

State Digital
Equity Plan

CONNECTICUT:
**EVERYONE
CONNECTED**

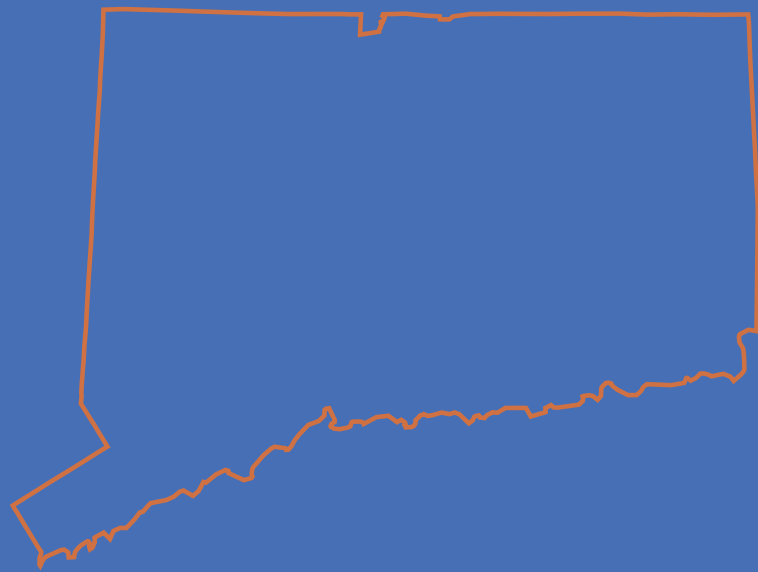


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Glossary

Key Terms:

The Digital Equity Team has defined these terms, in an effort to support reading the Connecticut State Digital Equity Plan.

Affordability - The ability of a consumer to access a good or service at a cost not damaging to their overall financial well-being. Affordable devices or internet does not mean the same thing everywhere or for everyone, and federal regulating bodies have not specified what makes an internet subscription affordable.

Broadband - High Speed internet access defined by the FCC as a minimum of 25 megabits per second (mbps) download and 3 mbps upload speeds, often written 25/3. For modern internet use, a typical household likely needs a minimum of 100/20 to accomplish distance learning, remote work, and video conferencing.

Community Anchor Institution - A public school, a public or multi-family housing authority, a library, a medical or healthcare provider, a community college or other institution of higher education, a State library agency, and any other nonprofit or governmental community support organization.

Broadband Adoption - Residential subscribership to high-speed internet access at speeds, quality and capacity necessary to accomplish common tasks.

Connectivity - The capability to use the internet for data transmission and/or communication with another user, computer, network, or system.

Covered Household - Means a household, the income of which for the most recently completed year is not more than 150 percent of an amount equal to the poverty level, as determined by using criteria of poverty established by the Bureau of the Census. (NOFO- Page 8) (57 uses).

Covered Populations - As defined by the Digital Equity Act of 2021, covered populations are those for whom digital exclusion “exacerbates existing wealth and income gaps.” The Act defines eight covered populations:

- Individuals who live in covered households: Households with income no more than 150 percent of the federal poverty threshold.
- Aging individuals: 60 years and older.
- Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility: All persons in State prisons, local jails and other municipal confinement facilities, correctional residential facilities, and correctional facilities intended for juveniles.
- Veterans: All persons aged 18 years and older who served in the armed forces in the past but are no longer on active duty.
- Individuals with disabilities: [no definition provided by Digital Equity Act]
- Individuals with a language barrier, including individuals who are English learners and have low levels of literacy: English learners are defined as individuals who speak a language other than English at home and speak English less than “very well.”
- Individuals who are members of a racial or ethnic minority group: The population who identify as a race other than White alone or as Hispanic or Latino of any race.

- Individuals who primarily reside in a rural area: The rural population is defined as the population living outside of cities and towns with more than 20,000 residents or living outside larger cities and towns with more than 50,000 residents and their surrounding urban areas.

