Broadband Ready Communities Program has been redesigned to provide funding for every county to promote digital adoption work in their communities. Under the revamped program, counties can apply to be “Adoption Ready” and receive up to \$100,000 to pursue digital adoption programming in their local communities, which can include: purchasing digital devices for county residents to utilize, hosting digital skills training, promoting the Affordable Connectivity Program, etc. The non-competitive grant program will open in October 2023 and TNECD will announce awards in the Spring of 2024.

In addition to the two existing programs above, there **are two new digital adoption programs launching in fall of 2023: Digital Skills, Education, and Workforce Grant Program (DSEW) and Connected Community Facilities (CCF).**

DSEW will invest in evidence-based initiatives that focus on improving foundational and advanced digital skills. The goal of this program is to support skilling programs that help individuals develop the technical proficiency required to navigate complex digital environments, participate in the digital economy, and drive innovation. Under workforce development, this program aims to develop a well-trained and diverse telecommunications workforce needed to deploy, manage, and upkeep broadband infrastructure.

CCF aims to construct and improve digital access through constructing new buildings or rehabilitating current spaces. The Connected Communities Facilities Grant Program is funded by the Capital Projects Fund (CPF) and the State Local Fiscal Recovery Funds (SLFRF). Eligible applicants for this program are units of local government in Tennessee or non-profit organizations applying in partnership with local governments. CCF will allow communities to build new or rehabilitate community facilities to provide these services, including broadband access, in one location. The goal of CCF is to allow for digital skills training and workforce development, virtual health monitoring, and virtual education within one facility.

Alignment with State's Broader Goals

The Digital Equity Plan's stated objectives (see section 2.3) will interact with the State's broader goals around: economic and workforce development goals, plans, and outcomes, educational outcomes, health outcomes, civic and social engagement, and delivery of other essential services.⁶

Economic and Workforce Development: To be the #1 State in the Southeast for high quality jobs.

Tennessee's most significant priorities are recruiting and retaining high-quality jobs for Tennesseans and reducing the number of distressed and at-risk counties in our state. While the state invests in creating high-quality jobs, we must also cultivate an equally skilled workforce to perform these jobs. The National Skills Coalition found that 90% of all job postings in Tennessee would likely require digital skills to perform the duties across several career sectors.⁷ To meet this need, TNECD seeks to support digital skills trainings for adult populations focusing on industry-specific digital skills programming. Proficient digital skills for Tennessee's workforce can lead to a wage increases and new opportunities for advancement in the careers of Tennesseans. Expanding affordable internet access will also increase the number of remote work opportunities in the state, enabling Tennessee's rural communities to retain and recruit more higher-skilled workers.

Educational Outcomes: To be the fastest improving state in the country.

Tennessee strives to provide the best educational opportunities for all students, regardless of their academic level. General digital literacy is required to equip Tennessee students with a well-rounded education and increases higher education and career opportunities. The Digital Opportunity Plan's goal to collaborate with experts and develop a robust digital literacy framework will further the goal to continuously improve educational outcomes in Tennessee.

The state's Digital Opportunity Plan also coincides with the computer science education requirements that will be implemented in K-12 public schools beginning in 2024. The **Chapter 979 of the Public Acts of 2022** requires middle school and high school students to take at least one computer science course and requires

⁶Goals listed can be found at [Governor's Priorities - Transparent Tennessee - TN.gov](#).

⁷ National Skills Coalition Data

elementary students to have appropriate computer science curriculum that cover topics like problem-solving and internet safety.⁸ The strategies that emerge from the Digital Opportunity Plan will be particularly relevant to the Department of Education as they begin to formally teach digital skills, cybersecurity, and computer science among public school students. As these requirements take effect, the Broadband Office identifies a unique opportunity to share resources and develop best practices around promoting digital skills and internet safety with educational professionals. The recent computer science requirements further emphasize the need to ensure all students have access to high-speed internet and the skills necessary to perform well academically and in the workforce.

Health Outcomes: To promote healthy behavior and provide high quality services to our most vulnerable populations.

Access to quality health services is not equitable across the state. The Department of Health’s “Uninsured Adult Healthcare Safety Net Annual Report” of 2021 revealed that nearly every county in Tennessee had a shortage of providers for primary health, dental care, and/or mental health services.⁹ The report also stated that several uninsured patients served by the Safety Net Programs (many with income levels below the Federal Poverty Line) received telehealth services. Telehealth services offer a means to expand accessibility to medical professionals, especially among covered populations such as members of a low-income households and/or individuals with disabilities where transportation and/or mobility issues may present challenges to acquiring healthcare in a “traditional” setting. The Digital Opportunity Plan’s goals to increase digital adoption rates (defined as an individual subscribing to an internet service) and increase access to public Wi-fi will help increase access to telehealth services across the Tennessee.

Since telehealth services have become increasingly important, there is a need for improved access to devices and high-speed internet for all Tennesseans, regardless of location. Additionally, healthcare workers need quality devices and the digital skills necessary to provide quality care to patients. By increasing access and skills, we can ensure that all Tennesseans, receive high-quality telehealth services.

⁸ <https://www.tn.gov/content/dam/tn/education/2022-legislative-session/Computer-Science-FAQs.pdf>

⁹ [SN-Report-FY21.pdf \(tn.gov\)](#)

Civic and Social Engagement

A civically and socially engaged society depends on all citizens having reliable access to information. Digital devices and platforms (i.e., Social media, online news outlets, etc.) are one of the main ways individuals currently access information and resources. Therefore, every individual in Tennessee must have access to affordable digital devices that enable them to learn about important information and resources relevant to their lives.

Delivery of other Essential Services: To be the best managed state, providing high-quality services at the lowest possible price to taxpayers.

Tennessee has a long tradition of delivering quality services to its residents in an efficient and cost-effective manner. The State’s Digital Opportunity Plan will support the state’s goal by equipping the public with the skills and access necessary to utilize state services virtually.

2.3 Strategies and Objectives

Tennessee’s ultimate objective is to expand existing digital opportunities by working with community anchor institutions to provide quality digital services and resources. The designed strategies suggested in the Digital Opportunity Plan craft an interconnected approach to digital opportunity. Each individual strategy is designed to address one facet of digital opportunity; taken together, they form a nuanced approach to addressing multiple barriers to internet access. Several strategies build upon existing initiatives and involve cross-sector collaboration. Table 1 outlines the six general Digital Opportunity goals and corresponding vital strategies. The rest of the section will discuss the goals and strategies in more detail.

Figure 1: Goals and Strategies

GOAL:	KEY STRATEGIES
Broadband Availability and Affordability: Increase digital adoption rates in Tennessee (defined here as the act of subscribing Internet service)	<ul style="list-style-type: none">• Support ACP enrollment efforts statewide• Increase take_ rates in state-funded broadband infrastructure projects

	<ul style="list-style-type: none"> Promote public-private partnerships that expand internet access
<p>Online Accessibility and Inclusivity:</p> <p>Improve online accessibility and inclusivity of state agencies' resources for all populations</p>	<ul style="list-style-type: none"> Promote online inclusivity by providing grant opportunities to organizations serving covered populations Ensure state-produced resources are accessible across different communities in need of inclusion.
<p>Digital Skills:</p> <p>Expand workforce development opportunities through access to digital skills trainings</p>	<ul style="list-style-type: none"> Develop a curriculum for digital skills readiness encompassing online safety and cybersecurity. Expand availability of digital skills trainings among community anchor institutions statewide Increase the availability of digital skills and credentialing programs statewide among institutions serving primarily covered populations
<p>Online Privacy and Cybersecurity:</p> <p>Increase Tennesseans' knowledge of how to utilize the Internet and devices safely</p>	<ul style="list-style-type: none"> Identify/develop partnerships with existing state initiatives around internet safety
<p>Digital Opportunity Ecosystem:</p> <p>Expand Digital Opportunity Infrastructure and Awareness Statewide (i.e. telehealth, digital skills, online safety, technical certifications, etc.)</p>	<ul style="list-style-type: none"> Expand capacities for telehealth services Continue statewide outreach efforts supporting Digital Opportunity

	<ul style="list-style-type: none"> Track the impact of digital opportunity efforts in Tennessee and provide annual reports to the public
<p>Device Access and Affordability:</p> <p>Expand access to affordable devices for personal and common use.</p>	<ul style="list-style-type: none"> Provide pathways for to purchasing subsidized devices Promote device refurbishment and redistribution

Goal #1: Increase digital adoption rates in Tennessee (Digital adoption is defined here as the act of subscribing to internet service)

Access to high-speed and affordable broadband infrastructure is a prerequisite to achieving Digital Opportunity. As such, Tennessee intends to encourage communities to subscribe to Internet services and work with Internet Service Providers (ISPs) to provide internet access among disadvantaged communities.

Strategies:

- a. Support ACP enrollment efforts statewide¹⁰
- b. Increase take-rates in state-funded broadband infrastructure projects
- c. Promote public-private partnerships that expand internet access

Key Performance Indicators (KPIs):

ACP enrollment percentage

- Baseline: 388, 353 households enrolled in ACP¹¹
 - **Roughly 1,184,000 households eligible for ACP**
- Short Term Goal: See an increase in ACP enrollment by 15% among eligible TN households
- Long Term Goal: See an increase in ACP enrollment by 35% among eligible TN households

¹⁰ The Affordable Connectivity Program (ACP) is a program administered by the Federal Communications Commission (FCC) and as such, ACP participation rates will serve as a general leading indicator to internet subscriptions rates in Tennessee.

¹¹ [Institute of Local Self-Reliance ACP Dashboard](#). As of August 7th, 2023.

Percentage of Tennessee households with internet subscriptions (at least 100/20 mbps)

- Baseline: 227,305 estimated residential locations with lacking access to 100 Mbps Download x 20 Mbps Upload Speeds¹²
- Short Term Goal: 25% decrease in those lacking access to 100 Mbps Download x 20 Mbps Upload Speeds
- Long Term Goal: 50% decrease in those lacking access to 100 Mbps Download x 20 Mbps Upload Speeds

Number of grants provided to support public-private partnerships surrounding low or reduced-cost internet service subscriptions.

- Baseline: 0 grants currently provided
- Short Term Goal: 5 grants provided for low or reduced-cost internet service subscriptions.
- Long Term Goal: 10 grants provided for low or reduced-cost internet service subscriptions.

Goal #2: Improve online accessibility and inclusivity of state agencies' resources

Existing online resources can be inaccessible to covered populations, especially individuals with disabilities, individuals with language barriers, and individuals with low levels of literacy. The State Broadband Office wants to ensure that state online resources are accessible to all Tennesseans.

Strategies:

- a. Promote online inclusivity by providing grant opportunities to organizations serving covered populations (ex. Cultural, health, housing organizations)
- b. Ensure state-produced resources are accessible across different communities in need of inclusion

KPIs:

Number of digital opportunity grants awarded to organizations/agencies serving covered populations in TN.

- Baseline: 0 Current Grants
- Short Term: Award 5 Grants
- Long Term: Award 10 Grants

¹² Connected Nation, 2022

Number of state website pages with accessibility features for visual/audio impairments, individuals with language barriers, etc.

- Baseline: Will be determined during Implementation
- Short Term Goal: Update the Department of Economic and Community Development's website to be accessible to individuals with language barriers and/or individuals with visual/audio impairments
- Long Term Goal: Identify accessibility issues and provide recommendations to 10 state departments' websites

Goal #3: Expand workforce development opportunities through access to digital skills trainings

As Tennessee continues to recruit high-quality jobs, Tennesseans must have the digital skills necessary to use various software and equipment that professions require across many sectors. There is also an increased demand for coding and other technology-specific digital skills in the job market. We aim to expand opportunities to acquire general digital and industry-specific skills that contribute significantly to the state's workforce.

Strategies:

- a. Develop a curriculum for digital skills readiness encompassing online safety and cybersecurity
- b. Expand availability of digital skills trainings among community anchor institutions statewide
- c. Increase the availability of digital skills credentialing programs statewide among institutions serving primarily covered populations

KPI:

Number of locations providing digital skills trainings through TNECD Broadband Grants

- Baseline: 50 TOP grants awarded in Fiscal Year 2023
- Short Term Goal: Increase the total number of training locations in all grand divisions of TN
- Long Term Goal: Digital Skills trainings are available in all TN counties

Goal #4: Increase number of resources that promote Internet safety and privacy practices

As society increasingly relies on the Internet and digital services, all community members need to learn how to use online tools safely. Tennesseans reported online safety and awareness as a concern for the Digital Opportunity plan, especially for aging individuals and Tennessee youth. TNECD aims to provide resources that promotes online safety.

Strategies:

- a. Identify/develop partnerships with existing state initiatives around internet safety

KPI:

Percentage of TN reporting confidence in utilizing digital resources safely

- Baseline: Not established yet
- Short Term: 30% of Tennesseans in courses with online safety component feel confident utilizing digital resources safely
- Long Term: 80% of Tennesseans in courses with online safety component feel confident utilizing digital resources safely

Goal #5: Expand Digital Opportunity Infrastructure and Awareness Statewide (i.e. telehealth, digital skills, online safety, technical certifications, etc.)

Digital Opportunity is a naturally intersectional concept; it impacts education, health, infrastructure, and social services, among other things. The Broadband Office wants to strengthen the state's "Digital Opportunity Infrastructure," meaning increase the availability of resources such as digital skills training and telehealth. Tennessee also intends to raise awareness around Digital Opportunity in the state by continuing statewide outreach efforts with community partners.

Strategies:

- a. Expand capacities for telehealth services
- b. Continue statewide outreach efforts supporting Digital Opportunity
- c. Track the impact of digital opportunity efforts in Tennessee and provide annual reports to the public

KPI:

Number of people engaged by Digital Opportunity outreach efforts.

- Baseline: About 1500 people engaged by planning efforts (Listening Sessions, Digital Opportunity Survey)

- Short Term Goal: 25,000 Tennesseans engaged during the outreach efforts and future digital opportunity initiatives
- Long Term Goal: 100,000 Tennesseans engaged during outreach efforts and future digital opportunity initiatives

Goal #6: Expand access to affordable devices for personal and common use.

High-speed broadband access will still be inaccessible to many Tennesseans without access to an affordable, digital devices, like a computer or tablet. The Broadband Office wants to help increase device access in the state and the availability of public devices in community anchor institutions like libraries.

Strategies:

- a. Provide pathways for to purchasing subsidized devices
- b. Promote device refurbishment and redistribution

KPI: Number of large screen devices (laptops, tablets, assistive devices) distributed through the matching platform

- Baseline: 0
- Short Term Goal: 500 donated and/or refurbished devices received by communities through the matching platform
- Long Term Goal: 1,000 donated and/or refurbished devices received by communities through the matching platform

These strategies and objectives will serve as a guide for the implementation of Digital Equity and the core activities pursued. The State Broadband Office expects all covered populations to be impacted through these goals and strategies.

3. Current State of Digital Equity: Barriers and Assets

3.1 Asset Inventory Overview

The primary strategy for developing the asset inventory entailed a survey to collect information on existing digital inclusion assets in the state. NDIA's asset inventory template was used to develop Tennessee's Digital Opportunity Asset Inventory survey.¹³ Beginning in May 2023, the survey went selectively to the Tennessee Digital Opportunity Task Force members and then to organizations with existing relationships with the Broadband Office. The survey was edited following the initial distribution per recommendations from the Taskforce and others working with TNECD. Following these updates, the survey was distributed widely to organizations serving specific covered populations and other entities we identified as potentially offering digital opportunity resources.

Below is the opening message to the Digital Opportunity Asset Inventory:

Figure 2: Quote from TNECD's Digital Opportunity Asset Inventory Form

"As a part of Tennessee's Digital Opportunity planning, the Broadband Office is conducting an asset inventory of the existing digital opportunity programs/organizations. These can be statewide, regional, or local resources provided by public or private entities. If you or the organization you represent offers digital opportunity resources (resources include services around broadband access, device access, digital skills training/technical support, public devices, and internet access, and/or digital inclusion funding), please complete this survey. The State Broadband Office will integrate submitted applicable information into Tennessee's Digital Opportunity Plan. The survey should take about 10 minutes to complete."

One challenge with the Asset Inventory Survey was a high abandonment rate. Several sub-sections of the survey asked for details on the type of resources offered, potential costs associated with said services, and the number of Tennesseans served by these programs/resources. Organizations that completed the survey reported that some of the questions required collecting internal information, which made it a lengthier process. Individuals also noted that specific questions were confusing or could be interpreted differently. We addressed this issue by placing clarifying

¹³ Please visit [Asset Mapping - National Digital Inclusion Alliance](#) to see the Asset Mapping Template TNECD referenced.

information next to the five major categories (broadband access, device access, digital skills training/technical support, public devices + internet access, and/or digital inclusion funding) so respondents better understood the various categories.

Beginning in July, we circulated a shorter survey designed to learn what organizations have programs around digital skills training, device access, and public Wi-Fi access.¹⁴ In the condensed survey, we asked respondents if they would be willing to provide more information on their programs; those that selected “yes” were sent the Asset Inventory Survey. Additional to the two surveys, the Broadband Office self-identified active digital inclusion assets in the state. These organizations or agencies provide digital opportunity services to their community but have not completed our Digital Opportunity Asset Inventory.

The Broadband Office has identified roughly 150 Digital Opportunity Assets in the state across the Asset Inventory Survey, the shorter survey, and the office’s internal research. (Please see [Appendix C for the list of Digital Opportunity Assets](#)). Existing partners in the state were critical to identifying other digital inclusion organizations. Several of the organizations identified have primary focuses outside of digital opportunity but provide that qualify for the asset inventory. The availability of resources also varies regionally. Tennessee’s Digital Opportunity Asset Inventory will be updated and revised annually as the office discovers more organizations offering digital opportunity resources around the state. The Broadband Office’s broader goal is to utilize the information collected from the Asset Inventory and produce a public-facing map of all the identified resources in Tennessee.

3.1.1 Digital Inclusion Assets by Covered Population

This section contains a select list of organizations and resources that serve specific covered populations in Tennessee. These organizations were identified through the Digital Opportunity Asset Inventory, stakeholder engagement, and internal department research. Several organizations identified serve multiple covered populations. **This is not an exhaustive list** of digital inclusion assets by covered population. The asset inventory will be regularly updated as TNECD continues to identify organizations offering digital opportunity services.

¹⁴ The shorter survey was largely informing program development for ARPA- funded Digital Adoption Programs

Figure 3: Digital Opportunity Assets by Covered Population

Digital Opportunity Assets	Organization Description	Covered Populations Served							
Title and Link to Organization Website (if applicable)	Brief description of services offered as it relates to Digital Opportunity	Aging Individuals	Covered Households	Incarcerated/Recently Incarcerated Individuals	Individuals with Disabilities	Individuals with Language Barriers	Racial/Ethnic Minorities	Rural Residents	Veterans
AARP Older Adult Technology Services (OATS)	The OATS program provides educational programming for seniors around digital skills, online safety, and using digital devices.	X							
American Baptist College	American Baptist College (ABC) is a recipient of NTIA's Connecting Minority Communities (CMC) Pilot Program that provides grants to address the lack of broadband access and digital adoption in						X		

Digital Opportunity Assets	Organization Description	Covered Populations Served							
	minority-serving institutions. ABC is a core institution in the Nashville community and will be working to expand device and digital literacy access in North Nashville.								
The Arc Tennessee	Arc Tennessee is an advocacy organization that empowers individuals with disabilities and their families to better participate in their communities. The Arc provides an array of resources and trainings around special education and independent living. In May, Arc TN helped facilitate a Digital Opportunity listening session at the MegaTN conference.		X		X				
Blacks in Technology- Nashville Chapter	Blacks in Technology is a membership organization that promotes community in the technology space, promotes tech education in youth communities, and offers professional development opportunities.						X		
Centro Hispano	Centro Hispano offers workforce development courses for the Latino community in East TN.		X		X	X			
CodeCrew	CodeCrew offers coding and other computer					X			

Digital Opportunity Assets	Organization Description	Covered Populations Served							
	science foundational skills to youth and adult learners in Memphis. CodeCrew hosted a community Digital Opportunity Listening Session.								
Dismas House	Dismas House provides digital skills trainings within their reentry program for men returning from state prisons or county jails.			X					
Elimu Empowerment Services	Elimu Empowerment Services offers education, training, and career counseling to immigrants and refugees.		X		X	X			
Hispanic Family Foundation	Hispanic Family Foundation (HFF) offers a variety of social, health, cultural, and education services for the Hispanic community in the Nashville region. Hispanic Family Foundation offers digital skills trainings and distributes devices. HFF also hosted a Digital Opportunity Listening Session.	X	X		X	X	X	X	
Lane College	Lane College is a recipient of NTIA's Connecting Minorities Community Program and a core Community Anchor Institution in Jackson, Tennessee. Through their					X			

Digital Opportunity Assets	Organization Description	Covered Populations Served							
	CMC grant, Lane College aims to expand access to high-speed internet in the East Jackson neighborhood.								
Latino Memphis	Latino Memphis offers an array of educational, career, community, and policy services for the Latino community in Memphis.		X			X	X		
LeMoyne-Owen College	LeMoyne-Owen College (LOC) is a HBCU in Memphis. LOC's Center of Cybersecurity has been designated as a Center of Academic Excellence in Cybersecurity by the U.S. Department of Homeland Security, one of six higher education institutions in the state with the designation. In March 2023, TNECD hosted a Digital Opportunity Listening Session on LOC's campus.		X				X		
Persevere Now	Persevere Now offers coding-related programming and re-entry services to incarcerated individuals. They also established a Tech Alliance with Tennessee employers, state agencies, and community organizations to fill high-quality tech positions in the state.			X					

Digital Opportunity Assets	Organization Description	Covered Populations Served							
Refugee Empowerment Program (REP)	Refugee Empowerment Program offers digital literacy and workforce development services for refugees, asylees, and immigrants in the Memphis region.		X			X	X		
RoaneNet	RoaneNet refurbishes and donates devices to individuals in need. RoaneNet also provides basic digital skills trainings in rural East TN.							X	
Tennessee Department of Human Services	The Tennessee Technology Access Program (TTAP) is a statewide program designed to increase access to and acquisition of assistive technology devices and services. TTAP is partnered with Signal, Spark, and STAR centers all of which offer services to individuals with disabilities.				X				
Tennessee Department of Labor and Workforce Development- American Jobs Center	The American Jobs Center provides a variety of resources related to employment needs. There are locations across the state where Tennesseans can access Wi-fi and computers free of charge. American Jobs Center also provide support around job-searching and workforce related trainings or certifications.	X	X	X	X	X	X	X	X

Digital Opportunity Assets	Organization Description	Covered Populations Served							
Tennessee Department of Labor and Workforce Development- Office of Reentry	<p>The Office of Reentry is launching a Re-entry, Employment, and Adult Education (REAP) Tablet program that will be available in all Tennessee county jails. REAP will offer workforce development programming to incarcerated Tennesseans.</p>			X					
Tennessee Immigrant and Refugee Rights Coalition	<p>Tennessee Immigrant and Refugee Rights Coalition focuses on community organizing and advocacy initiatives across the state. The organization offers workforce development trainings which covers topics like internet browsing and job searching.</p>		X		X	X	X		
The Enterprise Center	<p>Based in Chattanooga, the Enterprise Center is a national leader for digital inclusion work. The organization oversees Tech Goes Home, a program that promotes digital literacy and device access, and the HCS EdConnect program which provides free high-speed internet to low-income students and families attending Hamilton County Public Schools. The Enterprise Center also convenes the Digital Access and Equity</p>	X	X	X	X	X	X	X	X

Digital Opportunity Assets	Organization Description	Covered Populations Served							
	Committee to work towards closing the digital divide in the Chattanooga region.								
Thrive Regional Partnership	Thrive hosts a Regional Broadband Alliance with counties in Tennessee, Georgia, and Alabama. As a coalition builder, Thrive supports research efforts, funding opportunities, and tackle challenges around digital opportunity.	X	X	X	X	X	X	X	X
United Ways of Tennessee	The United Ways of Tennessee support digital skills trainings for youth and seniors. United Way leverages the TN Afterschool Network (TAN) to provide STEM related educational programming. United Way also offers funding to local nonprofits to provide digital opportunity resources.	X	X		X	X	X	X	X
Urban League of Middle Tennessee	The Urban League of Middle Tennessee offers a range of economic, social, and development services across nine counties. They have offered digital skills trainings ranging from computer basics to job searching.	X	X	X	X	X	X	X	X

3.1.2 Existing Digital Equity Plans

As of this writing, the State did not identify any existing digital equity plans created by municipalities or regions throughout Tennessee. However, some existing economic development strategy documents and technology plans include goals

relevant to digital equity. There are digital equity related efforts occurring in some municipalities throughout the state. Digital Equity elements found in municipal development and strategy plans including Memphis, Nashville-Davidson County, Chattanooga, and Clarksville-Montgomery County will be discussed.

Memphis

The [2021 Smart Memphis plan](#) identifies digital equity as a larger component of the city's economic development strategy. The plan highlights existing efforts by the Memphis Public Libraries where they offer digital skills trainings and devices to residents of all ages. The Smart Memphis plan offers recommendations for expanding the libraries efforts including:

- Partnering with community centers to add capacities for offering digital literacy trainings
- Expanding free public Wi-Fi access points in the city
- Investing in programs supporting entrepreneurs, small businesses, and non-profits with digital resources
- Develop a formal program within the Office of Business Diversity and Compliance to support local tech companies and start-ups for workforce development goals.

A digital equity gap identified in the Smart Memphis Plan concerns the lack of programming and trainings around cyber security.

Nashville/Davidson County

[The Metropolitan Government of Nashville and Davidson County](#) (Metro-Nashville) has identified three digital inclusion goals but not yet outlined a detailed Digital Equity Plan. The goals are to:

- Expand program adoption for the American Connectivity Program (ACP) by increasing awareness of the program's existence for Davidson County residents
- Train non-profit staff in the county to serve as digital navigators – focusing on organizations working among individuals and communities who are likely to qualify for existing federal programs such as ACP.
- Collect data on digital services and assets to better understand the current state of digital inclusion across Davidson County.

This effort is being undertaken with Vanderbilt University where they will also assist Metro-Nashville with a series of public engagements to better understand community needs and opportunities for collaboration and sharing resources. Nashville is also home to the Digital Inclusion and Access Taskforce which was

established in 2020 to drive community-led digital equity work in Nashville. The taskforce gathered community leaders and digital inclusion experts to conduct Nashville's first digital needs assessment in 2021. For more information and the findings of the assessment, visit [Digital Inclusion Nashville](#). Some digital equity gaps identified in Metro-Nashville's stated goals concern cybersecurity, device access, and building an ecosystem of programming surrounding digital skills and workforce development.

Clarksville/Montgomery County

The Montgomery County government and City of Clarksville in upper-middle Tennessee put forward a joint [Technology Action Plan](#) in May of 2015. The plan includes a detailed analysis of the state of infrastructure, connectivity, and digital inclusion for the county. The plan mentions specific recommendations pertaining to digital equity including lowering the cost barriers to access internet services, expanding free access points across the county, distributing digital literacy content, establishing partnerships for digital skills trainings, and facilitating pipelines for refurbishing devices for re-use. The plan also identifies vulnerable populations within Montgomery County and program types that could address their specific digital needs as well as identifying partner organizations to provide those programs. Finally, the plan includes recommendations for digital literacy trainings including cybersecurity basics for new internet users and establishing pathways for device refurbishment.

Chattanooga

The Enterprise Center, a Chattanooga-based organization that implements digital skills training and inclusion programs, has a [Digital Access and Equity Committee](#) comprised of a wide range of organizations, governmental entities, and educational institutions that meets monthly. This committee was formed so community members could take a multi-channel approach to closing the digital divide in the region. Its membership is a key advocate for digital equity programs, not only in the southeast, but statewide. While Chattanooga hosts a wealth of digital equity programs but there is no formal digital equity plan for the City of Chattanooga or Hamilton County government identified. The EdConnect and Tech Goes Home programs in operation in Chattanooga are described in sections 3.1.1, 3.1.3, and 3.1.5.

Knoxville

The [Knoxville Utilities Board in Knoxville](#), Tennessee is currently undertaking efforts to build out a municipal fiber network in their service area. Within their vision statement is a plan to implement equity and inclusion goals surrounding digital literacy and skills development. There are no specific action items in the stated goals of the plan.

3.1.3 Existing Digital Equity Programs

The State does identify some operating digital equity/literacy programs operating in Tennessee supported through state grants and non-profit organizations.

TNECD provides **Training Opportunity for People (TOP)** grants to support digital inclusion efforts across Tennessee through the public libraries network. This program is a partnership between TNECD and the Tennessee State Library and Archives (TSLA), a division of the Tennessee Department of State. TNECD funds the program, and TSLA administers the grant program to libraries statewide.

Since 2018, nearly \$1.2 million of TOP grant funds have been awarded to public libraries across the state to support digital skills trainings, device purchases, circulating hotspots, and other programs that are identified as broadband-related community needs by local libraries. The digital literacy trainings supported by TOP grants have ranged from computer basics (device use, troubleshooting, Microsoft Office tools, setting up an email address, etc.) to more advanced trainings such as video editing and other advanced digital skills. Many of the trainings offered in libraries are geared towards adults and senior learners with limited digital skills. Williamson County and Memphis Public Libraries stand out with particularly robust public programs for online skills. Both library systems offer a range of programs including digital creativity-focused classes on photo editing to social media use alongside traditional office-based workforce development digital skills.

Chattanooga and Hamilton County are national leaders in digital equity and inclusion. **The Tech Goes Home (TGH)** programs offer information and opportunities for Tennesseans in the Chattanooga area to develop digital skills and purchase a low-cost device. Tech Goes Home Tennessee (TGH-TN) is an expansion of the original program in Chattanooga focusing on early childcare agencies and educators. TGH-TN features trainings intended to enable childcare providers to

receive technology incentives following program completion and operates in each subregion of Tennessee. The trainings include classroom-cohort models as well as 1-on-1 coaching on software including: word processing, spreadsheets, slideshows, calendar, and email. Class courses are 15-hours of training total spread over multiple sessions.

EdConnect is a program for students enrolled in Hamilton County Schools and their families that provides free 100Mbps internet connections to eligible households through a partnership with the Electric Power Board (EPB), their internet service provider. Eligible households include:

- those with a student receiving free or reduced lunch
- a household with a child enrolled in a school where all students are receiving free or reduced lunch
- households participating in SNAP or another economic assistance program

The program has funding available for the next ten years and provides continuous internet connection for the duration of a child's enrollment in Hamilton County Schools. There are no restrictions on the use of the service provided to children and their families, meaning other household members can make use of the free service for their needs as well.

The Nashville Digital Inclusion Fund is a digital inclusion resource that provides technical support, digital skills training, free and low-cost devices, as well as low-cost internet connectivity to support families in need.

The Tennessee Broadband Accessibility Map is a public-facing tool that allows users to see where broadband access is distributed in Tennessee as well as the type of speeds and technologies used.

There are several gaps identified among the digital equity programs operating in Tennessee. There is a significant need across our communities for trainings that address online safety and cyber security, device access for low-income individuals and households, and advanced digital skills that increase workforce development opportunities. Few resources exist statewide to educate and inform the public on how to safely navigate the internet and its resources. A deficit of resources exists at the state and local levels to provide access to connected digital devices (i.e. laptops, tablets, or another broadband connected device). Lastly, in areas where internet is lacking due to service or low speed offerings, there is a need for additional outreach on how the internet can provide opportunities for educational attainment,

healthcare monitoring, workforce development, precision agriculture, and other resources available through access to the digital economy. TNECD is working to ensure that adoption activities are prioritized in our broadband programs and outreach, as these initiatives boost internet take rates, incentivize broadband build out, increase digital skill attainment, and impact future opportunities for community and economic development.

3.1.4 Broadband Adoption

Overview and Methodology

Broadband Adoption efforts are supported through public and private initiatives that address key barriers including infrastructure access, broadband affordability, digital skills, and device access. State resources focus on both infrastructure buildout and community adoption efforts. Other assets identified in this section consist of public libraries, chambers of commerce, and other community-based organizations. The assets were identified through online surveys developed by TNECD, stakeholder engagement, and internal knowledge within the State Broadband Office.

State Resources

The State of Tennessee provides grant opportunities for the buildout of broadband infrastructure and the deployment of adoption services. ISPs participating in state-funded broadband infrastructure projects are required to undertake adoption efforts and track adoption rates. Additional state adoption resources consist of outreach and communication efforts concerning funding opportunities and best practices for stakeholders. Figure 4 lists broadband adoption assets that are managed by TNECD.

Figure 4: Broadband Adoption Assets managed by TNECD

State Adoption Assets	
Broadband Ready Communities (BRC)	Beginning in fall 2023, the Broadband Ready Communities (BRC) Program will utilize a portion of the Tennessee Emergency Broadband Fund – American Rescue Plan (TEBF-ARP) to promote community-based digital adoption. BRC funds are available to county governments and can be used for a range of projects including digital skills trainings, education/workforce development opportunities, device access, ACP marketing/outreach, and providing public Wi-Fi access points. BRC will impact broadband adoption

	statewide by removing barriers relating to digital skills, device access, and broadband affordability at the county level.
Connected Community Facilities (CCF)	Beginning in Fall 2023, the Connected Communities Facilities Grant Program aims to construct and improve digital access through the creation of buildings or rehabilitating spaces. The Connected Communities Facilities Grant Program is funded by the Capital Project Fund (CPF) and the State Local Fiscal Recovery Funds (SLFRF). Eligible applicants for this program are units of local government in Tennessee and non-profit organizations applying in partnership with local government. The goal of CCF is to allow for digital skills training and workforce development, virtual health monitoring, and virtual education within one space. It will allow rural and urban communities to build new or rehabilitate community facilities to provide these services, including broadband access, in one building. CCF will impact broadband adoption by removing barriers relating to digital skills, device access, and broadband affordability depending on the types of programs the applicants choose to provide.
Digital Skills Education and Workforce Development (DSEW)	Beginning in Fall 2023, DSEW will invest in evidence-based initiatives that focus on improving introductory and advanced digital skills. The goal of this program is to support skilling programs that help individuals develop the technical proficiency required to navigate complex digital environments, participate in the digital economy, and drive innovation. Under workforce development, this program aims to develop a well-trained and diverse telecommunications workforce needed to deploy, manage, and upkeep broadband infrastructure. This grant will also support digital upskilling across a wide variety of industries, including – but not limited to – technology, music and entertainment, finance, real estate, healthcare, education, and hospitality. DSEW will impact broadband adoption by removing barriers relating to digital skills and device access.
Training Opportunities for the Public (TOP)	The Training Opportunities for the Public (TOP) Grant is available for public libraries to provide services for their communities. Grant funds are available for digital skills training, hotspots, solar charging tables, and internal connections for broadband service. This program is funded by TNECD and managed through TSLA.
State Infrastructure Assets	
Last Mile Grant	The Last Mile Grant program assist with capital expenses related to last mile broadband deployment in Polk, Hardin, and Wayne counties. The Last Mile Grant opportunity is funded by the Capital Projects Fund (CPF) of the American Rescue Plan (ARPA). The goal of this program is to facilitate high-speed broadband access, increase deployment, and encourage adoption of broadband in areas of Polk, Hardin, and Wayne counties that currently lack

	broadband at speeds of 100 megabytes per second (Mbps) download and 20 Mbps upload.
Middle Mile Grant	The Middle Mile Grant program is established to assist with capital expenses related to middle mile and last mile broadband deployment in unserved and/or underserved areas in the State of Tennessee. The Middle Mile Grant opportunity is funded by the Capital Projects Fund (CPF) of the American Rescue Plan (ARPA). The goal of this program is to facilitate broadband access, increase deployment, and encourage adoption of broadband in areas of Tennessee that currently lack broadband at speeds of 100/20 Mbps.

State Outreach Assets

Digital Opportunity Taskforce	Since January of 2023, the Digital Opportunity Taskforce has overseen the development of Tennessee’s Digital Opportunity Plan to apply for federal digital equity funding.
Digital Opportunity Summit	In August of 2023, the state of Tennessee hosted the first Digital Opportunity Summit that highlighted broadband adoption efforts undertaken by the state and other entities. This summit was useful to communicate best practices, promote new collaborations, and share upcoming state efforts to expand broadband access and adoption.
Digital Opportunity Survey	Beginning in May of 2023, the state of Tennessee deployed a survey to identify barriers and needs for covered populations in Tennessee. The survey received over 1,500 responses with each covered population being represented in the data. Supplementary data gathering efforts will consist of focus group conversations with members of covered populations to gather additional qualitative and quantitative data on needs and barriers.

General Adoption Assets

The chart below summarizes the types of programs identified through stakeholder outreach. “Device Access” below means assets reported providing one or more of the following services: equipment (laptops, tablets, or hotspots) for check-out, fixed devices available in the facility, or services related to device refurbishment and donation. “Digital Skills” corresponds to services relating to basic and advanced skills trainings being available. Lastly, “Public Wi-fi Access Points” in this chart refers to the asset providing open access internet connection to the public.

From the data collected in the asset inventory, there is a gap in services relating to device access. Additionally, when basic and advanced digital skills trainings are analyzed separately, advanced skills trainings are not as widely available across

Tennessee as basic skills trainings. We assume device access should be reported higher since most libraries in Tennessee have computers for public use. These gaps will be addressed by state adoption efforts and future Digital Opportunity programming. The final charts are lists of assets in West, Middle, and East Tennessee and the types of services provided. **These are not exhaustive lists of assets;** the asset inventory will be updated regularly as we continue to identify more organizations in the state that offer digital opportunity services.

Figure 5: Types of General Digital Adoption Assets

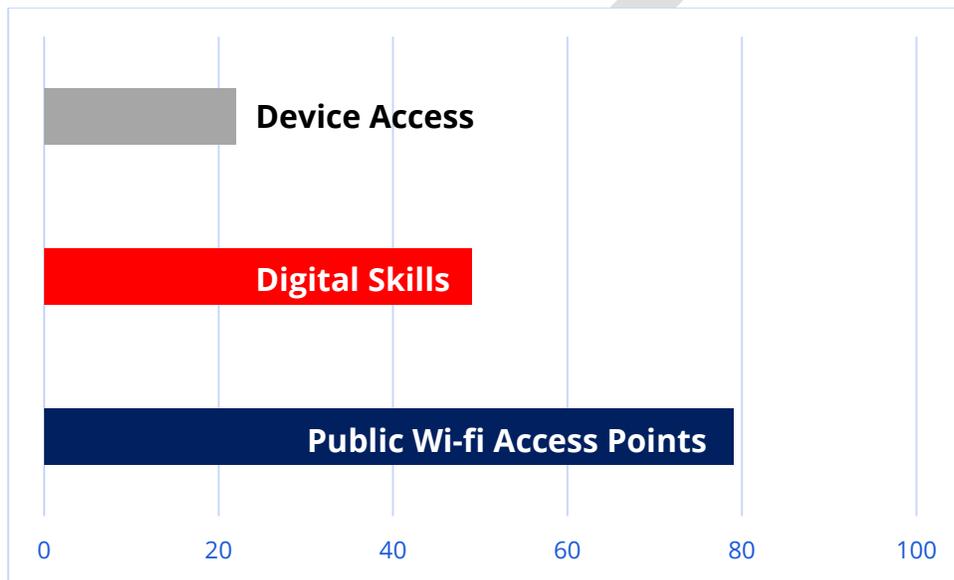


Figure 6: General Digital Adoption Assets in West Tennessee

Organization	Services Provided
Carroll County Library	Digital Skills; Public Wi-Fi Access Points
Chester County Library	Digital Skills
Covington-Tipton County Chamber of Commerce	Public Wi-Fi Access Points; Digital Skills
Crockett Memorial Library	Digital Skills
Decatur County Library	Public Wi-Fi Access Points
Dr Nathan Porter Library	Public Wi-Fi Access Points
Gleason Memorial Library	Public Wi-Fi Access Points

Gleason Memorial Library	Public Wi-Fi Access Points
Jackson-Madison County Library	Digital Skills
Lauderdale County Library	Digital Skills; Device Access; Public Wi-Fi Access Points
Lee Ola Roberts Library	Digital Skills; Device Access; Public Wi-Fi Access Points
Lucius E. and Elsie C. Burch, Jr. Library	Digital Skills
Martin Public Library	Digital Skills
Martin Public Library	Digital Skills; Public Wi-Fi Access Points
Middleton Community Library	Digital Skills; Public Wi-Fi Access Points
Millington Public Library	Digital Skills; Public Wi-Fi Access Points
Munford-Tipton County Memorial Library	Digital Skills; Public Wi-Fi Access Points
Ned R. McWherter Weakley County Library	Public Wi-Fi Access Points
New Direction Christian Church	Digital Skills
Newbern City Library	Digital Skills
Obion County Public Library	Digital Skills
Ridgely Public Library	Public Wi-Fi Access Points; Device Access
Sharon Public Library	Public Wi-Fi Access Points
Star Academy Charter School	Digital Skills
W.G. Rhea Public Library	Public Wi-Fi Access Points

Figure 7: General Digital Adoption Assets in Middle Tennessee

Organization	Services Provided
Charles Ralph Holland Memorial Library	Public Wi-Fi Access Points
Cheatham Co Chamber	Public Wi-Fi Access Points
Cheatham County Public Library	Public Wi-Fi Access Points; Device Access
City of Erin	Public Wi-Fi Access Points
City of Lewisburg Parks and Recreation	Public Wi-Fi Access Points
Clay County Public Library	Public Wi-Fi Access Points

Coffee County Lannom Memorial Public Library	Digital Skills; Public Wi-Fi Access Points
Coffee County Manchester Public Library	Public Wi-Fi Access Points
Collinwood Depot Branch Library	Public Wi-Fi Access Points
Fentress County Public Library	Device Access; Public Wi-fi Access Points
Fred A. Vaught Library	Digital Skills
Gallatin Chamber of Commerce	Public Wi-Fi Access Points
Hardin County Library	Public Wi-Fi Access Points
Hickman County Public Library System	Public Wi-Fi Access Points
iCode Franklin	Digital Skills
John P Holt Brentwood Library	Device Access; Public Wi-Fi Access Points
Lebanon-Wilson County Public Library	Public Wi-Fi Access Points
Lewis County Public Library and Archives	Digital Skills; Device Access; Public Wi-Fi Access Points
Loretto Telecom	Digital Skills; Public Wi-Fi Access Points
McMinnville-Warren County Chamber of Commerce	Digital Skills
Millard Oakley Public Library	Public Wi-Fi Access Points
Moore County Public Library	Public Wi-Fi Access Points
Nashville Public Libraries	Public Wi-fi Access Points; Digital Skills
Pickett County Library	Public Wi-Fi Access Points
Portland Public Library of Sumner County	Public Wi-Fi Access Points
Pulaski Electric System	Public Wi-Fi Access Points
Smyrna Public Library	Digital Skills; Public Wi-Fi Access Points; Device Access
Stewart County Public Library	Digital Skills; Public Wi-Fi Access Points
Stokes Brown Public Library	Digital Skills; Public Wi-Fi Access Points; Device Access
Tennessee Center for Civic Learning and Engagement	Digital Skills; Device Access; Public Wi-Fi Access Points
TERRA (The Electronics Reuse & Recycling Alliance)	Device Access
Wayne County JECDB (Wayne County Government)	Digital Skills; Public Wi-Fi Access Points
White House Public Library	Digital Skills; Public Wi-Fi Access Points