Devices - In computing, a unit of internal or external hardware capable of providing input to the essential computer or receiving output or both. In digital inclusion work, a device allows an individual to access and navigate the internet and complete basic productivity tasks. Typically, this means a laptop or desktop computer, a tablet, or in some cases a smartphone.

Digital Access - The information technology capacity needed by an individual, community, or group for full participation in our society, democracy, and economy. Digital Access refers to personal opportunity for civic and cultural participation, employment, lifelong learning, and access to essential services.

Digital Divide - The gap between those who have affordable access, skills, and support to effectively engage online and those who do not. As technology constantly evolves, the digital divide prevents equal participation and opportunity in all parts of life, disproportionately affecting people of color, Indigenous peoples, households with low incomes, people with disabilities, people in rural areas, and older adults.

Digital Equity - The State of Connecticut defines "Digital Equity" as "a condition in which all individuals and communities have the information technology capacity needed for participation in society, democracy, and the economy of the state" (CGS § 289).

Digital Inclusion - 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 five elements:

- Affordable, [robust broadband internet service](#);
- Internet-enabled devices that meet the needs of the user;
- Access to digital literacy training;
- Quality technical support; and
- Applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration.

Digital Literacy - Digital Literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

Digital Navigators - Trusted guides who assist community members in the use of computing devices, internet adoption, and device procurement. Also called Mentors, Digital Navigators, or variations of Tech Help.

Fiber - Fiber Optics Internet, commonly referred to as fiber, is the technology by which data, voice and images are transmitted by the passage of light through thin, transparent fibers over long distances allowing faster broadband speeds. Other wired transmission methods for broadband service are Cable Modem, which uses coaxial television cables, and Digital Subscriber Line (DSL), which uses copper telephone lines.

SECTION 1
**EXECUTIVE
SUMMARY**



SECTION 1: Executive Summary







The Commission welcomes input on the Digital Equity Plan through January 19, 2024. To share your thoughts, fill out our short public comment form, write us at DigitalEquity@ct.gov, or call (860) 622-2032.

Vision

The State of Connecticut defines “Digital Equity” as “a condition in which all individuals and communities have the information technology capacity needed for participation in society, democracy, and the economy of the state” (CGS § 289). That is the vision behind this plan, “Connecticut: Everyone Connected,” which defines the resources, challenges, and path forward to making sure all residents can flourish in a society that depends ever more on access to digital tools and the skills to use them.

In 2022, Governor Ned Lamont called on the Connecticut Commission for Educational Technology within the Department of Administrative Services (DAS) to lead the State’s efforts around digital equity. Initial funding for this work comes through the Digital Equity Program, created as part of the 2021 Bipartisan Infrastructure Law. Federal guidelines require that Connecticut’s plan address the following aspects of digital equity:

 <p>Availability and affordability of internet access and devices</p>	 <p>Digital literacy, including training to help develop cybersecurity and other skills</p>	 <p>Technical support</p>	 <p>Access to public resources and services</p>
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The federal Digital Equity Program asks Connecticut to address the above goals as they pertain to priority groups (“covered populations”) and outcomes:

COVERED POPULATIONS

- Those living at or below 150 percent of the federal poverty line
- Aging individuals
- People incarcerated in State correctional facilities
- Veterans
- Individuals with disabilities
- People with a language barrier (English learners and those with low literacy levels)
- Members of a racial or ethnic minority group
- Residents who primarily reside in a rural area

OUTCOMES

- Economic and workforce development
- Education
- Health
- Civic and social engagement
- Delivery of essential services

See Section 2 to learn more about the State’s **Vision** for digital equity.