Figure 8: General Digital Adoption Assets in East Tennessee

Organization	Services Provided
Art Circle Public Library	Public Wi-Fi Access Points
Bean Station Public Library	Public Wi-Fi Access Points
Bledsoe County Public Library	Digital Skills
Blount County Public Library	Public Wi-fi Access Points; Device Access; Digital Skills
Bristol Public Library	Digital Skills; Public Wi-Fi Access Points
Carolyn Stewart Public Library	Public Wi-Fi Access Points
Chattanooga Public Library	Digital Skills; Public Wi-Fi Access Points
Church Hill Public Library	Public Wi-Fi Access Points
Clinton Public Library	Public Wi-fi Access Points; Device Access
Clyde W. Roddy Public Library	Public Wi-Fi Access Points
Coalmont Public Library	Public Wi-Fi Access Points
Cokesbury United Methodist Church	Device Access; Public Wi-Fi Access Points
Cosby Community Library	Public Wi-Fi Access Points
East Ridge City Library	Public Wi-Fi Access Points
Etowah Carnegie Public Library	Digital Skills; Public Wi-Fi Access Points
Grace Fellowship Church Johnson City	Public Wi-Fi Access Points
iCode Tri-Cities	Digital Skills
Jacksboro Public Library	Public Wi-Fi Access Points
Johnson City Langston Centre	Digital Skills
Kingsport Public Library	Digital Skills; Public Wi-Fi Access Points
Knoxville Chamber	Coalition Building; Digital Skills; Device Access
LaFollette Public Library	Public Wi-fi Access Points; Device Access
Lenoir City Public Library	Public Wi-Fi Access Points
Loudon County Chamber of Commerce	Digital Skills
Meigs Decatur Public Library	Digital Skills; Public Wi-Fi Access Points
Morristown-Hamblen Library	Digital Skills; Public Wi-Fi Access Points
Mosheim Public Library	Public Wi-fi Access Points; Device Access
Norris Community Library	Digital Skills; Public Wi-Fi Access Points
Oak Ridge Public Library	Digital Skills; Public Wi-Fi Access Points
Orena Humphreys Public Library	Public Wi-Fi Access Points; Device Access
Parrottsville Community Library	Digital Skills; Public Wi-Fi Access Points
Philadelphia Public Library	Public Wi-Fi Access Points
Pigeon Forge Public Library	Public Wi-Fi Access Points

Rocky Top Public Library	Digital Skills; Public Wi-Fi Access Points; Device Access
Dunlap Chamber of Commerce	Public Wi-Fi Access Points
Sullivan County Public Library	Digital Skills; Public Wi-Fi Access Points; Device Access
Sunbright Public Library	Public Wi-Fi Access Points; Device Access
Thrive Regional Partnership	Coalition Building
Thrive Sequatchie	Digital Skills; Device Access; Public Wi-Fi Access Points
Unicoi County Public Library	Digital Skills; Public Wi-Fi Access Points

3.1.5 Broadband Affordability

The Affordable Connectivity Program in Tennessee

The State of Tennessee is invested in promoting the ACP through all means possible. There have been efforts from the state and local levels of government, as well as efforts from the private and non-profit sectors. According to the [ILSR ACP Dashboard](#) and the [USAC](#), the total number of households enrolled in the ACP in Tennessee is 388,353 households, which is 32.8% of eligible households.

Figure 9: Distribution of ACP Eligible Household Enrollment (The darker shaded an area is, the higher the enrollment percentage among ACP eligible households)



ISP Participation

According to the [FCC](#), there are currently 137 ISPs participating in the ACP in Tennessee. Forty-nine of these ISPs also offered a discounted connected device such as a laptop, desktop, or tablet as part of the program.

State Promotion of ACP

The state has included ACP resources as a part of its Digital Opportunity Listening Sessions to increase awareness of the program. These resources are also included

in the Digital Opportunity Listening Session Toolkit and are available for individuals and communities on the State Broadband Office website (www.tn.gov/broadband).

Figure 10: Tennessee Broadband Affordability Programs, Organizations, and Resources

Organization	Overview
CivicTN	<p>Location: Statewide</p> <p>Program Description: Pilot program to facilitate ACP outreach/signup events at anchor institutions.</p>
Tech Goes Home Tennessee (TGH - TN)	<p>Location: 33 Counties Across East and Middle TN:</p> <ul style="list-style-type: none"> • East TN: Marion, Sequatchie, Bledsoe, Hamilton, Rhea, Meigs, Bradley, McMinn, and Polk counties. • Knoxville Metro: Knox, Anderson, Loudon, Blount, Roane, Morgan, Campbell, Union, Grainger, Hamblen, and Jefferson counties. • Nashville Metro area: Davidson, Williamson, Maury, Rutherford, Cannon, Wilson, Smith, Trousdale, Macon, Sumner, Robertson, Cheatham, and Dickson. <p>Program Description: Pilot program to facilitate ACP outreach/signup events at anchor institutions.</p>
City of Memphis – Memphis Public Libraries (MPL)	<p>Location: Memphis, TN</p> <p>Program Description: ACP outreach grant to conduct enrollment efforts across Memphis. Leveraging the Memphis public library staff, branch locations and equipment for digital navigation services. Efforts will also utilize MPL’s mobile computer lab to bring enrollment services to communities.</p>

Metropolitan Government of Nashville and Davidson County: Nashville Public Libraries (NPL)

Location: Davidson County, TN

Program Description: ACP outreach grant to conduct enrollment efforts across Davidson County. Leveraging the NPL staff, branch locations and equipment for digital navigation services. Davidson County residents will be able to utilize the 311 (hubNashville) service to access a local digital navigator.

3.2 Needs Assessment

Methodology

TNECD identified needs and barriers through an online survey, listening sessions, and meetings with stakeholders across Tennessee. An online survey launched on May 4th and collected responses until July 31st. The listening sessions were held in person throughout the state from March to June 2023. These events were organized primarily through Development Districts in Tennessee, with additional sessions organized in partnership with stakeholders such as non-profits and higher education institutions.

Survey Methodology

The Broadband Office received over 1,500 responses from the online survey. The question, "What are your barriers to accessing Internet?" was used to capture data on respondents' barriers. Individuals had the option of selecting up to three of the following barriers:

- Broadband Infrastructure (I do not have internet access at my home or residence)
- Cost (I cannot afford Internet service)
- Digital Skills (I do not know how to use digital services like a computer)
- Equipment (I do not have access to a laptop, computer, or a tablet)
- Privacy (I do not know how to use the Internet safely)
- Technical Support (I do not know where to go when I need help using digital devices or services)
- None (I do not face any barriers when accessing Internet)
- Other:

Listening Session Methodology

During community listening sessions, TNECD verbally asked attendees seven questions, including, “What barriers are you currently faced with regarding digital opportunity?”. TNECD staff or facilitators recorded the responses into an Excel spreadsheet (see *Appendix D* for the template spreadsheet *and questions*) and questions). Across all the TNECD listening sessions and four stakeholder listening sessions, around 1,100 responses were recorded; 264 of these responses captured concerned needs and barriers directly. Responses were organized by question and coded by TNECD along five categories outlined by NTIA: broadband affordability and availability, online accessibility and inclusivity, digital literacy, online privacy and cybersecurity, and device availability and affordability.

Throughout the planning process, TNECD connected with organizations serving one or more of the covered populations and organizations that currently engage in digital opportunity work. These conversations offered additional insight into the needs and barriers of various communities.

Data Gaps

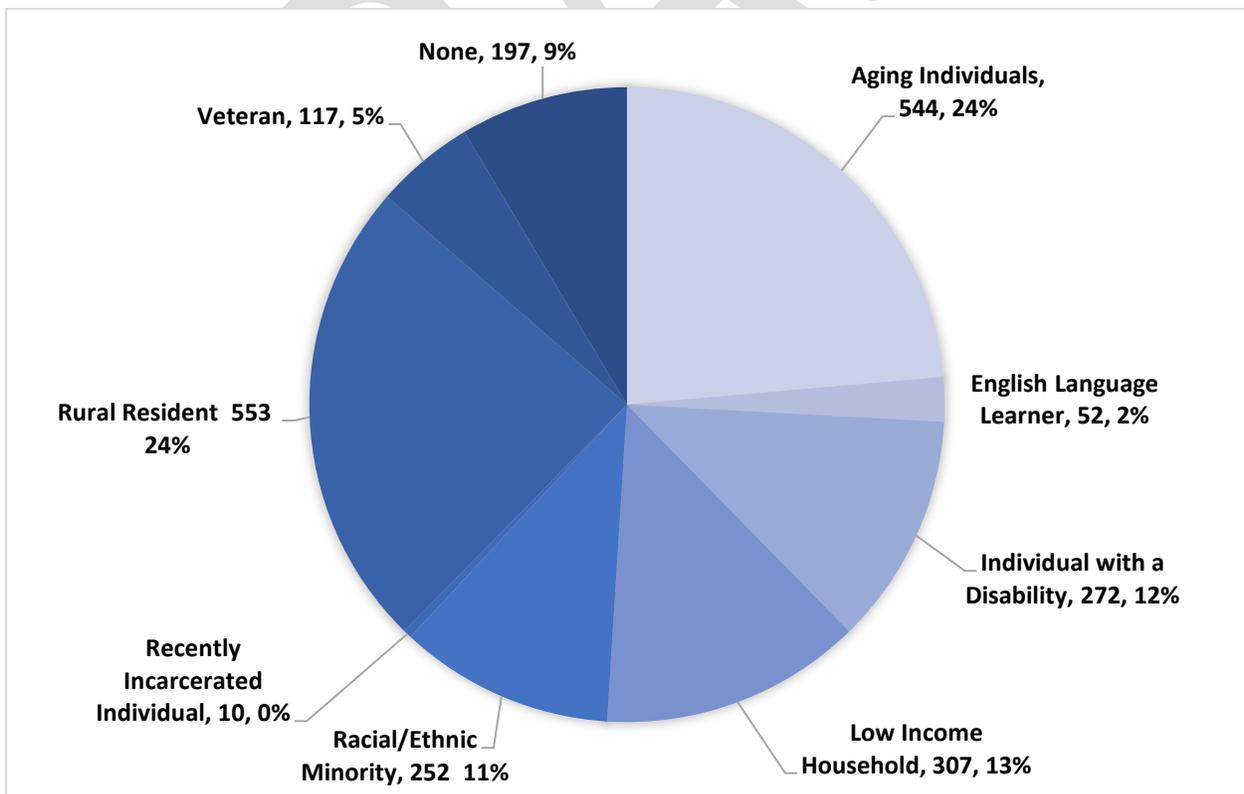
TNECD recognizes our data contains gaps that may impact our analysis of needs and barriers. First, TNECD launched the Digital Opportunity Survey online, making participation contingent on internet and device access. Due to this outreach method, we recognize that some barriers, like digital skills or device access, are underreported. Second, some of the terms used in the Digital Opportunity Survey lacked supplemental context and could be interpreted in multiple ways by respondents. For example, we found that term “Digital Skills” was interpreted by various respondents to mean foundational skills like computer basics, advanced skills for workforce development, and even online safety and cybersecurity. Lastly, some covered populations are underrepresented within the data responses. For example, racial/ethnic minorities comprise over 25% of Tennessee’s population but only 11% of survey respondents. TNECD plans to do additional outreach with covered populations to ensure that their feedback is recorded with the Digital Opportunity Plan. Following the public comment period and a second round of listening sessions, TNECD plans to address these data gaps by leveraging partnerships with state agencies to ensure that additional data collection and analysis is completed. Despite these limitations, the Broadband Office identified several barriers within the survey.

To address these gaps and gather additional insight into needs and barriers, TNECD connected with organizations serving covered populations and/or currently engaging in digital opportunity work. These conversations offered further insight and context into the challenges experienced when accessing internet services and digital opportunities among covered populations in Tennessee. Finally, we connected with select state agencies and organizations that work with specific covered populations and asked them to react to the initial data we collected from the survey and listening sessions. These meetings helped the Broadband Office identify additional barriers and needs in Tennessee communities.

Needs Assessment Summary

The chart below provides the demographic breakdown of each respondent from the Digital Opportunity Survey. Individuals could select all populations they identified with; for example, an individual who identifies as disabled, aging, and a veteran could choose each of the corresponding categories. We did not collect demographic information during Digital Opportunity Listening Sessions to ensure participant privacy.

Figure 11: Digital Opportunity Survey Demographics Summary



Barriers Identified

Across the survey and the listening sessions, the most significant barriers reported related to broadband affordability or availability, which was understood by most respondents and TNECD as cost and infrastructure. Other notable barriers identified involved digital skills and device access. The two charts below show the barriers reported across all respondents and organized around specific categories. In the Digital Opportunity Survey, survey takers could self-select the barriers they face (these options were listed on page 47). During the Listening Sessions, we had open-ended discussions around barriers, recorded responses, and then coded the responses based on five categories.

Figure 12: Digital Opportunity Survey: Summary of Reported Barriers

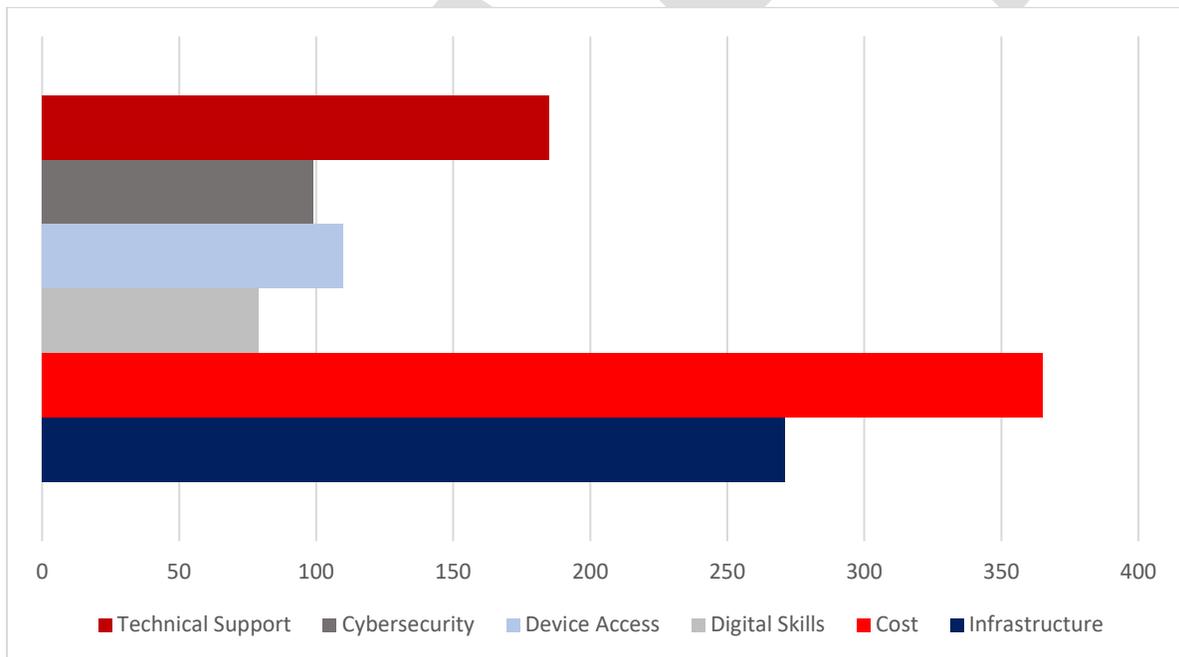
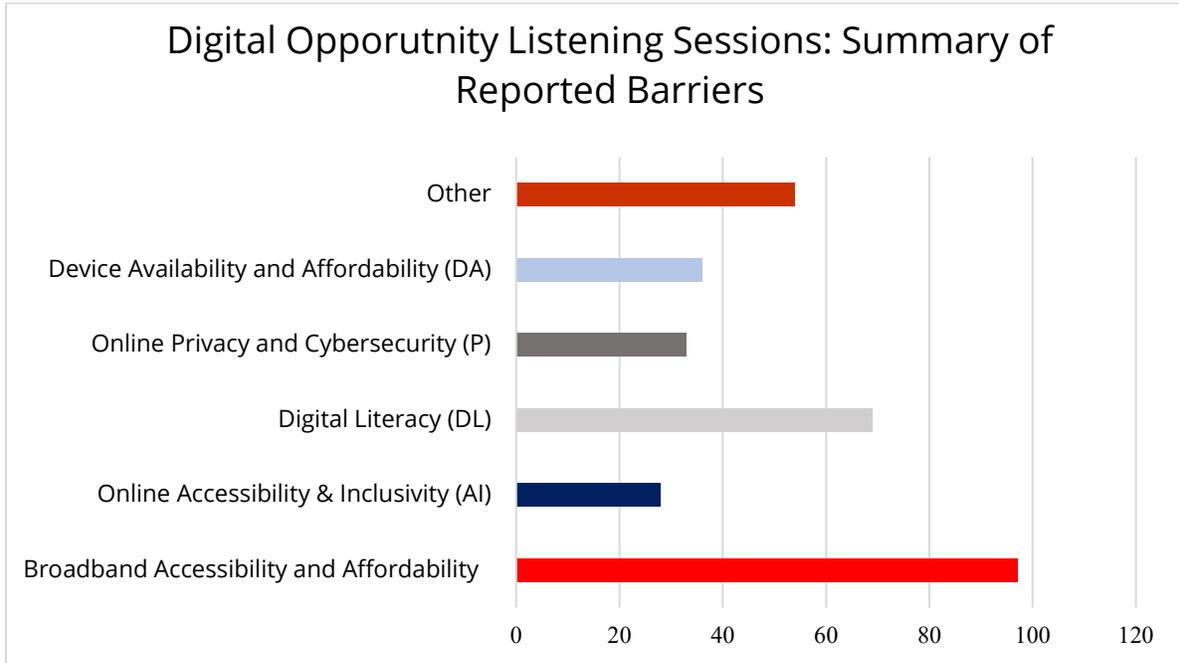


Figure 13: Digital Opportunity Listening Session Data: Summary of Reported Barriers



3.2.1 Covered Population Needs Assessment

The following section outlines the various digital opportunity needs the State Broadband Office identified by each covered population. The needs were identified through information collected from regional listening sessions, the Digital Opportunity Surveys, the Digital Opportunity Asset Inventory, and conversations with various non-profit organizations, state agencies, and other stakeholders. The Broadband Office recognizes that "covered populations" are not monoliths; individuals within these federally defined groups do not face all the same barriers or share the same lived experiences. Conversely, there are also shared needs across multiple covered populations.

Across all covered populations, internet service affordability was a central issue. Many Tennesseans expressed that internet subscriptions are too costly and often compete with other necessities such as food or rent. Access to digital skills training was another commonly cited need among covered populations, ranging from essential computer functions and online safety to workforce development certifications. Other barriers identified included accessibility, device access, and cybersecurity concerns. The remainder of this section will discuss the needs of covered populations. Each section lists the main barriers identified for each group in

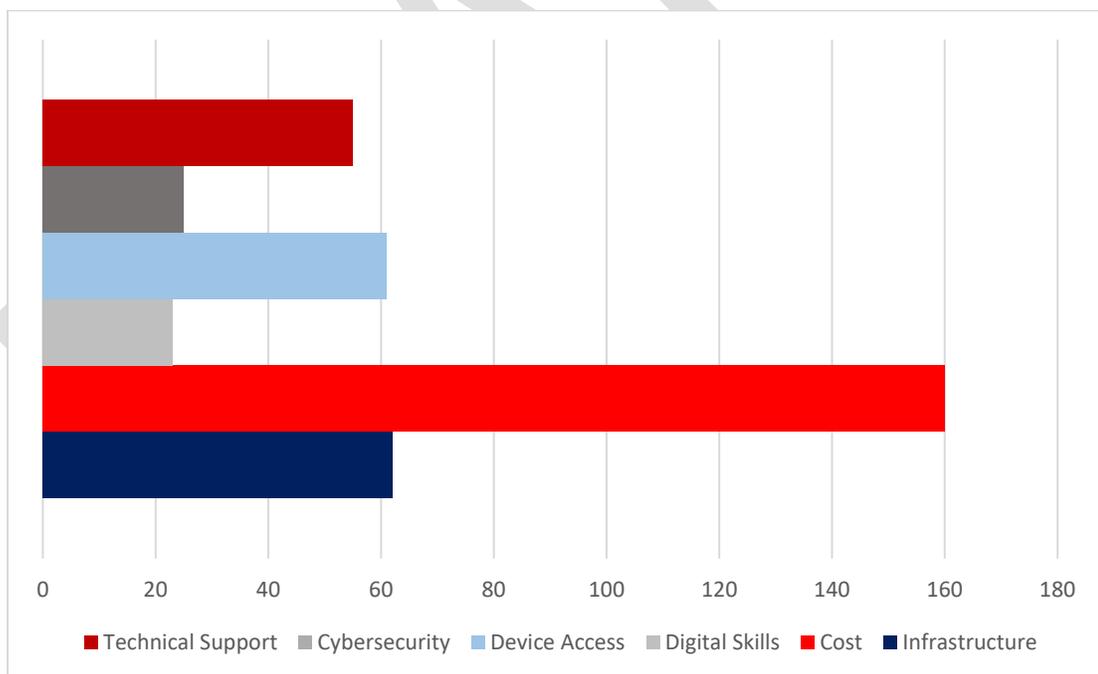
no specific order.¹⁵ The list is not exhaustive but identifies TNECD's known critical needs in each covered population.

Individuals who live in covered households¹⁶

Affordability, Device Access, Digital literacy

Affordability, device access, and digital literacy are central needs for Tennesseans in covered households. At nearly every listening session, attendees reported challenges in paying for necessities and being unable to afford internet subscriptions. The Digital Opportunity Survey Data also suggests that the cost of internet subscriptions may cause financial strain for people living on fixed or constrained incomes.

Figure 14: Digital Opportunity Survey Reported Barriers for Individuals Living in Covered Households



Pew Research finds that 85% of Americans own a smartphone. Smartphone ownership rates are relatively high even among low-income households with over

¹⁵ "None" responses are not listed in the charts that list reported barriers by covered population.

¹⁶ NTIA defines covered households as individuals living in household where the household income no more than 150 percent of federal poverty threshold.

three-quarters of individuals earning less than \$30,000 owning a smartphone.¹⁷ TNECD's findings from the Digital Opportunity Survey also suggest that most individuals, including those in covered households, have smartphones.¹⁸ However, there is a need for affordable laptops, desktops, and tablets in covered households where quality devices are not affordable.

Due to limited access to internet subscriptions and higher-capacity devices (laptops and desktops), low-income households have fewer opportunities to gain and apply digital skills in their everyday lives. Attendees at several listening sessions reported smartphone dependency, where individuals only have access to a smartphone and are therefore uncomfortable using other digital devices. Based on the information above, the Broadband Office identifies a need to support low-cost internet subscriptions, increase the number of public Wi-Fi access points across the state, and support programs that enable device access alongside digital skills training.

Aging individuals

Affordability, Cybersecurity, Digital Literacy

Aging Tennesseans reported broadband affordability and availability as barriers to Internet access. Aging individuals in urban and rural areas often face high-cost internet options with low-speed subscriptions. For many rural communities, there are no reliable broadband options available, and those that are available entail high costs to consumers. Many aging individuals live on a fixed income and need help paying for quality service, exacerbating the internet affordability issue. Aging Tennesseans also reported concerns with online safety and privacy in survey responses and listening sessions. TNECD found that many aging individuals fear online scams and having sensitive information collected without their consent. In the FTC's 2022 fraud report data, Tennessee ranked 11th in the nation for fraud reporting rates, and Memphis ranked seventh among metropolitan areas.¹⁹ Online scams and fraud schemes significantly harm an individual's sense of safety but also lead to

¹⁷ [Demographics of Mobile Device Ownership and Adoption in the United States | Pew Research Center](#)

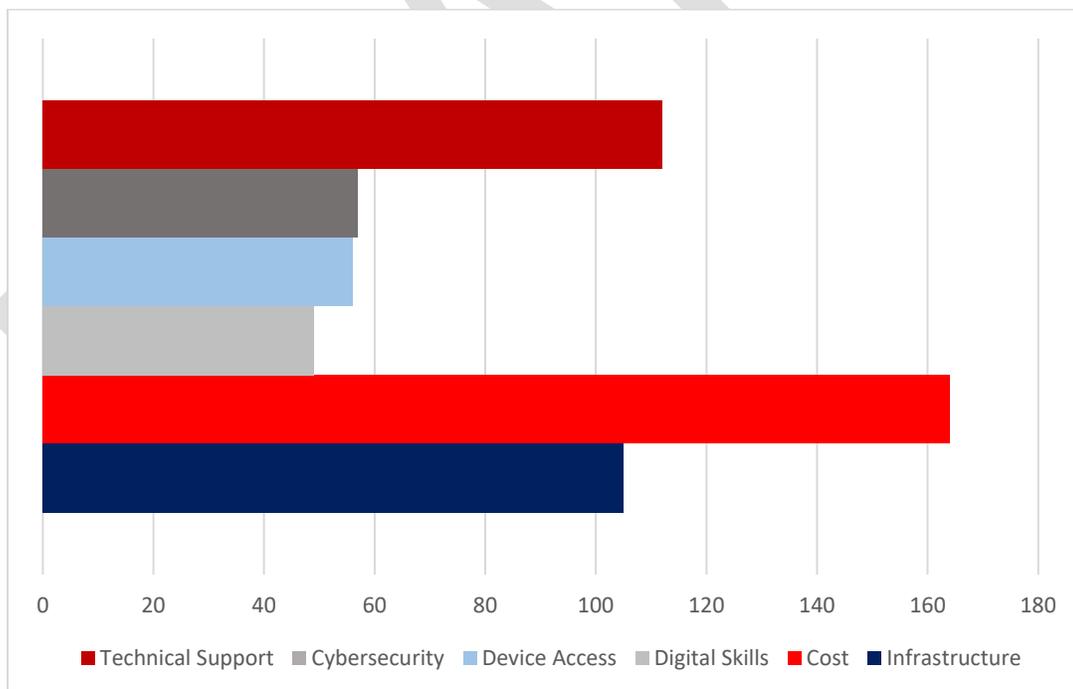
¹⁸ Digital Opportunity Survey Data. In the Nashville Digital Inclusion Needs Assessment from June 2021, roughly 6% of respondents report no access to smartphones.

¹⁹ State Rankings: Fraud and Other Reports Year: 2022 [Fraud Reports | Tableau Public](#)

millions of dollars lost in the state's economy.²⁰ Supporting aging populations, who may be especially vulnerable to online scams, will increase awareness of online safety and reduce successful online attacks on Tennesseans.

Finally, some aging individuals experience gaps in lack basic digital skills and, as a result, avoid using digital resources. Many aging individuals do not where they can learn how to develop digital skills or use digital devices. Those who know where to access training opportunities may also lack transportation to attend classes. We identify an intersection among aging individuals around digital literacy and affordability to be that - many are not yet unaware of the potential financial benefits of switching to digital services. For example, households can possibly save money moving some traditional services to online platforms. Aging individuals must have the digital skills necessary to navigate various software efficiently and safely as social services and billing systems begin to switch to fully online platforms.

Figure 15: Digital Opportunity Survey Reported Barriers for Aging Individuals



²⁰ The FBI's Internet Crime Report provides more information on reported monetary losses from online crimes: [2022_IC3Report.pdf](#)

Incarcerated Individuals

As of June 2023, the Tennessee Department of Corrections reported that there were 19,007 individuals incarcerated in the state prisons.²¹ This number does not include the number of Tennesseans in federal prisons and local/county jails. There are thousands more "justice involved individuals" that are on parole or probation. The Criminal Justice Investment Task Force established by Governor Bill Lee released an interim report in 2019 that also mentioned that Tennessee's incarceration rate had grown by 10% from 2008-2017.²²

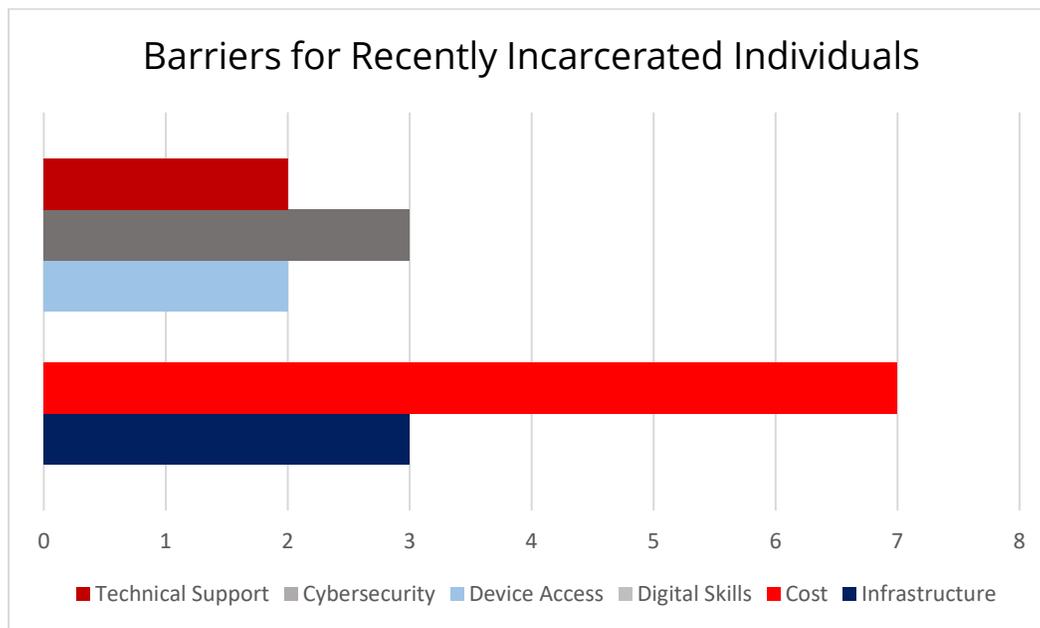
Affordability and Digital Skills

The Broadband Office leveraged partners to assist in identifying and understanding the needs of those experiencing incarceration, or justice-involved individuals. Incarcerated individuals are classified as a protected class, so several state and federal policies make collecting information from these individuals difficult. After consulting with the Tennessee Department of Labor of Workforce Development's Office of Reentry, Tennessee Corrections Institute, and the Tennessee Department of Corrections, we learned that access to digital skills training is a significant need for this covered population. Non-profit organizations serving incarcerated/formerly incarcerated individuals also cited digital skills training as a principal need. Incarcerated individuals often lack the opportunity to develop digital skills due to limited educational programming covering digital skills inside carceral facilities. If educational programs are available, the devices used are usually not the most current technology available. Once released from custody, individuals may be unfamiliar with the technology used in everyday life and have limited opportunities to access resources to hone their digital skills. Like other covered populations, justice-involved individuals can struggle to afford internet service upon release and lack access to large-screen devices.

²¹ <https://www.tn.gov/content/dam/tn/correction/documents/FelonJuly2023.pdf>

²² <https://www.tn.gov/content/dam/tn/governorsoffice-documents/governorlee-documents/CJInvestmentTaskForceReport.pdf>

Figure 16: Digital Opportunity Survey Reported Barrier for Recently Incarcerated Individuals



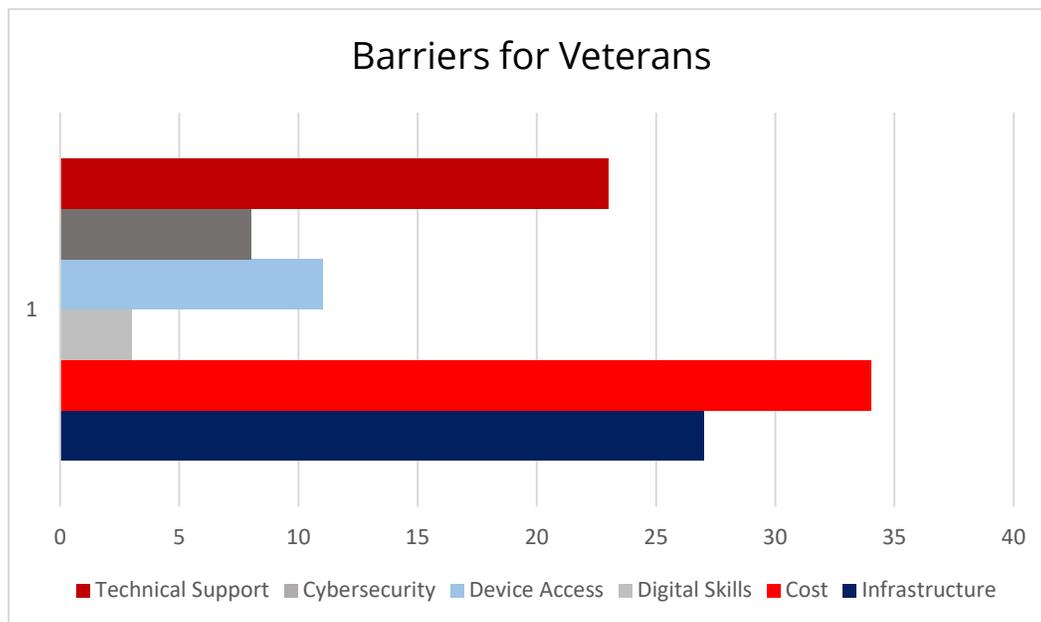
Veterans

Affordability and Device Access

According to the Department of Veteran Services, there are 449,263 veterans in Tennessee.²³ Like other covered populations, veterans face affordability challenges accessing internet services, especially those living on fixed incomes. Disabled veterans may face mobility issues and need assistive devices. In the Digital Opportunity Survey, several veterans identified as aging individuals, meaning that there is also a need for digital skills training to address this covered population's needs. A veterans-focused listening session revealed that veterans often depend on telehealth services and need access to reliable infrastructure and devices to connect with healthcare providers.

²³ [INVETMAP](#)

Figure 17: Digital Opportunity Survey Reported Barriers for Veterans



Individuals with Disabilities

Accessibility, Affordability, Digital inclusion, and Digital Skills

The Center for Disease Control and Prevention reports that nearly 1 in 3 adult Tennesseans have a disability including: mobility (15%), cognition (16%), independent living (9%), hearing (7%), vision (6%), and self-care (5%).²⁴ Additionally, there are thousands of children in Tennessee that have a disability.

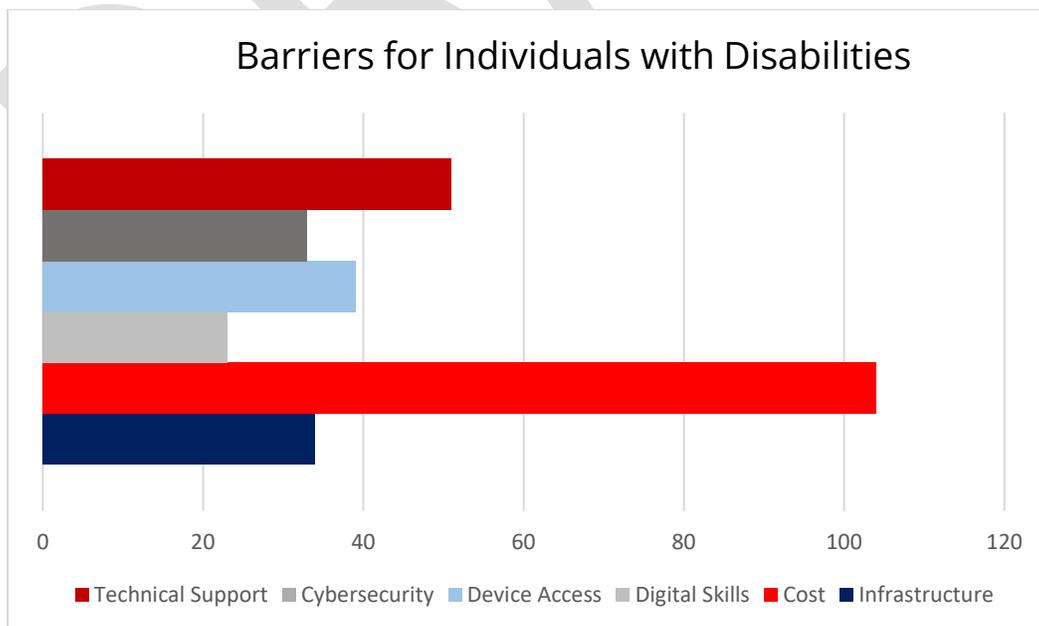
Affordability is the highest need for individuals with disabilities as many live on a fixed income and require high-speed internet services, specific devices, or software to use the Internet entirely. For Tennesseans with visual or audio impairments, websites, and digital software can be extremely challenging to navigate or completely inaccessible. Beyond this, individuals living with audio impairments reported relying on video conferencing software and applications to communicate with others. As a result, we saw the need for reliable, high-speed Internet with enough bandwidth to support video conferencing for the hard-of-hearing community. Some people with

²⁴ [Disability & Health U.S. State Profile Data: Tennessee | CDC](#).

disabilities benefit from assistive digital devices or services when accessing the Internet. Assistive devices range in application and usage but are generally very expensive and can pose a financial challenge for individuals and families. Some individuals with disabilities have mobility challenges and rely on the Internet more heavily than others to access social services or connect with loved ones. Therefore, these individuals must have quality Internet access.

Individuals with intellectual or developmental disabilities have limited access to digital opportunities that are accessible and responsive to their unique needs. Ensuring all individuals with disabilities have equal access to the essential digital skills needed to access online opportunities, such as remote jobs, social services, and online community spaces, is critical for digital inclusion. The capability and desire for individuals with disabilities to utilize digital opportunities and participate in virtual spaces is often overlooked but invaluable to our society. Finally, members of this covered population expressed a need for a virtual “one-stop-shop” where they can access several digital resources from their homes. One potential and highly effective way to address this concern is to incorporate accessible digital resources and information into the existing social services they rely on.

Figure 18: Digital Opportunity Survey Reported Barriers for Individuals with Disabilities



Individuals with Language Barriers (Including English Language Learners and/or individuals with low levels of literacy)

Accessibility, Affordability, Digital Skills, Digital Inclusion

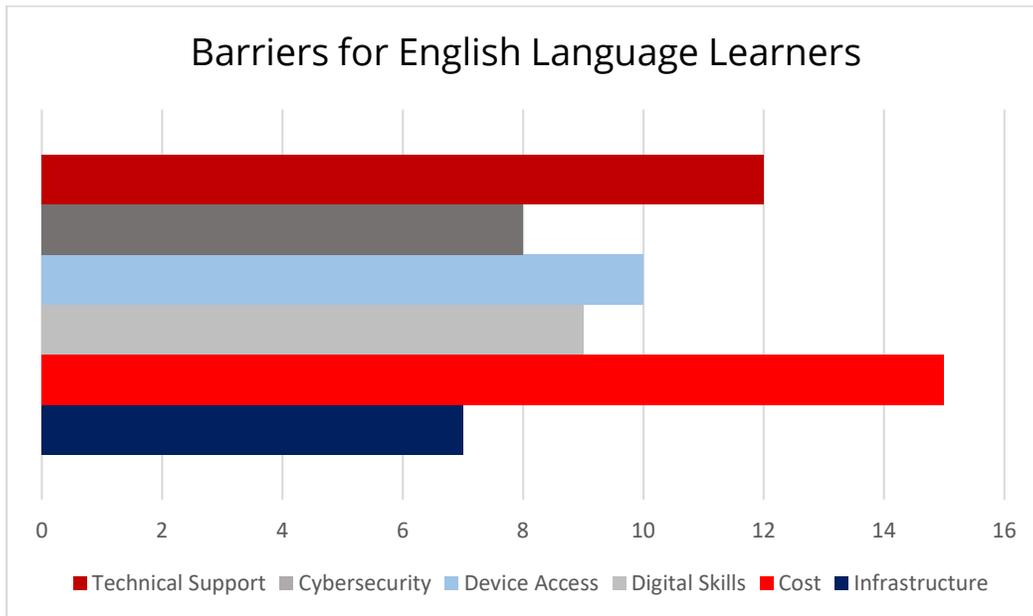
Existing digital opportunity resources are often inaccessible for those with language barriers because they tend to be available only in English. Internet subscriptions can pose financial burdens for English Language Learners who are also in covered households. There is an acute need for digital skills training to be available in spoken languages other than English in Tennessee. Non-profit organizations serving immigrant communities reported that staff often offer informal technical support and digital skills trainings because existing resources or programs are not tailored to English Language Learners or individuals with low literacy levels. Some digital skills curricula, like NorthStar, have modules available in Spanish (only one of several languages spoken in the state). However, English Language Learners do not enjoy the same equitable access to digital skills training as other Tennesseans. Even if materials are produced are available in multiple languages, that information may not be accessible to those who face low levels of literacy in their native languages.²⁵ Finally, due to language barriers and a need for translation services, there can be less trust among those with language barriers and state agencies providing social services.

Individuals with low literacy levels are another population likely underrepresented in our data since the Digital Opportunity Survey requires a certain level of literacy. TNECD recognizes that Tennesseans with low literacy levels face accessibility barriers when accessing the Internet. According to the Barbara Bush Foundation for Family Literacy, over 20% of adult Tennesseans have low literacy levels.²⁶ Information presented online may be challenging for individuals with low literacy levels to comprehend. A central theme in listening sessions was the importance of using accessible language when explaining Digital Opportunity initiatives. One strategy that the Broadband Office can do to address this need is extensive, community-based outreach and awareness campaigns around Digital Opportunity in the state.

²⁵ Information collected during a discussion with a Tennessee nonprofit organization serving refugee communities.