Current State of Digital Equity

Designing a plan with measurable outcomes requires an understanding of what resources are in place to support these efforts – and of the gaps to achieving digital equity in the state. In 2022 and 2023, the DAS digital equity team conducted research in partnership with other State agencies, the University of Connecticut School of Public Policy, and other stakeholder groups to establish these baseline measures. Key components of the research include the following:



Resident Survey

Measures of access to technology and the barriers to connections, devices, training, and support that residents face



Partner Survey

An index of the programs that support access to broadband, devices, and digital skills training



Expert Interviews

Based on the covered populations and target outcomes, discussions with State and other agencies to understand existing programs and barriers to achieving digital equity



Focus Groups

In-depth discussions with members of covered populations to identify barriers in accessing and using technology



General Research

Analysis of existing data sets – especially those from highly reliable sources such as the U.S. Census American Community Survey – and academic literature

Based on the activities above, the digital equity team created an inventory of resources that expand access to technology and digital skills, as well as a needs assessment to close the digital divide in Connecticut.





Asset Inventory

Hundreds of programs exist across the state to assist residents in getting online and using technology for learning, work, healthcare, and other beneficial activities.

Federal Programs

More than 170,000 Connecticut households participate in the federal Affordable Connectivity Program (ACP), with credits to offset home broadband costs totaling more than \$23M to date and providing device purchase assistance to more than 25,000 residents, totaling nearly \$2.5M. Additional funding is helping communities like East Hartford, Hartford, and New Haven with outreach efforts to increase enrollment. Expansion of broadband will take place through federal programs. And for nearly 25 years, the Connecticut Education Network has provided high-speed, protected internet connections to schools, libraries, universities, and other anchor institutions.

State Agency Resources

Coordinated strategic plans across 20+ State agencies address the economic, education, health, civic, and service-delivery goals of the Digital Equity Program.

Regional Initiatives

Existing regional groups include education centers, councils of government, and workforce boards that provide training and outreach to increase access to technology and skill development.

Local and Community Initiatives

Town-level as well as federal investments have helped local institutions — especially libraries — establish and expand novel initiatives such as “digital navigator” programs that train residents on how to get connected and use digital services to improve their lives.

Needs Assessment

Based on the activities above, the digital equity team has developed Digital Connection, Digital Literacy, and Digital Security benchmarks for all residents and members of each covered population:

WHAT DOES THE RESEARCH SAY ABOUT DIGITAL EQUITY IN CONNECTICUT?



DIGITAL CONNECTION BENCHMARK

Residents have all three:
 -A computer
 -A smartphone
 -A wired home internet connection



DIGITAL LITERACY BENCHMARK

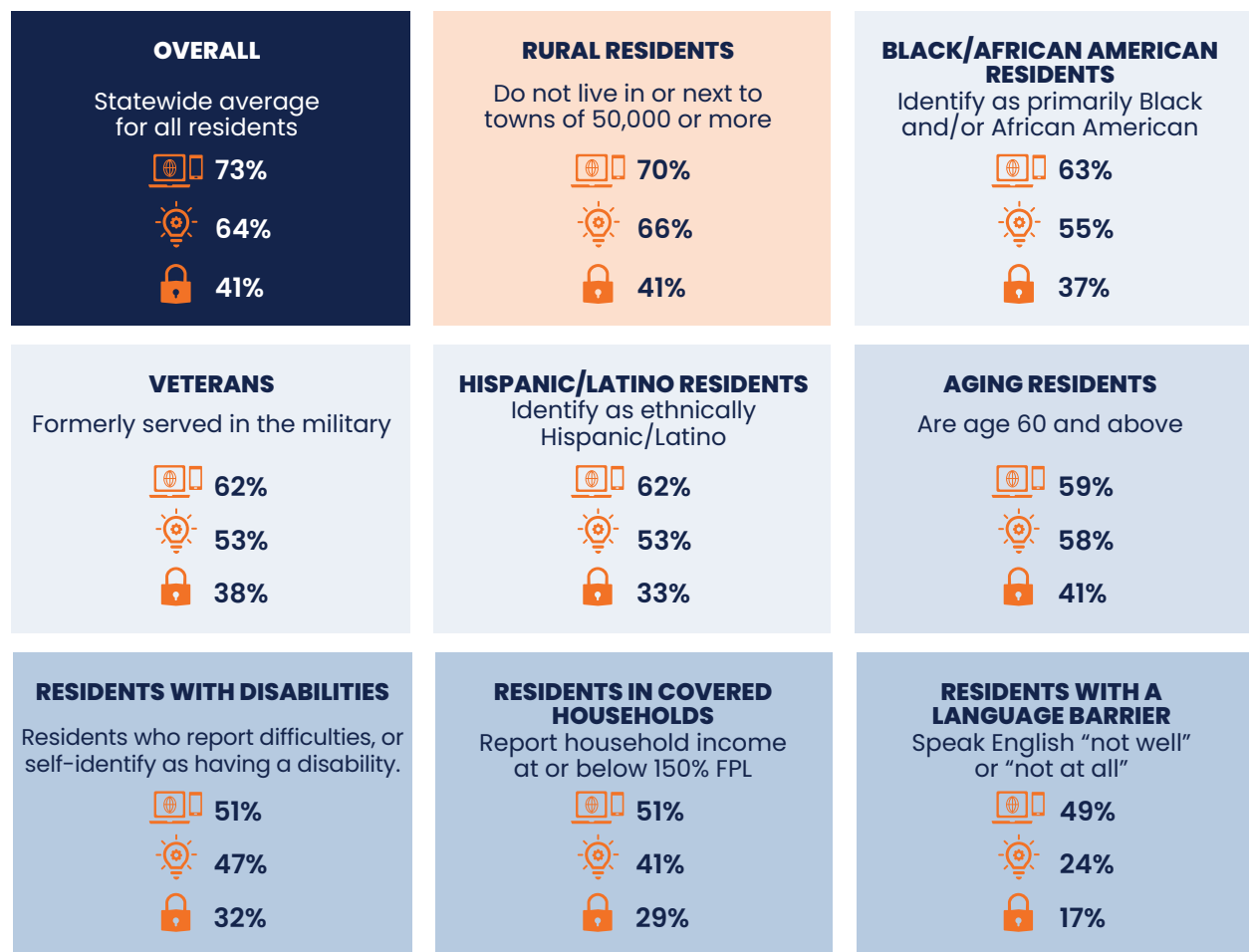
Residents said they could complete at least 5 of 6 key tasks without help



DIGITAL SECURITY BENCHMARK

Residents are very or fairly familiar with all key security concepts

The digital equity team collected benchmark scores for each covered population. Those with lower percentages meeting benchmarks face greater barriers to digital equity. The order is based on the Digital Connection Benchmark Score, the most reliable and replicable benchmark, which is based on U.S. Census data.



CURRENTLY INCARCERATED RESIDENTS

Incarcerated in a state correctional facility



0% of Currently Incarcerated Residents meet the Digital Connection Benchmark due to facility policies.



Currently Incarcerated Residents did not receive the resident survey, but recently incarcerated focus group members say they lack digital skills and digital security training.

For details on the resources in place and barriers to technology access that Connecticut residents face, see **Section 3: Assets and Needs**.

Collaboration and Stakeholder Engagement

The work and mission of DAS's Commission for Educational Technology have been grounded in achieving digital equity for the past 25 years. The Commission members as well as State agencies and partners helped streamline collaboration and stakeholder engagement even before DAS received funds to develop this plan. Outreach to support digital equity efforts fall into three phases:

Stage 1 Core, Partner, and Public Outreach

Recruitment of Core Planning Team members (subject-matter experts); discovery through Agency and community partners; insights through focus groups, surveys, and community outreach events.

Stage 2 Public Comment

In-person and online events to enable all residents and partner organizations to provide feedback on the draft Digital Equity Plan.

Stage 3 Implementation

Leveraging the power of regional conveners to collect input through trusted local partners to help bring about the goals of the Digital Equity Plan.