²⁶ <https://map.barbarabush.org/assets/cards/BBFFL-Literacy-Card-TN.pdf>

Figure 19: Digital Opportunity Survey Reported Barriers for English Language Learners



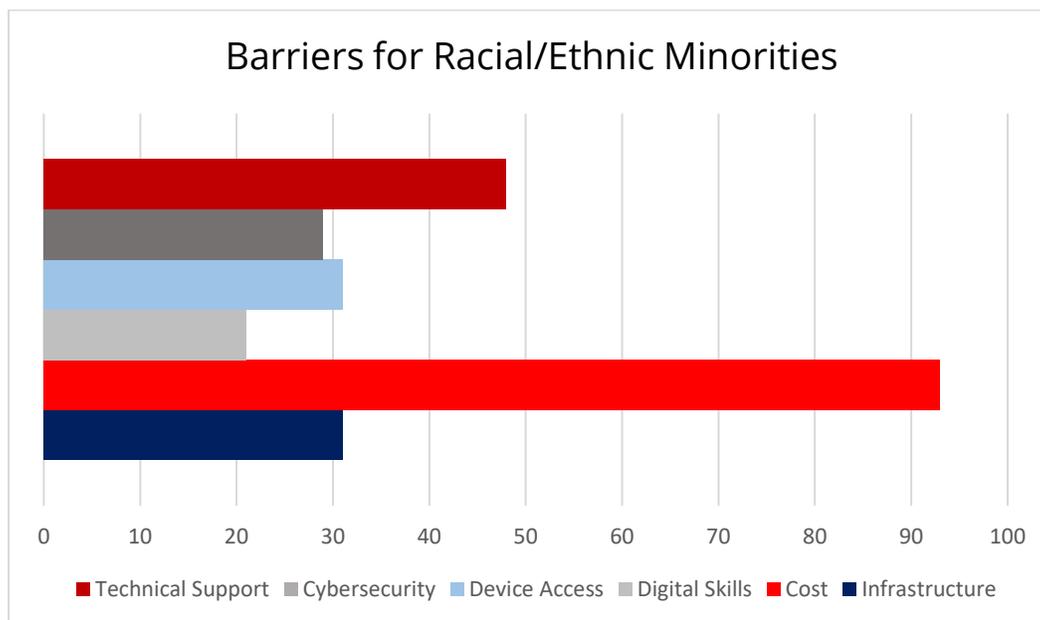
Individuals who are members of a racial or ethnic minority group

Affordability, Device Access, Digital Skills, Digital Inclusion

Racial and ethnic minorities face affordability and device access struggles like other covered populations. For racial/ethnic minorities residing in rural areas across Tennessee, broadband infrastructure access is a genuine concern due to possible geographical restrictions. FCC maps show that urban parts of the state are largely served but reports from community members suggest gaps in broadband infrastructure in metropolitan areas. Recent research also indicates a correlation between broadband access and historically redlined urban neighborhoods, where individuals residing in traditionally redlined areas report lower broadband access rates.²⁷ For individuals who lack accessible Internet service, there will be a more vital need for digital skills training and online safety resources. The section will be broken down further by select racial/ethnic minority groups. It is essential to acknowledge that individuals can be members of multiple minority groups.

²⁷ Skinner, B. T., Levy, H., & Burtch, T. (2023). Digital Redlining: The Relevance of 20th Century Housing Policy to 21st Century Broadband Access and Education. Educational Policy, 0(0). <https://doi.org/10.1177/08959048231174882>

Figure 20: Digital Opportunity Survey Reported Barriers for Racial/Ethnic Minorities



African American/Black Tennesseans

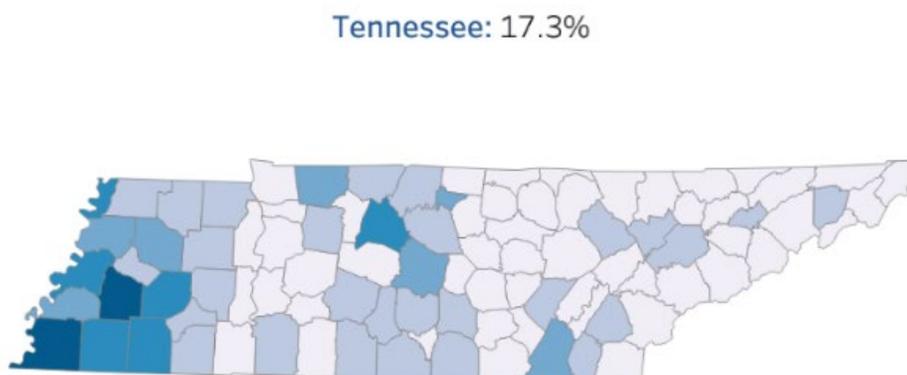
U.S. Census Data from 2020 reports that roughly 17% of Tennesseans identified as Black and/or African Americans, the largest racial/ethnic minority group in the state. The map below shows the percentage of black Tennesseans by county, revealing a higher percentage of African Americans and Black Tennesseans in West and Middle Tennessee, especially in Shelby, Haywood, and Davidson counties. Among K-12 public school students, black students comprised nearly 24% of the total population in 2022.²⁸

Affordability is a principal need for the black communities of Tennessee. Tennessee's poverty rate is 13%, but over 20% of black residents live in poverty, signaling a greater need for affordable internet service. Through regional listening sessions in Memphis and Nashville, stakeholders and community members cited broadband access was a principal concern across these communities. Although black Tennesseans often reside in urban areas of the state, that does not guarantee that they have broadband infrastructure in their communities. Many Black Tennesseans in urban areas reported that internet service was either unavailable, unreliable, or too slow for usages like working from home, online schooling, streaming, and other increasingly

²⁸ [K12 Education Portal: Mapping Tennessee Education \(tn.gov\)](https://www.tn.gov/education/k12-education-portal/mapping-tennessee-education)

common digital uses. Access to digital skills training is another major need in the black communities of Tennessee.

Figure 21: Percent Black or African American Alone or in Combination Total Population by County: 2020



The American Community Survey (ACS) estimates show that roughly 10% of the black population lacks an Internet subscription or a device at their residence, meaning that there are less opportunities to develop digital skills.²⁹ Existing digital skills trainings or resources are often not seen as accessible to black Tennesseans because they are not available in black communities or provided by individuals not from the black communities of Tennessee. During a listening session at LeMoyne-Owen College in Memphis, attendees emphasized the importance of representation when providing digital opportunities; services should be locally based, and service providers should reflect the racial demographics of the communities they serve.

Hispanic/Latino Tennesseans

Roughly 7% of Tennesseans identified as “Hispanic or Latino” in the 2020 U.S. Census.³⁰ Individuals identifying as Hispanic or Latino primarily reside in the major metropolitan regions of the state: Memphis, Nashville, Chattanooga, and Knoxville but also in more suburban and rural counties in Middle Tennessee. In the K-12 public school population, Hispanic/Latino students comprised 13% of the total population.³¹ The highest reported barrier for this group were language barriers. Many individuals only speak Spanish fluently and cannot access digital skills training/online resources in Spanish. In our conversations with service organizations

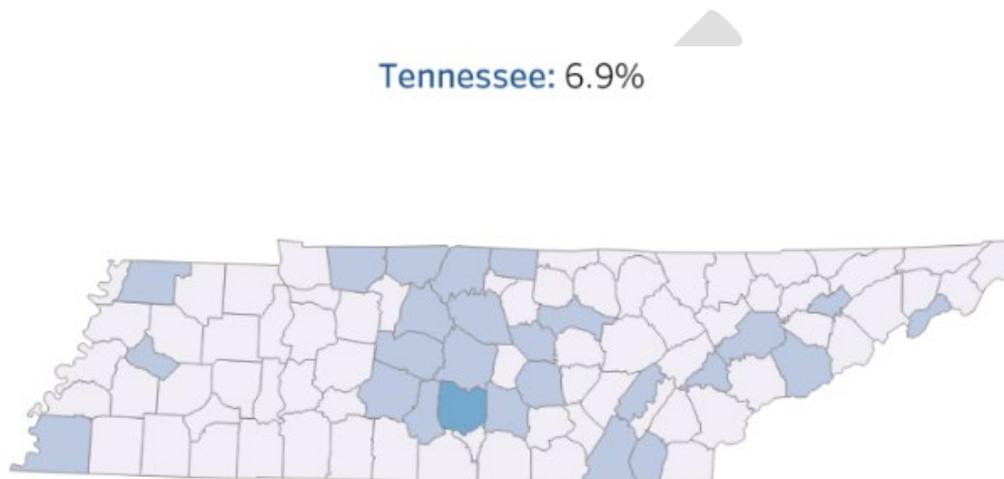
²⁹ [B28009B: PRESENCE OF A COMPUTER AND ... - Census Bureau Table](#)

³⁰ [Race and Ethnicity in the United States: 2010 Census and 2020 Census](#)

³¹ [K12 Education Portal: Mapping Tennessee Education \(tn.gov\)](#)

across the state, affordability was another primary concern for the Latino community. At the Plaza Mariachi Listening Session in Nashville, Hispanic/Latino attendees expressed concerns and frustrations over low speeds and high costs.

Figure 22: Percent Hispanic or Latino by County: 2020



Census data affirms that affordability is a crucial barrier where roughly 20% of all Tennesseans identifying as Hispanic or Latino live in poverty. Additionally, conversations with other minority groups in urban areas report that internet services are often not up to par with the needs and uses of today. Like other covered populations as well, there is an acute need for digital skills training and devices (laptops, tablets, etc.), supported by ACS data where 10% of Hispanic/Latino respondents reported no access to an Internet subscription or a computer.³²

Asian Tennesseans

Asians and Native Hawaiians or Other Pacific Islanders comprise roughly 3% of the state's total population, and 3% of K-12 public school students.³³ The map below shows the percentages by county, revealing concentrations in Shelby, Hamilton, and Williamson Counties.³⁴ The principal barrier identified for Asian Tennesseans was the lack of accessible digital resources. There are a variety of Asian ethnic groups present in Tennessee that speak languages other than English including but not

³² [B28009I: PRESENCE OF A COMPUTER AND ... - Census Bureau Table](#)

³³ [K12 Education Portal: Mapping Tennessee Education \(tn.gov\)](#)

³⁴ [Race and Ethnicity in the United States: 2010 Census and 2020 Census](#)

limited to: Chinese, Korean, Arabic, and Kurmanji Kurdish. Digital skills trainings and online websites are often not accessible for these individuals.

Figure 23: Percent Asian Alone or in Combination Total Population by County: 2020



For elderly Asian communities, there is also an affordability challenge because many live on a fixed income. Although Asian Tennesseans had lower poverty rates than the state average, affordability is still a challenge, especially for Asian immigrant and/or refugee communities across the state.

Rural Households

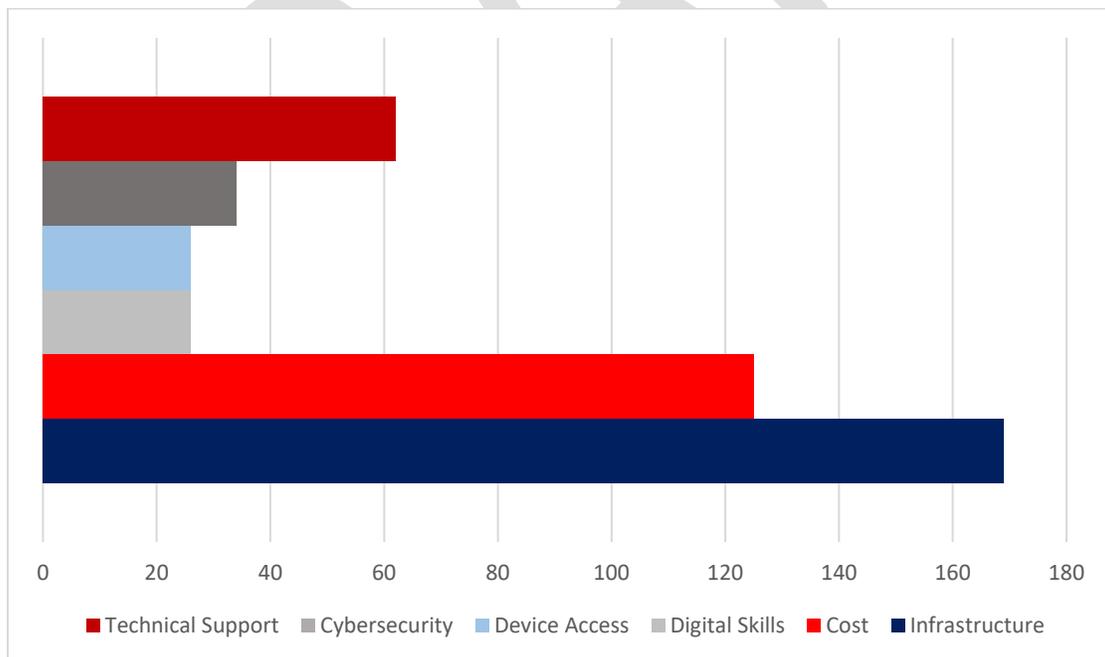
Affordability, Device Access, Digital Skills, Infrastructure, Lack of Trust

Infrastructure is a crucial barrier for rural Tennesseans, coupled with access and affordability. Access to broadband services is a fundamental limitation for many rural Tennesseans because of a general lack of availability of broadband infrastructure. If services are available, they can be costly and insufficient for taking advantage of digital resources such as telehealth, working from home, etc. In some rural communities, the historical lack of internet service leaves individuals with limited opportunities to develop digital skills. Geography and mobility also present challenges for rural Tennesseans, especially in remote areas of East Tennessee. Accessing location-based services presents challenges for residents of mountain communities as they must travel greater distances for services than most in the state.

The need for broadband infrastructure also impacts device access and digital skills in rural communities. Households in areas without broadband infrastructure access

do not generally have higher capacity devices like laptops and desktops. Additionally, rural residents lacking infrastructure access generally have less access to digital skills trainings. There is an essential need to build more trust and transparency between rural residents, federal and state government agencies, and internet service providers. Across all covered populations, we found there was confusion around broadband deployment and who is responsible for providing services. Among rural residents, the confusion is compounded by the frustration with the lack of service availability issues and provider options in their area. Rural residents reported challenges of community trust with internet service providers to offer quality services that are affordable and reliable. Rural Tennesseans reported wanting more transparency around state and federal agencies' roles in supervising broadband infrastructure projects. Building trust should be a priority to ensure that rural residents, and all covered populations, feel confident accessing broadband infrastructure and other digital opportunity services (i.e., digital skills training, Affordable Connectivity Program, etc.).

Figure 24: Digital Opportunity Survey Reported Barriers for Rural Households



3.2.2 Broadband Adoption

Tennessee will need to address several barriers to increase broadband adoption rates. The section will list additional needs and barriers that impact Tennessee's broadband adoption.

Broadband Infrastructure and Capacity

Due to the geographic terrain, there are regions across the state where it is difficult to lay broadband infrastructure. For example, laying infrastructure in a mountainous part of the state can be very challenging. These geographic challenges contribute to the lower internet access rates and the limited access to digital devices in rural Tennessee. Moreover, several rural Tennesseans deal with inconsistent connectivity or inadequate speeds. Our office estimates that one-fifth of rural Tennessee households lack access to 100 mbps upload/20 mbps speeds.³⁵

Similarly, Tennessee's urban areas face challenges around broadband infrastructure availability and accessibility. While broadband infrastructure may be more widely available, the infrastructure is outdated in several areas. Due to high population density, broadband in these areas may lack the capacity to provide the speeds residents need, exacerbating current network capacity issues as employees engage in remote work and social services continue to rely on online platforms. Based on data from the U.S. Census Bureau's 2019 American Community Survey (ACS), several Tennessee households in cities lack broadband access.³⁶ Table 2 shows the percentage of households that are not connected to broadband service or access to cellular data plans, in Tennessee cities with more than 65,000 residents. Although the data does not necessarily indicate that these areas lack broadband infrastructure, stakeholders in metropolitan regions have reported that major portions of cities such as Memphis lack infrastructure despite FCC maps reporting these areas as largely served. Increasing broadband availability, broadband adoption, and speed capacities to satisfy consumer demand will remain a challenge statewide.

³⁵ Connected Nation, 2022

³⁶ Data gathered from NDIA's [Worst Connected Cities, 2019](#). 2019 American Community Survey One Year Estimates, Table B28002

Figure 25: Percentage of Households in TN Cities Without Broadband Subscriptions³⁷

TN Cities with populations of at least 65,000	% of Households without Any Broadband Subscriptions
Memphis	26.35%
Knoxville	21.71%
Jackson	17.29%
Chattanooga	14.95%
Johnson City	13.43%
Clarksville	10.40%
Nashville- Davidson Metropolitan	10.25%
Murfreesboro	6.35%
Franklin	5.52%

Cost

Tennesseans living on a fixed income or struggling to pay for their expenses may forgo an internet subscription to pay for necessities like food, medicine, etc. One's willingness to pay may not align with the current subscription rates set by providers. Cost is a barrier to broadband adoption, even for Tennesseans that do not live on a fixed income or identify as a member of low-income households. In our Digital Opportunity Survey, cost was identified as the top barrier to accessing the internet, and over half of the respondents expressed interest in lowering their internet bill. Additionally, many Tennesseans struggle with the cost of electricity and housing which are prerequisites for acquiring broadband access at one's residence.

Digital Skills

Raising digital literacy rates will be central to increasing broadband adoption in the state, specifically around device use, basic digital skills, workforce development, cyber security, and online services such as telehealth, banking, shopping, and education. Tennessee needs to develop a framework and resources to help individuals understand the multitude of digital opportunities and the various pathways for accessing them. The Broadband Office will oversee digital adoption grant programs supporting digital skills training. The Department of Education's

³⁷ 2019 American Community Survey One Year Estimates, Table B28002 Data compiled by NDIA

newly implemented computer science requirements and existing programs within the Department of Labor and Workforce Development are other opportunities to further develop Tennesseans' digital skills

Institutional Awareness and Cross Collaboration

A common theme expressed in the Digital Opportunity Listening Sessions was the desire for a “one-stop shop” where individuals can access all the digital opportunity resources available to their community. The Broadband Office's Connected Community Facilities program and other ongoing initiatives will work to create a comprehensive framework that encourages Tennesseans to adopt broadband technology and utilize broadband to enhance access to telehealth, education, and other social services. We also plan to collaborate across state agencies to streamline resources and provide consistent communication to help Tennessee residents easily access digital resources.

Another key barrier is a lack of awareness between the Broadband Office and Tennesseans as well as relationship gaps between the digital inclusion organizations and our office. Many Tennesseans are unfamiliar with the Department of Economic and Community Development and its broadband programs. The Broadband Office has identified several non-profit organizations and community anchor institutions that do digital inclusion work in the state but there could be more that we are not aware of. Organizations may not label themselves as a digital inclusion organization but nonetheless may offer valuable digital opportunity resources (a free computer lab or digital skills training for their community members, for example) which can make it difficult to identify and connect with these groups. To overcome this barrier, our office must develop a robust outreach strategy with stakeholders, nonprofits, and other state agencies to increase awareness around broadband adoption.

3.2.3 Broadband Affordability

The Need for ACP

Only 32.8% of Tennessee households that are eligible for the ACP are enrolled in the program. This leaves approximately 795,000 households that are eligible to participated in this low-cost option. This is incredible opportunity for broadband

subscription in households where cost is a barrier. The bridging the ACP enrollment gap in Tennessee can be addressed in a few ways.

First, it must be acknowledged that not all ACP eligible households have access to broadband at all, whether it be affordable or not. According to the [Tennessee Broadband Accessibility map](#), 8.26% of residential addresses in Tennessee lack access to 100/20 Mbps. Many of these locations are in rural, low-income areas; meaning that many of these households are eligible for the ACP but are not enrolled due to lack of broadband access. This general need for increased access is paramount to increasing affordability.

Next, to address the need for more participation in the ACP, there must be increased awareness among eligible households and organizations that serve eligible households. The State Broadband Office believes lack of awareness to be a primary cause in the lack of ACP enrollment. However, outreach programs continue to develop both nationally and in the state. The FCC's ACP Outreach Grant program will fund several ACP outreach efforts in Tennessee. Tennessee's Broadband Office fully endorses and supports these efforts and will coordinate with grantees to assist where possible.

The Need for Low-Cost Broadband

High quality, affordable broadband is a necessity for economic success; however, there are many areas throughout Tennessee which lack these options. There is a persistent disparity between income levels as it relates to internet usage and broadband adoption. [According to Pew](#), only about 80% of households with an income of less than \$30,000 per year use the internet compared to nearly 100% of households with an income of over \$50,000 per year. This disparity is multifaceted; however, lack of affordable broadband is contributing factor.

4. Collaboration and Stakeholder Engagement

Stakeholder Engagement Overview

TNECD's stakeholder engagement strategy entailed building new relationships with other state agencies, local governments, non-profits, and other organizations serving covered populations in the state. Beginning in the fall of 2022, TNECD began significant stakeholder engagement efforts, including:

- Formation of a Digital Opportunity Taskforce
- 21 listening sessions (including four sessions hosted by community organizations in the state)
- Creation of the Digital Opportunity Listening Session Facilitator Toolkit
- Deployment of online surveys
- Convening of covered population working groups
- First ever Digital Opportunity Summit with 84 participants providing feedback to the plan
- Stakeholder presentations and meetings

Key Stakeholders

TNECD spent significant time establishing new connections with organizations and agencies serving covered populations or providing digital equity-related services. This entailed connecting with over 100 contacts across East, Middle, and West Tennessee. [Appendix E](#) has a select list of organizations/agencies contacted throughout the planning process. We leveraged these contacts to communicate TNECD's efforts and events.

Key to shaping TNECD's stakeholder engagement efforts, the Broadband Office formed the Digital Opportunity Taskforce to collaborate and develop strategies for the Digital Opportunity Plan in December of 2022. It consists of fourteen regular members working in various sectors across Tennessee, including but not limited to digital equity and inclusion non-profit organizations, telecommunication associations, higher education, and labor workforce development. A complete list of taskforce members can be found in [Appendix F](#). Since January 2023, the Taskforce has convened monthly to share resources and offer feedback on the State's proposed strategies in the Digital Opportunity Plan. Other key stakeholders were invited into this process via covered population-specific working groups to review findings and

data for the Digital Opportunity Plan. *Appendix G* has a complete list of focus group participant organizations.