For the complete list of partners and outreach activities, see **Section 4: Collaboration and Stakeholder Engagement.**

Implementation

Connecticut: Everyone Connected, the State's five-year Digital Equity Plan, establishes goals that leverage and expand existing efforts and directly address the needs that residents face:

1. Promote Development of Digital Skills and Technical Support Programs
2. Increase Public Awareness of Digital Equity Resources
3. Ensure Residents Have Affordable Options for Getting Online that Meet Their Needs
4. Support Development of Accessible and Inclusive Digital Government at the State and Local Levels
5. Support High-Speed Broadband Infrastructure Buildout
6. Foster Ongoing Learning About Digital Equity Best Practices

The Plan begins and ends with residents. The deployment of broadband and computers remains an essential condition to expanding technology access, and improving lives depends on awareness, trust, and relationships. The Connecticut Plan will align with State and local initiatives to accomplish these goals. And while the process of working toward digital equity is never "complete" — as new technologies emerge and Connecticut welcomes new residents of all ages — efforts over the next five years will establish a sustainable framework that helps ensure everyone in our state can benefit from life-enhancing digital tools and services.

For more details on the goals above, including a detailed timeline, see Section 5: Implementation.



SECTION 2

VISION FOR DIGITAL EQUITY AND ALIGNMENT WITH EXISTING EFFORTS

Section 2: Vision for Digital Equity and Alignment with Existing Efforts

2.1 Vision

Connecticut’s vision for digital equity is for all residents to flourish across every aspect of life — from learning, working, and civic engagement to general wellbeing — with the assistance of technology tools and skills. These outcomes will take place through a collaborative ecosystem of resources and services that improve lives through digital access. The shared understanding behind this vision arises out of concerted efforts to reduce barriers to technology. Connecticut State statute¹ defines “digital equity” as follows:

a condition in which all individuals and communities have the information technology capacity needed for participation in society, democracy and the economy of the state

In addition to the general sense of this definition, Connecticut sees digital equity as deeply personal. Regardless of individual gifts, challenges, or lived experiences, every Connecticut resident has a right to engage fully in society, in person and online.

Making this vision a reality aligns with federal definitions of digital equity and its components: access to affordable, high-speed connections; devices that serve the needs of residents; skills that improve their ability to use technology effectively; support to use those digital tools; and unfettered access to services that expand insights and improve lives.

With each resident at the center of this vision, Connecticut acknowledges the strengths of its current digital ecosystem as the starting point for a future in which individuals and groups at the local, regional, and state level partner to identify and provide sustainable resources that support digital equity. Achieving digital equity in turn supports the current and evolving strategies in Connecticut to advance personal and collective welfare. Access to and effective use of technology should remain a catalyst and accelerator of human flourishing.

¹ Connecticut General Assembly. Public Act 21-159, “CGS §289 Sec. 16-330a. Definitions.” https://cga.ct.gov/current/pub/chap_289.htm accessed December 1, 2023.

2.2 Alignment with Existing Efforts to Improve Outcomes

Connecticut’s Digital Equity Plan will complement municipal, regional, and statewide efforts to serve residents and communities through the expansion of access to broadband.

In line with program requirements for the Digital Equity Program, the digital equity team investigated the alignment of statewide services that serve specific “covered populations.” Each covered population is presented in the table below, along with the estimated share of Connecticut’s population that belongs to that covered population.

Table 3: Covered Population

	Estimated share of CT population²	Definition
Aging Residents	31%	Age 60+
Residents with Disabilities	14%	Residents who report difficulties, or self-identify as having a disability
Residents in Covered Households	21%	Residents from households under 150% of the Federal Poverty Level
Residents with Language Barriers	5%	Residents who report difficulty reading and/or writing English
<i>Members of Racial/Ethnic Minority Groups (see below)</i>		
+Black/African American Residents	10%	Residents who identify primarily as Black/African American
+Hispanic/Latino Residents	15%	Residents who self-identify as Hispanic/Latino
Rural Residents	11%	Residents who live in towns that have a population of less than 50,000, and are not adjacent to any towns of 50,000 or more
Veterans	5%	Residents who formerly served in the military
Residents Currently Incarcerated in State Facilities	<1% ³	Residents who currently reside in a state correctional facility. In some cases, residents who have recently re-entered society are used to estimate the needs of currently incarcerated individuals.