On August 8th, 2023, TNECD held Tennessee's first Digital Opportunity Summit, convening stakeholders statewide to provide feedback on the plan before posting it for public comment in September 2023. Representatives from rural and urban areas and the three geographic divisions (East, Middle, and West Tennessee) were in attendance, sharing and collaborating vital institutional knowledge from the perspective of state/local government, higher education, telecommunications, and non-profit sectors. *Appendix H* has a complete list of organizations present for the Digital Opportunity Summit.

4.1 Coordination and Outreach Strategy

Stakeholder Engagement Strategies and Activities

TNECD's outreach strategy entailed a multi-pronged approach to stakeholder engagement that included engagement with individual Tennesseans as well as organizations and agencies that serve covered populations. In the Spring of 2023, the Broadband Office travelled across Tennessee for in-person listening sessions organized through partners "on the ground." Additional outreach efforts relied on local governments, regional economic development agencies, and grassroots organizations to share TNECD announcements, events, and resources with their communities. TNECD Broadband Office also acted as a convener, hosting numerous calls, conversations, and in-person events with partners statewide. The following sections will detail the stakeholder engagement efforts mentioned above.

Listening Sessions

As part of our outreach strategy, the Broadband Office conducted several listening sessions across the state to achieve four main goals:

- Inform the public about TNECD's broadband programs.
- Gather data on the current barriers to digital opportunities.
- Receive input on digital opportunity programs Tennesseans would like in the future.
- Provide individuals with resources that may alleviate barriers to affordable, high-speed internet access.

In total, TNECD hosted 17 listening sessions across the state. The Tennessee Development Districts helped host or organize nine listening sessions; two sessions were virtual, and six were in-person at community anchor institutions across the state. The feedback and testimonies at these listening sessions provided valuable information incorporated into the Digital Opportunity Plan. In May, TNECD released the Digital Opportunity Facilitator Listening Session Toolkit to encourage local communities or nonprofit organizations to host conversations and discussions around digital opportunity needs. Four organizations in the state hosted additional listening sessions: Code Crew, Innovate Memphis, the Greater Memphis IT Council, and the Knoxville Chamber of Commerce. Across all 21 listening sessions, TNECD collected about 1,108 responses across seven questions. A full list of listening session locations, dates, and times can be found in [Appendix I](#).

Digital Opportunity Survey

TNECD prepared an online survey to gather additional information on needs and barriers for Tennesseans. The Digital Opportunity Survey questions can be found in [Appendix J](#). To share the survey with communities, we relied on over 100 contacts across Tennessee. With the help of numerous state agencies, non-profit organizations, and community groups, this survey received over 1,500 responses, providing crucial data surrounding needs and barriers afflicting covered populations. Additionally, TNECD collected insight into the types of institutions Tennesseans would rely on to gain information on digital opportunity resources (available in [Appendix G](#)).

Covered Population Focus Groups

TNECD convened multiple focus groups consisting of relevant state/local government agencies and non-profit organizations serving covered populations in the state. We convened these groups to review the Digital Opportunity Survey findings of specific covered populations. In these conversations, TNECD reviewed qualitative and quantitative data and discussed possible gaps. During these calls, the Broadband Office also collected feedback on best practices around data collection to inform future efforts related to each covered population. Lastly, these conversations served as an opportunity to educate organizations on programs such as ACP and to connect them with available resources.

Outreach to Covered Population Service Organizations and Agencies

TNECD connected with many organizations and agencies serving covered populations via email and virtual meetings. Conversations with these stakeholders included discussion of information regarding the Digital Opportunity Plan and surrounding efforts, in addition to ACP outreach, and TNECD's upcoming ARPA digital adoption programs.

Digital Opportunity Summit

In August 2023, TNECD hosted the state's first-ever Digital Opportunity Summit. This one-day event brought stakeholders from across the state together to provide input on the Digital Opportunity Plan. Invited attendees worked together in groups to review sections of the plan, including vision, strategies, objectives, needs assessment, stakeholder engagement, and critical activities— sections 2, 3.2, 4, and 5.1, respectively. Input for each section was captured and recorded for review by TNECD. Additionally, TNECD garnered specific feedback about our findings, such as the perceived accuracy, knowledge of gaps, and strategies for future data-gathering efforts.

The Digital Opportunity Summit achieved TNECD's goal of gathering additional input before our public comment period and was vital for inviting more organizations, communities, and voices into the conversation of Digital Opportunity. TNECD was also able to showcase current digital opportunity efforts by non-profits and ISPs and offer a platform for stakeholders to connect and establish new connections amongst the broader Digital Opportunity Ecosystem in Tennessee. The Digital Opportunity Summit program can be found in [Appendix L](#)

Workforce, Labor, and Higher Education Partnerships

TNECD engaged with a myriad of partners such as the University of Tennessee (UT), the TN Department of Labor and Workforce Development, the Tennessee College of Applied Technologies (TCAT), and others in developing the Digital Opportunity Plan.

TNECD collaborated with the University of Tennessee, the University of Memphis, and LeMoyne-Owen College to organize focus groups and in-person gatherings to collect information on obstacles to internet access. These initiatives helped to develop a Digital Opportunity Plan that addresses the identified challenges and enables more individuals to benefit from the advantages of the digital age. In

addition, TNECD has engaged with TCATs in Tennessee about how to bridge gaps in the broadband buildout workforce pipeline.

Stakeholder Engagement and Outreach Future Efforts

To carry out TNECD's Digital Opportunity initiatives, we plan to pursue the following:

- Continue expanding the Digital Opportunity Asset Inventory and develop it into an online tool for Tennesseans to find resources in their communities and for the Broadband Office to continue identifying service gaps in the state.
- Continue regional, in-person engagements to gather testimony and feedback on proposed initiatives.
- Continue convening ACP Outreach Grant recipients to receive quarterly progress updates and offer support.
- Expand the Digital Opportunity Taskforce to include more experts and stakeholders who can inform specific efforts surrounding workforce development, telehealth, basic digital skills training, and growing the workforce for Tennessee's telecommunications industry.
- Host the Digital Opportunity Summit annually to provide updates on the state's initiatives, share best practices, and foster innovative collaboration amongst stakeholders in Tennessee.
- Continue networking and communicating updates and announcements to stakeholders statewide on Digital Opportunity initiatives.
- Engage with American Baptist College and Lane College to support efforts surrounding their CMC grant initiatives.
- Use the Digital Opportunity Survey findings to establish new relationships with organizations and agencies serving covered populations to inform future stakeholder engagement and data-gathering efforts.

Additional Future Efforts

Throughout the planning process, the Broadband Office also identified opportunities for new forms of stakeholder engagement and future partnerships that we intend to develop during the implementation phase. Some of these include:

- Conduct regular focus groups across Tennessee's three grand divisions on digital equity, targeting covered populations and individuals with lived experiences.

- Partner with county jails and Sheriff's offices to continue identifying barriers with incarcerated individuals and monitor the success of the Department of Labor and Workforce Development's R.E.A.P. Tablet Program
- Intensive grassroots outreach (mailers, newspaper advertisements, radio advertisements) to spread awareness and resources around digital opportunity.
- Continue developing partnerships with telecommunications focused labor unions to bolster better workforce development efforts, including inviting a telecommunications union representative to serve as members of the Digital Opportunity Taskforce.
- Partner with organizations serving individuals with literacy barriers or English language learners to ensure Digital Opportunity resources are accessible to these communities.

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5. Implementation

5.1 Implementation Strategy & Key Activities

To achieve digital opportunity in the state, the State Broadband Office must craft robust programs that address the identified digital opportunity needs and barriers, engage with current and new partners to deploy resources, and utilize communication practices that reach the people most in need of digital opportunity resources. The Broadband Office intends to collaborate with its stakeholders to produce resources, coordinate digital opportunity efforts, and share best practices across the state. TNECD recognizes that digital opportunity is a need across **all** Tennessee communities, for both rural and urban areas in the state. The implementation plan and its key activities are designed to provide proactive solutions to the digital divide that can be accessed throughout every corner in the state. As TNECD develops new digital opportunity programs, there will be an intentional focus to build sustainable programs that last beyond the funding sourced from NTIA.

The rest of the section will list out the key activities related to each strategy and goal previously outlined in Section 2.3.

Goal #1: Broadband Availability and Affordability: Increase digital adoption rates in Tennessee.

Strategies	Key Activities
Strategy #1: Support ACP enrollment efforts statewide	<ul style="list-style-type: none">• Require all Digital Opportunity grant recipients to support ACP enrollment• Provide grant funding to libraries, schools, nonprofit organizations, and other community anchor institutions for digital navigation and enrollment efforts• Leverage statewide contacts to increase ACP awareness

	<ul style="list-style-type: none"> • Convene FCC ACP grantees in Tennessee to stay up to date on initiatives and best practices
<p>Strategy #2: Increase take-rates in state-funded broadband infrastructure projects</p>	<ul style="list-style-type: none"> • Require providers associated with state-funded broadband infrastructure projects to undertake outreach efforts in the areas they plan to serve
<p>Strategy #3: Promote public-private partnerships that expand internet access</p>	<ul style="list-style-type: none"> • Provide grant funding for public housing authorities to partner with ISPs to establish greater internet connectivity and affordability. • Fund a competitive grant for partnerships between ISPs and philanthropic organizations, units of local government, and other CAIs to promote internet access • Provide grant opportunities for CAIs to provide free public Wi-Fi access points in challenged communities • Produce a public-facing map of existing public Wi-Fi access points and other digital opportunity assets on the state broadband office website

Goal #2: Online Accessibility and Inclusivity

Strategies	Key Activities
<p>Strategy #1: Promote online inclusivity by providing grant opportunities to organizations serving covered populations</p>	<ul style="list-style-type: none"> • Design competitive grant opportunities for basic digital skills trainings for covered populations in Tennessee • Continue convening the Digital Opportunity Taskforce with added focuses on digital inclusion efforts • Provision funds to existing state programs that provide assistive tech to Tennesseans
<p>Strategy #2: Ensure state-produced resources are accessible across different communities in need of inclusion</p>	<ul style="list-style-type: none"> • Ensure Digital Opportunity resources are available in major spoken languages in Tennessee and accessible to Tennesseans with audio and visual impairments as they are deployed

Goal #3: Digital Literacy and Workforce Development

Strategies	Key Activities
<p>Strategy #1: Develop a curriculum for digital skills readiness encompassing online safety and cybersecurity</p>	<ul style="list-style-type: none"> • Leverage the expertise of the Digital Opportunity Taskforce members to help create a curriculum for basic digital skills
<p>Strategy #2: Expand availability of digital skills trainings among community anchor institutions statewide</p>	<ul style="list-style-type: none"> • Continue existing digital adoption programs supporting basic and advanced digital skills • Increase grant funding available for the state Broadband Ready Communities program to increase availability of digital

	<p>skills trainings and other digital inclusion activities statewide</p> <ul style="list-style-type: none"> • Expand the existing Training Opportunities for the Public (TOP) grant program to support digital skills training in public libraries • Provision funds for the TN Department of Education to administer a grant for K-12 schools to acquire equipment for digital education and broadband connections
<p>Strategy #3: Increase the availability of digital skills and credentialing programs statewide among institutions serving primarily covered populations</p>	<ul style="list-style-type: none"> • Continue the Digital Skills, Education and Workforce (DSEW) competitive grant opportunity to support credentialing programs regarding digital skills for the workforce • Work with Historically Black Colleges and Universities (HBCUs) to expand on their efforts surrounding digital skills credentialing and advanced IT certifications • Work with the Tennessee College of Applied Technology (TCAT) network to expand access to advanced digital skills certifications across their campus locations

Goal #4: Online Privacy and Cybersecurity

Strategies	Key Activities
<p>Strategy #1: Identify/develop partnerships with existing state initiatives around internet safety</p>	<ul style="list-style-type: none"> • Require all future, state-funded digital skills grant programs (covering basic skills) contain an online safety component • Produce an online safety and cybersecurity framework that is available in multiple languages and accessible to local agencies/organizations

Goal #5: Digital Opportunity Ecosystem

Strategies	Key Activities
<p>Strategy #1: Expand capacities for telehealth services</p>	<ul style="list-style-type: none"> • Through programs like Connected Community Facilities, provide grant funding to local entities to expand their capacities for telehealth service, such as increasing opportunities for medical staff to improve upon digital skills
<p>Strategy #2: Continue statewide outreach efforts supporting Digital Opportunity</p>	<ul style="list-style-type: none"> • Continue hosting the Digital Opportunity Summit to convene statewide partners and provide updates on the state of Digital Opportunity in Tennessee • Continue regional outreach efforts surrounding upcoming grants and best practices.
<p>Strategy #3: Track the impact of digital opportunity efforts in Tennessee and provide annual reports to the public</p>	<ul style="list-style-type: none"> • Require and standardize data gathering for grantees around digital opportunity metrics • Provide annual reports on the impact of digital opportunity

programs and grants including KPIs, program outcomes, etc.

Goal #6: Device Availability and Affordability

Strategies	Key Activities
Strategy #1: Provide pathways for purchasing subsidized devices	<ul style="list-style-type: none">• Require all Digital Opportunity grants providing digital skills trainings for covered populations to contain a pathway to purchasing a subsidized device
Strategy #2: Promote device refurbishment and redistribution	<ul style="list-style-type: none">• Establish a matching platform for entities to donate their used devices to community-focused organizations or individuals in need• Develop best practices around acquiring and maintaining refurbished devices, for entities like school districts

5.2 Timeline

Year/Stage	Activities
<p>2024</p>	<ul style="list-style-type: none"> • Apply for Digital Equity Capacity Grant • Launch the online Digital Opportunity Asset Map • Host the annual Digital Opportunity Summit • Design and share ACP outreach toolkit and best practices with statewide contacts • Expand Digital Opportunity Taskforce and develop working groups around Digital Skills/Workforce Development, Cybersecurity, and Online Accessibility • Work with the Digital Opportunity Taskforce working group on Online Accessibility to develop a framework for assessing state resources • Continue statewide outreach efforts with covered populations • With the help of the Department of Education and Digital Opportunity Taskforce, establish a curriculum for Basic Digital Skills • Design and launch competitive grant program for public-private partnerships to provide affordable internet services to challenged communities/covered populations • Standardize and track metrics regarding cybersecurity, digital skills proficiency, and workforce development along all state digital opportunity and adoption programs • Design and launch competitive grant program for digital navigation and ACP enrollment efforts at CAIs
<p>2025</p>	<ul style="list-style-type: none"> • Design and launch a Request for Proposals process for a statewide partner to manage a device matching and refurbishment platform • Host the annual Digital Opportunity Summit • Design and launch grant programs surrounding digital workforce skills in partnership with private-sector employers (<i>continuation of ARP-funded DSEW grant program</i>) • Design and launch a competitive grant opportunity for education agencies to support credentialing programs for digital workforce skills (<i>continuation of ARP-funded DSEW grant program</i>) • Design and launch a competitive grant opportunity for HBCUs and other universities in TN to increase access to digital skills credentialing and advanced IT certifications • Provide the first annual report for Digital Opportunity • Design a competitive grant opportunity for basic digital skills trainings for covered populations (<i>continuation of ARP-funded DSEW grant program</i>)

	<ul style="list-style-type: none"> • Evaluate progress towards Implementation goals
2026	<ul style="list-style-type: none"> • Continue and expand state TOPs grants program • Continue and expand the Broadband Ready Communities program <i>(continuation of ARP-funded grant efforts)</i> • Continue and expand the Connected Community Facilities Program <i>(continuation of ARP-funded grant efforts)</i> • Provide grant funds to TCAT to support outreach and enrollment efforts for digital skills certification programs <i>(continuation of ARP-funded grant efforts)</i> • Host the annual Digital Opportunity Summit
2027	<ul style="list-style-type: none"> • Continue and expand state TOPs grants program • Host the annual Digital Opportunity Summit • Evaluate progress towards Digital Opportunity Goals • Continue and expand the Broadband Ready Communities program
2028	<ul style="list-style-type: none"> • Continue and expand state TOPs grants program • Continue and expand the Broadband Ready Communities program <i>(continuation of ARP-funded grant efforts)</i> • Continue and expand the Connected Community Facilities Program <i>(continuation of ARP-funded grant efforts)</i> • Showcase Digital Opportunity Success Stories from past five years through online storytelling • Host the annual Digital Opportunity Summit



6. Conclusion

High-speed Internet access is necessary to fully take advantage of health, education, economic, and social opportunities in our society. Without access to affordable high-speed Internet, quality digital devices, and digital skills trainings, Tennesseans are not empowered to fully participate in our society. With a collaborative approach that involves private actors, nonprofits, community organizations, and state and local government agencies, Tennessee is well positioned to make great strides towards achieving digital opportunity for all.

TNECD will regularly update the Digital Opportunity Plan as we identify other barriers to Digital Opportunity, discover additional existing assets, and as technology continues to evolve. The conversation around Digital Opportunity is one that should be happening across all corners, counties, and cities of Tennessee. It is our hope that the Digital Opportunity Plan will generate more awareness around the importance of ensuring every Tennessean has access to high-speed Internet.

Achieving Digital Opportunity cannot be done in isolation, it requires a collective effort of various partners, communities, and stakeholders. Thank you to the communities, organizations, and Tennesseans that offered their time, resources, and energy to provide valuable insight and feedback to the State Broadband Office throughout the planning process.

7. Appendices

Appendix A: Glossary and Acronyms

Affordable Connectivity Program (ACP): The Affordable Connectivity Program is an FCC benefit program that helps ensure that households can afford the broadband they need for work, school, healthcare and more. The benefit provides a discount of up to \$30 per month toward internet service for eligible households and up to \$75 per month for households on qualifying Tribal lands. Eligible households can also receive a one-time discount of up to \$100 to purchase a laptop, desktop computer, or tablet from participating providers if they contribute more than \$10 and less than \$50 toward the purchase price.

Broadband Equity, Access, and Deployment Program (BEAD): The Broadband Equity, Access, and Deployment (BEAD) Program, provides \$42.45 billion to expand high-speed internet access by funding planning, infrastructure deployment and adoption programs in all 50 states, Washington D.C., Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Broadband: Broadband or high-speed Internet access allows users to access the Internet and Internet-related services at significantly higher speeds than those available through "dial-up" services. Broadband speeds vary significantly depending on the technology and level of service ordered. Broadband services for residential consumers typically provide faster downstream speeds (from the Internet to your computer) than upstream speeds (from your computer to the Internet).

Community Anchor Institutions (CAI): Based on the definition of a CAI (as defined by NTIA) the ECD Broadband Office defines a "community anchor institution" to be an entity such as a school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization, faith-based institutions, or community support organization that facilitates greater use of broadband service by vulnerable populations, including, but not limited to, low-income individuals, unemployed individuals, children, the incarcerated, and aged individuals.

Covered Households: Individuals living in households with incomes not exceeding 150 percent of the poverty level.

Covered Populations (As defined by the Digital Equity Act): The term ‘covered populations’ means— (A) individuals who live in covered households; (B) aging individuals; (C) incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility (D) veterans; (E) individuals with disabilities; (F) individuals with a language barrier, including individuals who— (i) are English learners; and (ii) have low levels of literacy; (G) individuals who are members of a racial or ethnic minority group; and (H) individuals who primarily reside in a rural area.

Digital Equity Act (DEA): The Digital Equity Act provides \$2.75 billion to establish three grant programs that promote digital equity and inclusion. They aim to ensure that all people and communities have the skills, technology, and capacity needed to reap the full benefits of our digital economy.

Digital Adoption: The act of subscribing to Internet service.

Digital Divide: The economic, educational, and social inequalities between those with computers and online access and those without.

Digital Equity (As defined by the NDIA and the Digital Equity Act): A condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.

Digital Inclusion (National Digital Inclusion Alliance): Digital Inclusion refers to the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs). This includes 5 elements: 1) affordable, robust broadband internet service; 2) internet-enabled devices that meet the needs of the user; 3) access to digital literacy training; 4) quality technical support; and 5) applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration. Digital Inclusion must evolve as technology advances.

Digital Literacy (The American Library Association’s: definition) The ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. The Broadband Office uses digital literacy and digital skills interchangeably.

Digital Opportunity: Digital opportunity is the idea that all individuals and communities have the resources to access the internet, including existing broadband infrastructure in their communities, affordable internet service, access to technology, and digital literacy tools. Digital Opportunity encompasses digital adoption, literacy, and equity.

Internet Service Providers (ISPs): Internet Service Providers are companies or municipalities that provide access to the Internet and other internet-related services to customers.

Key Performance Indicators (KPIs): The metrics used to measure progress and effectiveness of a program.

National Telecommunications and Information Administration (NTIA): The National Telecommunications and Information Administration (NTIA), part of the U.S. Department of Commerce, is the Executive Branch agency that is principally responsible for advising the President on telecommunications and information policy issues. NTIA is the administering entity for the BEAD and DE programs.

Take-Rate: Percentage of potential customers (units passed) who commit to service.

Appendix B: Broadband Ready Communities Ordinance Example

The following EXAMPLE, drafted by a fellow Tennessee community, is available to assist political subdivisions in drafting their own ordinance or policy. This example should be used for informational purposes only and does not constitute legal advice. Political subdivisions should consult with their legal counsel concerning the appropriate approach for their respective communities to customize as necessary to comply with any local laws, rules, procedures or policies.

Whereas, (County Name), Tennessee finds that broadband internet availability in the County is of critical importance to all people living, visiting, and doing business in (County Name), Tennessee, and

Whereas, the Tennessee State Legislature recently created the ability for Tennessee communities to be designated as "Broadband Ready Communities" through the Tennessee Department of Economic and Community Development, and

Whereas, (County Name), Tennessee seeks to promote private investment in broadband infrastructure, and

Whereas, (County Name), Tennessee seeks to be designated as a Broadband Ready Community pursuant to Tennessee Public Chapter 228, 4-3-709.,

Public Chapter 228, S 4-3-709

(a)(1) A political subdivision may apply to the department of economic and community development for designation as a "broadband ready community" pursuant to guidelines established by the department. The guidelines for designation must include a requirement that the political subdivision has adopted an efficient and streamlined ordinance or policy for reviewing applications and issuing permits related to projects relative to broadband services.

NOW THEREFORE, BE IT ENACTED BY THE GOVERNING BODY OF THE COUNTY OF, THAT:

AN ORDINANCE FOR A BROADBAND READY COMMUNITY

Section 1. *As used in this chapter, "permit" means any local permit, license, certificate, approval, registration, or similar form of approval required by policy, administrative rule, regulation, or ordinance with respect to a project.*

Section 2. *As used in this chapter, "project" means the construction or deployment of wireline or wireless communications facilities to provide communications services in a unit.*

Section 3: *Notwithstanding any other provision of (County Name)'s ordinance, the following shall apply to a project:*

(1) *(County Name), Tennessee has:*

(A) Adopted an efficient and streamlined policy for reviewing applications and issuing permits related to projects relative to broadband services.

(B) Appointed a single point of contact in the (County Name) for all matters related to a broadband project;

(C) Established procedures to allow all forms, applications, and documentation related to a project be reviewed and either approved or denied within thirty (30) business days after the application is submitted; and to allow the project to be filed or submitted and signed by electronic means, where possible;

(2) (County Name) will not:

(A) Require an applicant to designate a final contractor to complete a project;

(B) Impose an unreasonable fee for reviewing an application or issuing a permit for a project. The fee will not exceed one hundred dollars (\$100);

(C) Impose a seasonal moratorium on the issuance of permits for projects; and

(D) Discriminate among communications services providers or utilities with respect to any action related to a broadband project, including granting access to public rights-of-way, infrastructure and poles, and any other physical assets owned or controlled by the political subdivision

(3) (County Name) acknowledges that:

(A) Tennessee Certified Broadband Ready Community has an affirmative duty to notify the Tennessee Economic and Community Development Department (TNECD) of any changes to the information submitted as part of its application.

(B) Failure to notify TNECD of changes may result in revocation of (County Name)'s Broadband Ready Certification.

Section 4. *This ordinance shall take effect immediately upon adoption by the governing body upon final reading, the public welfare requiring.*

PASSED AND SO ORDERED, this ___ day of ____, insert year.

_____(Mayor's Name) Mayor

_____(County Name)

Appendix C: Tennessee's Digital Opportunity Asset Inventory

1. AARP Older Adult Technology Services (OATS)
2. Al-Farooq Center
3. American Baptist College
4. API of Middle Tennessee
5. Art Circle Public Library
6. Bean Station Public Library
7. Black Tech Futures Research Institute
8. Blacks in Technology- Nashville Chapter
9. Bledsoe County Public Library
10. Blount County Public Library
11. Bristol Public Library
12. Bunkers Lab
13. Carolyn Stewart Public Library
14. Carroll County Library
15. Centro Hispano
16. Chattanooga Public Library
17. Cheatham County Chamber
18. Cheatham County Public Library
19. Chester County Library
20. Church Hill Public Library
21. City of Erin
22. City of Lewisburg Parks and Recreation
23. Civic TN
24. Clay County Public Library
25. Clinton Public Library
26. Clyde W. Roddy Public Library
27. Coalmont Public Library
28. Code Crew
29. Coffee County Lannom Memorial Public Library
30. Coffee County Manchester Public Library
31. Cokesbury United Methodist Church
32. Collinwood Depot Branch Library
33. Conexión Americas
34. Cosby Community Library
35. Covington-Tipton County Chamber of Commerce
36. CreatiVets
37. Crockett Memorial Library
38. Decatur County Library
39. Disability Rights TN
40. Dismas House
41. Dr. Nathan Porter Library
42. Dunlap Chamber of Commerce
43. East Ridge City Library
44. Elimu Empowerment Services
45. Elmahaba Center
46. Er2
47. Etowah Carnegie Public Library
48. Fentress County Public Library
49. Fifty Forward
50. Fred A. Vaught Library
51. Gallatin Chamber of Commerce
52. Gleason Memorial Library
53. Goodwill Construction Class
54. Grace Fellowship Church Johnson City
55. Greater Memphis Chamber of Commerce
56. Greater Memphis IT Council
57. Hardin County Library
58. Hickman County Public Library System
59. Hispanic Family Foundation
60. iCode Franklin
61. iCode Tri-Cities
62. Innovate Memphis
63. Jacksboro Public Library
64. Jackson-Madison County Library
65. John P Holt Brentwood Library
66. Johnson City Langston Centre
67. Kingsport Public Library
68. Knoxville Area Urban League
69. Knoxville Chamber of Commerce

70. Korean American Association of Nashville
71. La Paz
72. LaFollette Public Library
73. Lane College
74. Latino Memphis
75. Lauderdale County Library
76. Lebanon-Wilson County Public Library
77. Lee Ola Roberts Library
78. LeMoyne-Owen College
79. Lenoir City Public Library
80. Lewis County Public Library and Archives
81. Loretto Telecom
82. Loudon County Chamber of Commerce
83. Lucius E. and Elsie C. Burch, Jr. Library
84. Martin Public Library
85. McMinnville-Warren County Chamber of Commerce
86. Meigs Decatur Public Library
87. Memphis Urban League
88. Men of Valor
89. Metropolitan Government of Nashville and Davidson County- Information and Technology Services
90. Middleton Community Library
91. Millard Oakley Public Library
92. Millington Public Library
93. Moore County Public Library
94. Morristown-Hamblen Library
95. Mosheim Public Library
96. Munford-Tipton County Memorial Library
97. NAACP
98. Nashville International Center for Empowerment
99. Nashville Public Libraries
100. Nashville Technology Council
101. Ned R. McWherter Weakley County Library
102. New Direction Christian Church
103. Newbern City Library
104. Norris Community Library
105. Oak Ridge Public Library
106. Obion County Public Library
107. Orena Humphreys Public Library
108. Parrottsville Community Library
109. Persevere Now
110. Philadelphia Public Library
111. Pickett County Library
112. Pigeon Forge Public Library
113. Portland Public Library of Sumner County
114. Pulaski Electric System
115. Refugee Empowerment Program (REP)
116. Regional Housing Authorities
117. Ridgely Public Library
118. RoaneNet
119. Rocky Top Public Library
120. Sharon Public Library
121. Signal Centers Inc.
122. Smyrna Public Library
123. Spark Center
124. Star Academy Charter School
125. Star Center
126. Stewart County Public Library
127. Stokes Brown Public Library
128. Sullivan County Public Library
129. Sunbright Public Library
130. Tech 901
131. Tennessee Center for Civic Learning and Engagement
132. Tennessee Chamber of Commerce
133. Tennessee Department of Education
134. Tennessee Department of Human Services- Tennessee Technology Access Program

135. Tennessee Department of Intellectual and Development Disabilities- Enabling Tech Program
136. Tennessee Department of Labor and Workforce Development- American Jobs Center
137. Tennessee Department of Labor and Workforce Development- Office of Reentry
138. Tennessee Farm Bureau Federation
139. Tennessee Immigrant and Refugee Rights Coalition
140. Tennessee State Parks
141. Tennessee STEM Innovation Network (TSIN)
142. Tennessee Tech University
143. TERRA (The Electronics Reuse & Recycling Alliance)
144. The Arc Tennessee
145. The Enterprise Center
146. Thrive Regional Partnership
147. Thrive Sequatchie
148. Together for Hope
149. Unicoi County Public Library: Charles Ralph Holland Memorial Library
150. United Ways of Tennessee
151. University of Memphis
152. Urban League of Middle Tennessee
153. W.G. Rhea Public Library
154. Wayne County JECDB (Wayne County Government)
155. West End Home Foundation
156. West TN A&M Veteran's Program
157. White House Public Library
158. Women's Foundation for a Greater Memphis

Appendix E: List of Some of TNECD's Statewide Contacts

1. AARP Tennessee
2. Al Farooq Center
3. All Saints Immigration Services
4. API Middle Tennessee
5. Arab American Club of Knoxville
6. Black Tech Futures
7. Buffalo River Regional Library
8. Madison County Court
Appointed Special Advocates
for Children
9. Catholic Charities of East TN
10. Centro Hispano De East TN
11. Chattanooga Chinese
Association
12. Chattanooga Housing Authority
13. Chattanooga Public Library
14. Civic TN
15. Clinch River Regional Library
16. CodeCrew
17. Community Foundation of
Middle TN
18. Conexión Americas
19. Disability Rights TN
20. Dismas House
21. Elmahaba Center
22. Enterprise Center/Tech Goes
Home
23. East Tennessee Area Agency on
Agency and Disability
24. East Tennessee State University
Hispanic Student Community
Alliance
25. Falling Water River Regional
Library
26. Fifty Forward
27. Goodwill Construction Class
28. Greater Memphis IT Council
29. Greater Nashville Chinese
Association
30. Hatchie River Regional Library
31. Hispanic Family Foundation
32. Holston River Regional Library
33. Innovate Memphis
34. Islamic Center of Jackson
35. Islamic Society of Greater
Chattanooga
36. Jackson Housing Authority
37. Johnson City Housing Authority
38. Kingsport Housing and
Redevelopment Authority
39. Knox County Public Library
40. Knoxville Chinese Culture
41. Knoxville Community
Development Corporation
42. Knoxville Urban League
43. La Paz
44. Lane College
45. Latino Memphis
46. Memphis Housing Authority
47. Memphis Public Library and
Information Center
48. Memphis Urban League
49. Metropolitan Government of
Nashville and Davidson County-
Mayor's Office

50. Metropolitan Government of Nashville and Davidson County-Metropolitan Council
51. Metropolitan Development and Housing Authority
52. Middle Tennessee State University
53. Metropolitan Inter-Faith Association (MIFA)
54. Muslim Community of Knoxville
55. Nashville Area Hispanic Chamber of Commerce
56. Nashville International Center For Empowerment
57. Nashville Korean United Methodist Church
58. Nashville Public Libraries
59. Nashville Sherriff Office
60. Obion Regional Library
61. Occee River Regional Library
62. Operation Stand Down
63. Persevere Now
64. Project Return
65. Red River Regional Library
66. RoaneNet
67. Salahadeen Center of Nashville
68. Department of Human Services Office of Vocational Rehabilitation
69. Stones River Regional Library
70. Tech901
71. Tennessee Council on Developmental Disabilities
72. Tennessee Farm Bureau Federation
73. Tennessee Immigrant and Refugee Rights Coalition
74. The Chinese Historical Society of Memphis and the Mid-South
75. The United Way of Greater Nashville
76. The Village
77. Thrive
78. TN NAACP
79. Together for Hope
80. Tri-Cities Chinese Association
81. United Way of West Tennessee
82. University of Memphis
83. Urban League of Greater Chattanooga
84. Urban League of Middle TN
85. University of Tennessee (UT) Extension
86. West End Home Foundation
87. Workforce Essentials
88. Wounded Warrior Project (TN)

Appendix F: List of Digital Opportunity Taskforce Members and List of Individuals/Organizations Represented

- Pearl Amanfu, Digital Inclusion Officer for Metropolitan Government of Nashville and Davidson County
- Jay Baker, Tennessee Department of Labor and Workforce Development
- Kelsey Bensch/Angie Cooper, Heartland Forward
- Jennifer Cowan-Henderson, Tennessee State Library and Archives
- Meka Egwuekwe, Code Crew
- Jeremy Elrod, Tennessee Municipal Electric Association
- Mike Knotts, Tennessee Electric Cooperative Association
- Levoy Knowles, Tennessee Broadband Association
- Shannon Millsaps, Thrive Regional Partnership
- Matt Owen, Tennessee Advisory Council on Intergovernmental Relations
- Kim Sasser-Hayden, Tennessee Cable Broadband Association
- Deb Socia, Enterprise Center
- Sreedhar Upendram, University of Tennessee- Knoxville
- Regina Whitley, Greater Memphis IT Council
- Fallon Wilson, Black Tech Futures Research Institute

Appendix G: Covered Population Working Groups

Below is a list of organizations TNECD contacted to host needs assessment working groups to review initial findings and gather feedback on additional barriers for specific covered population. Organizations that are bolded are organizations that participated in the covered population working groups. TNECD recognizes that none of these groups represent the covered populations entirely; rather, they provided key perspective on needs and barriers among the specific communities they work with.

Aging Individuals

- **Department of Health**
- **Department of Human Services**

Incarcerated/Recently Incarcerated

- **Tennessee Corrections Institute**
- **Department of Corrections**
- **Department of Finance and Administration- Office of Criminal Justice Programs**
- **Department of Labor and Workforce-Office of Reentry**
- **TRICOR**

Individuals with Disabilities

- **Council on Developmental Disabilities**
- **Department of Intellectual and Developmental Disabilities**

Individuals with Language Barriers/Low Levels of Literacy

- **REP (Refugee Empowerment Program)**
- Al-Farooq Center
- Elmahaba Center
- Tennessee Immigrant and Refugee Rights Coalition
- Salahadeen Center of Nashville

Racial/Ethnic Minorities: Black Tennesseans

- **Knoxville Area Urban League**
- **Blacks in Technology**
- **Urban League of Middle Tennessee**

- Urban League of Chattanooga
- NAACP

Racial/Ethnic Minorities: Hispanic/Latino Tennesseans

- **Latino Memphis**
- **Centro Hispano**
- Hispanic Family Foundation
- La Paz
- Conexión Americas
- Nashville Hispanic Chamber

Racial/Ethnic Minorities: Asian Tennesseans

- API of Middle Tennessee
- Greater Nashville Chinese Association
- Greater Memphis United Chinese Association
- Korean American Association of Nashville

Rural Residents

- **Department of Agriculture**

Veterans

- Tennessee Department of Veteran Services

Appendix H: Organizations at Digital Opportunity Summit

1. Tennessee Department of Economic and Community Development
2. Metropolitan Government of Nashville and Davidson County
3. Tennessee Department of Labor & Workforce Development
4. Rhea Economic and Tourism Council, Inc
5. Clarksville Department of Electricity
6. Tennessee Department of Economic and Community Development
7. Tennessee Department of Education
8. Tennessee Broadband Association
9. United Communications
10. DTC Communications
11. Nashville Public Library
12. Middle Tennessee State University
13. Tennessee County Services Association
14. Communications Workers of America
15. Lane College
16. CodeCrew
17. LeMoyne-Owen College
18. Tennessee Municipal Electric Power Association
19. Upper Cumberland Development District
20. East Tennessee Development District
21. Scott County Telephone Cooperative
22. Electric Power Board Chattanooga
23. Memphis Public Library
24. Northwest Tennessee Development District
25. Heartland Forward
26. Operation Stand Down
27. Southeast Tennessee Development District
28. Urban League of Middle Tennessee
29. Workbay
30. The STAR Center, Inc.
31. Southwest Tennessee Development District
32. University of Memphis
33. Hispanic Family Foundation
34. University of Tennessee
35. Latino Memphis
36. Tech Goes Home
37. Accenture
38. Persevere Now
39. The Community Foundation of Middle Tennessee
40. Dismas House
41. Memphis Area Association of Government
42. The Enterprise Center
43. Thrive Regional Partnership
44. Tech901
45. Knoxville Chamber of Commerce
46. AARP
47. Middle Tennessee State University
48. Tennessee Advisory Commission on Intergovernmental Relations
49. Highland Telephone Coop
50. U.S. Department of Housing and Urban Development
51. Tennessee Cable and Broadband Association
52. Comcast

- 53. National Telecommunications & Information Administration
- 54. Loretto Telecom
- 55. Tennessee Council on Developmental Disabilities
- 56. Matthew 25, Inc.
- 57. The Arc Tennessee
- 58. Tennessee STEM Innovation Network - Battelle

- 59. Aeneas Communications, LLC
- 60. Tennessee State University
- 61. Greater Memphis IT Council
- 62. Citizens Fiber Initiative Group
- 63. Black Tech Futures Research Institute
- 64. American Baptist College

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Appendix I: Regional Listening Session Information

Region	Date/Time	Address
Northwest Tennessee	March 7 th , 2023 12:00-2:00 PM (CST)	Northwest Tennessee Development District 124 Weldon Dr, Martin, TN 38237
Memphis Area	March 8 th , 2023 4:00-6:00 PM (CST)	LeMoyné-Owen College Alma Hanson Student Center 807 Walker Ave, Memphis, TN 38126
Southwest Tennessee	March 9 th , 2023 12:00-2:00 PM (CST)	Southwest Tennessee Development District 102 E College St, Jackson, TN 38301
Upper Cumberland	March 28 th , 2023 12:00-2:00 PM (CST)	Upper Cumberland Development District 1104 England Drive, Cookeville, TN 38501
Southeast Tennessee	April 10 th , 2023 12:00-2:00 PM (EST)	Southeast Tennessee Development District 1000 Riverfront Pkwy, Chattanooga, TN 37402
East Tennessee	April 11 th , 2023 11:00-1:00 PM (EST)	Blount County Public Library 508 N Cusick St, Maryville, TN 37804
Northeast Tennessee	April 12 th , 2023 5:30-7:30 PM (EST)	Chucky Doak High School 365 Ripley Island Rd, Afton, TN 37616
Northeast Tennessee	April 13 th , 2023 10:30-12:30 PM (EST)	Johnson City Senior Center

		510 Bert St, Johnson City, TN 37601
Northeast Tennessee	April 13 th , 2023 12:30-1:30 PM (EST)	Greene County School Officials (Virtual)
Northeast Tennessee	April 13 th , 2023 5:30-7:30 PM (EST)	Elizabethton Chamber of Commerce 615 E Elk Ave, Elizabethton, TN 37643
South Central Tennessee	April 25 th , 2023 12:00-2:00 PM (CST)	South Central Tennessee Development District 101 Sam Watkins Blvd, Mount Pleasant, TN 38474
Nashville	May 2 nd , 2023 5:00-7:00 PM (CST)	The Temple 5015 Harding Pike Nashville, TN 37205
Nashville	May 9 th , 2023 12:00-2:00 PM (CST)	Jefferson Street Baptist Church 2708 Jefferson Street Nashville, TN 37208
Statewide	May 18, 2023 6:00PM (CST)	Wounded Warrior (Virtual)
Nashville	May 24, 2023 5:30PM (CST)	Plaza Mariachi 3955 Nolensville Pike, Nashville, TN ,37211
Nashville	May 25, 2023 2:00PM (CST)	MEGA Tennessee Conference Loews Nashville, 2100 West End Ave, Nashville, TN, 37203
Nashville	June 8, 2023 5:00PM (CST)	Bordeaux Public Library 4000 Clarksville Pike, Nashville, TN, 37218

Appendix J: Digital Opportunity Survey Questions

1. Do you consider yourself a part of any of the following populations? (Select all that apply)
 - a. Aging Individual
 - b. English Language Learner
 - c. Individual with a Disability
 - d. Low Income Household
 - e. Racial/Ethnic Minority
 - f. Recently Incarcerated Individual (within the last 6 months)
 - g. Rural Resident
 - h. Veteran
 - i. I do not consider myself a member of any of these populations

2. What is your zip code?

3. What types of devices, if any, do you have at home to connect to the Internet?
 - a. Desktop
 - b. Laptop
 - c. Smartphone
 - d. Tablet
 - e. I do not have any of these devices in my home
 - f. Other:

4. What are your barriers to accessing the Internet? Please select your top three reasons.
 - a. Broadband Infrastructure (I do not have internet access at my home or residence)
 - b. Cost (I cannot afford to pay for internet service)
 - c. Digital Skills (I do not know how to use digital resources like a computer)
 - d. Equipment (I do not have access to a laptop, computer, or a tablet)
 - e. Privacy (I do not know how to use the internet safely)
 - f. Technical Support (I do not know where to go when I need help using digital devices or services)
 - g. None (I do not face any barriers to accessing the Internet)
 - h. Other:

5. What are you interested in learning more about? (Please select all that apply)
 - a. Finding public Wi-Fi locations
 - b. Lowering my internet bill
 - c. Attending classes to learn how to use a computer
 - d. Purchasing a discounted device
 - e. None

- f. Other:
- 6. What have been some challenges accessing digital opportunity resources? Are there suggestions on how to make these resources more accessible?
- 7. Where would you go to learn more about the items listed above? (Ex. Affordable Connectivity Program (ACP), Digital Skills Trainings, Equipment Access Programs, Broadband Infrastructure Projects, etc.)
 - a. Community Institutions (Schools, Churches, Libraries, etc.)
 - b. Internet Service Providers
 - c. Non-Profit Organizations
 - d. State/Local Government Agencies
 - e. Social Media
 - f. Word of Mouth
 - g. Other:

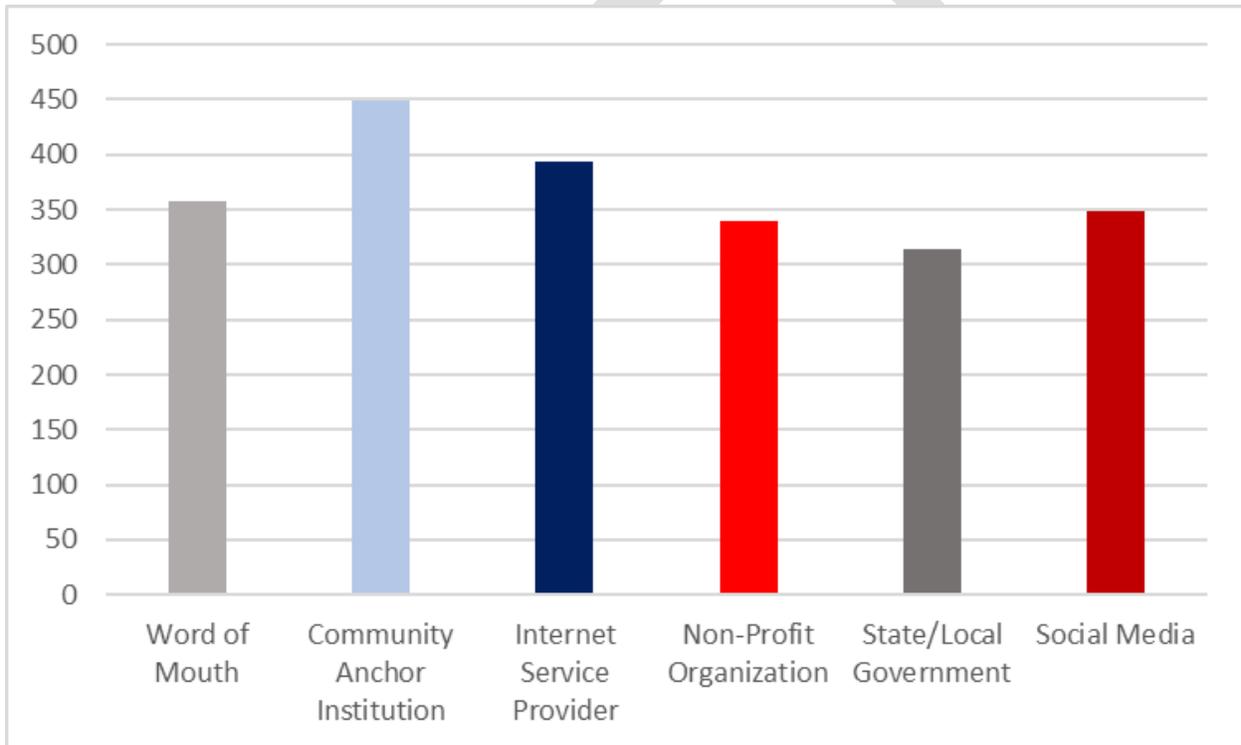
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Appendix K: Digital Opportunity Survey Responses to Question 7

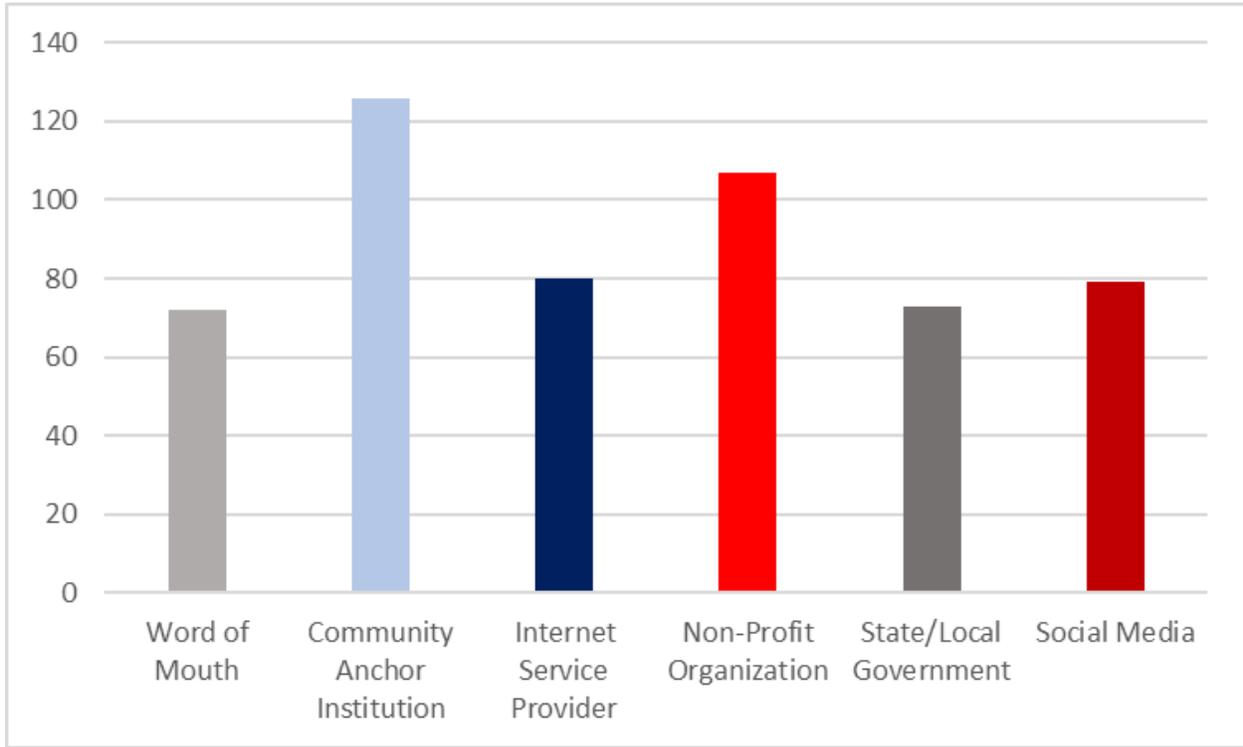
Q7: Where would you go to learn more about the items listed above? (Ex. Affordable Connectivity Program (ACP), Digital Skills Trainings, Equipment Access Programs, Broadband Infrastructure Projects, etc.)

- a. Community Institutions (Schools, Churches, Libraries, etc.)
- b. Internet Service Providers
- c. Non-Profit Organizations
- d. State/Local Government Agencies
- e. Social Media
- f. Word of Mouth
- g. Other:

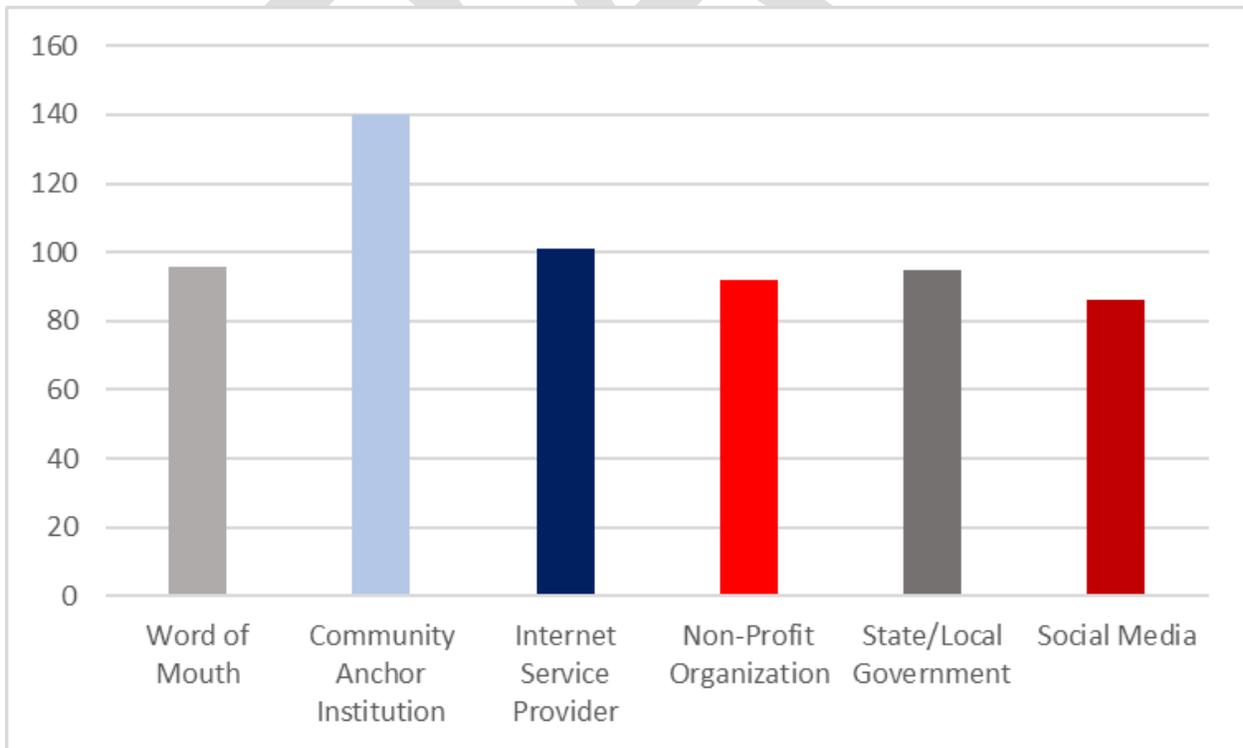
General Responses:



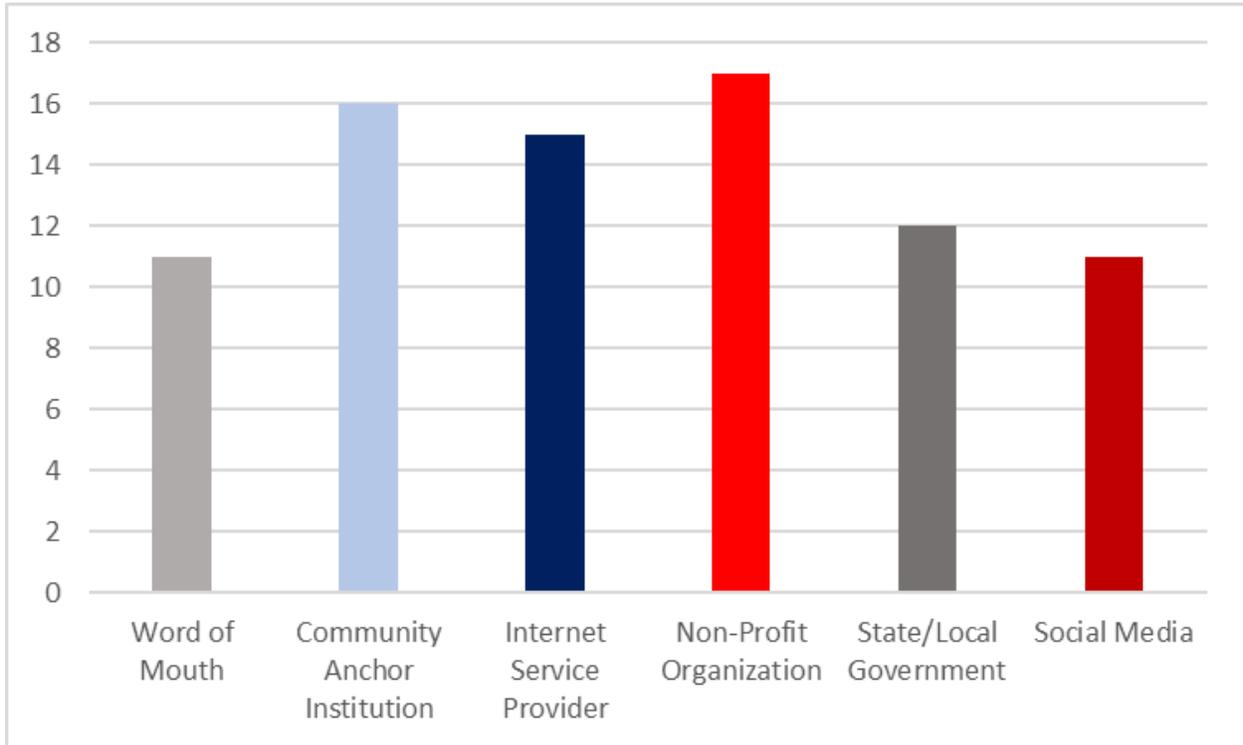
Responses for Racial/Ethnic Minorities:



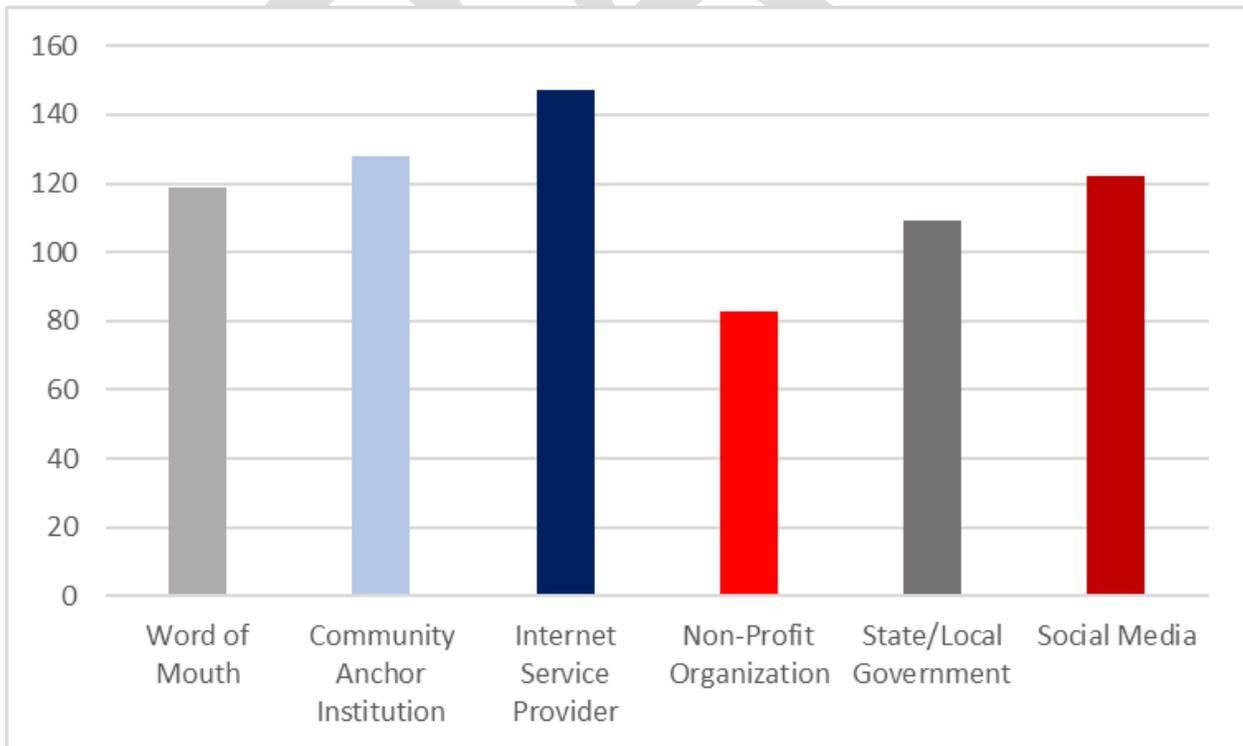
Responses for Low-Income Households:



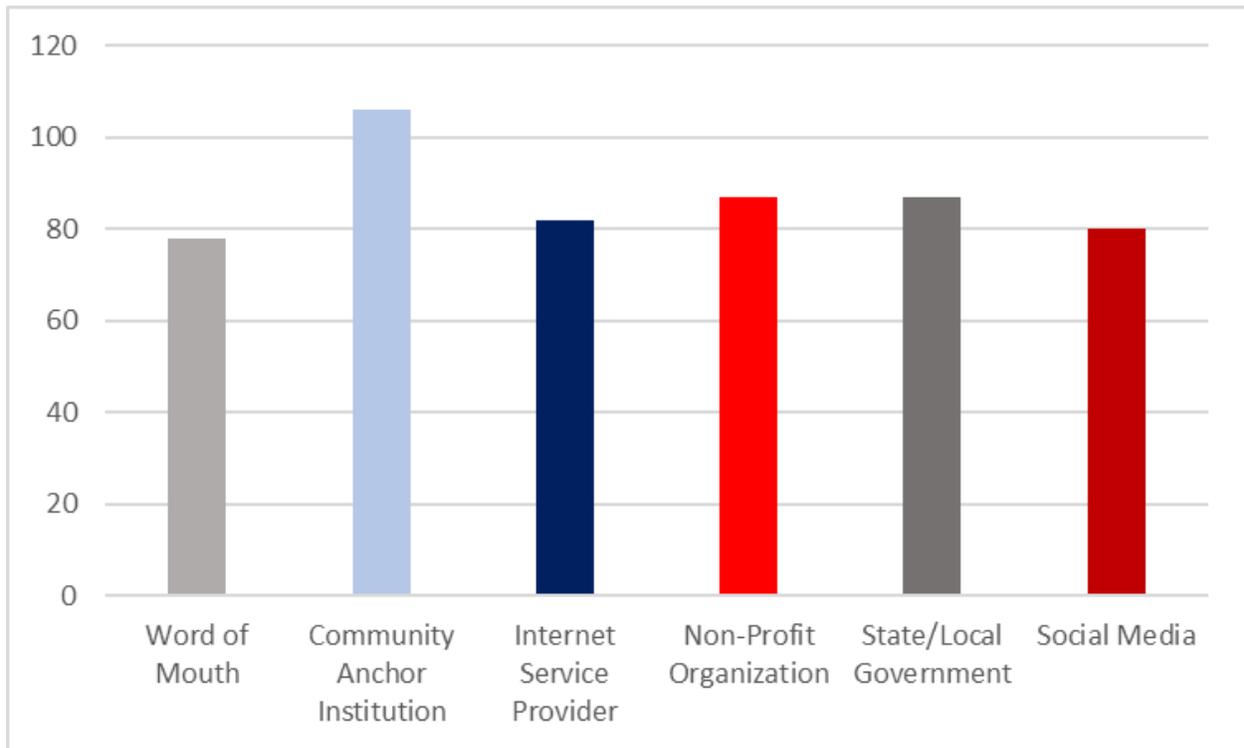
Responses for English Language Learners:



Responses for Rural Residents



Responses for Individuals with Disabilities



Appendix L: Digital Opportunity Summit Program Agenda

 <p>WELCOME TO</p> <h1>DIGITAL OPPORTUNITY SUMMIT 2023</h1> <p>SCHEDULE 3</p> <p>TNECD & THE BROADBAND OFFICE 5</p> <p>FEATURED SPEAKERS 7</p> <p>DE & BEAD OVERVIEW 11</p>		<h3>TUESDAY, AUGUST 8</h3>	
		9:00 AM	WELCOME ADDRESS AND INTRODUCTIONS » Brooxie Carlton, TNECD Assistant Commissioner of Community and Rural Development » Taylre Beaty, TNECD Broadband Director
		9:45 AM	SESSION 1: ENVISIONING SESSION
		10:15 AM	SESSION 2: DIGITAL OPPORTUNITY PLAN SECTION REVIEW: VISION AND GOALS
		11:00 AM	SESSION 3: DIGITAL OPPORTUNITY PLAN SECTION REVIEW: COLLABORATION, STAKEHOLDER ENGAGEMENT AND NEEDS ASSESSMENT
		11:35 AM	LUNCH
		12:35 PM	SESSION 4: DIGITAL OPPORTUNITY INNOVATORS » Christy Batts, Chief Broadband Officer for CDE Lightband » Meka Egwuekwe, co-founder and Executive Director of CodeCrew » Sammy Lowdermilk, Program Director of Tech Goes Home Tennessee
		1:05 PM	SESSION 5: DIGITAL OPPORTUNITY PLAN SECTION REVIEW: ACTION STEPS STRATEGY AND IMPLEMENTATION
		1:40 PM	SESSION 6: ISPs: PAVING THE PATH FOR DIGITAL OPPORTUNITY » William Bradford, President and CEO of United Communications » Evann Freeman, Director of Government Relations of EPB » Stephen Thorpe, Chief Executive Officer of Aeneas Communications
		2:20 PM	SESSION 7: DE & BEAD PLAN UPDATE
		2:50 PM	TASKFORCE CELEBRATION
		3:00 PM	CLOSING REMARKS
			3

Appendix M: Tennessee Promise Information

Overview

Tennessee Promise is both a scholarship and mentoring program focused on increasing the number of students that attend a postsecondary institution in our state. It provides students a last-dollar scholarship, meaning the scholarship may cover the cost of tuition and mandatory fees not covered by the federal Pell grant, the HOPE Scholarship, or the Tennessee Student Assistance Award at any of the state's 13 community colleges or 27 colleges of applied technology. Students may also use the scholarship at other eligible institution offering an associate degree program, but at these institutions the award would be capped at the average cost of tuition and mandatory fees at the community colleges.

While removing the financial burden is key, a critical component of Tennessee Promise is the individual guidance each participant will receive from a mentor who will assist the student as he or she navigates the college admission process. Students may apply for the Tennessee Promise Scholarship by the November 1 deadline of the academic year the student will graduate from high school, complete a home school program, or complete a GED/HiSET program. Students are required to participate in a mandatory meeting where there will be provided resources pertinent to the Tennessee Promise Scholarship program. Students are also required to complete eight (8) hours of community service for each term in which he/she is enrolled, and students are required to maintain satisfactory academic progress (2.0 GPA) at their respective institution. Students are also required to enroll in the fall semester following graduation from high school, completion of a home school program or a GED/HiSET program. Students who graduate early may be eligible to participate in the spring semester immediately following graduation. For more information, visit <https://www.tn.gov/tnpromise>.