² Except where noted, these estimates come from an analysis of the Census ACS 5-year Microdata for Connecticut, and are restricted to adults 18 and over. U.S. Census Bureau. *2017-2021 ACS 5-year Microdata*. Retrieved via API call. Estimates created using the R packages tidyctcensus and snyyr. November 30, 2023.

³ Number for residents currently incarcerated in state facilities provided by the Department of Corrections.

Economic and Workforce Development Goals, Plans, and Outcomes

The Department of Economic and Community Development (DECD) and Governor’s Workforce Council are already digitizing workforce and training programs and expanding internet access across the state. The Digital Equity Plan supports the digital initiatives of both plans by filling gaps in the digital inclusion ecosystem.

The DECD’s 2021 Economic Action Plan leveraged the Governor’s Broadband for All initiative, formalized in Public Act 21-159,⁴ which allocated \$40 million to expanding broadband access through better broadband mapping, enhanced public networks, and increased broadband build-out. The Economic Action Plan highlighted that affordability of broadband was a key barrier to economic productivity and the effective utilization of work-from-home arrangements during the pandemic.⁵ By supplementing Broadband for All outreach with the development of affordable device distribution networks, the Digital Equity Plan will ensure that residents have equal opportunity to make use of public wireless networks and affordable connection options.

The 2020 Governor’s Workforce Council’s Strategic Plan prioritizes digital literacy as a key competency for student learning and instructor professional development. The plan illustrates the growing necessity of digital skills for students entering the workforce.⁶ The Digital Equity Plan will support programs run through trusted local partners that can meet needs for digital skill development in a holistic way. These foundational supports can serve as bridges to connect learners with the skills they need to pursue more specialized digital training and professional development. This work will foster a more digitally skilled and supported workforce, prepared for the challenges of a digital age.

⁴ Connecticut General Assembly. Public Act 21-159, “CGS §289”, https://cga.ct.gov/current/pub/chap_289.htm accessed December 1, 2023.
Connecticut Department of Economic and Community Development. Economic Action Plan 2021. (September 30, 2021). https://portal.ct.gov/-/media/DECD/Research-Publications/ED_StrategyPlans/DECD-Economic-Plan-2021final.pdf, accessed November 30, 2023.
⁵ Governor’s Workforce Council. Workforce Strategic Plan 2020. <https://portal.ct.gov/-/media/Office-of-the-Governor/News/20201028-Governors-Workforce-Council-Strategic-Plan.pdf>, accessed November 30, 2023.

Table 4: Economic and Workforce Development Strategies

How Digital Equity Will Support

Covered Populations

Regional Sector Partnerships	Online Accessibility & Inclusivity	Aging Residents
Credential Registry System	Digital Literacy	Residents with Disabilities
Skills-Based Hiring and Training Systems	Online Privacy & Cybersecurity	Residents in Covered Households
Retail College Graduates Workforce Development Board Alignment		Residents with Language Barriers
Career Pathways		Members of Racial/Ethnic Minority Groups (see below)
Sector-Based Training		Rural Residents
Work-Based Learning		Veterans
Accelerating Postsecondary Access		Residents Currently Incarcerated in State Facilities
Academic and Career Advising		
Tech Talent Accelerator		
Improving Teacher and Student Preparedness		
Adult Education		

Educational Outcomes

Connecticut’s K – 12 education ecosystem already has a strong technology infrastructure, which the Digital Equity Plan will leverage. From a policy and leadership perspective, the State put in place more than 20 years ago the Connecticut Commission for Educational Technology (the lead agency on this Digital Equity Plan) to champion the effective use of technology for teaching and learning at the K – 12, higher education, and adult learning levels. One of the Commission’s earliest efforts was creating the Connecticut Education Network (CEN), which today provides high-speed and secure broadband to every school district and university, as well as most libraries.

During the pandemic, when learning went remote, the State and private funders purchased computers and broadband vouchers to ensure every K – 12 student had a connected device for learning at home. The ratio of 1:1 computer programs, already high before

COVID-19, remains nearly universal. In most cases, students can retain their school-issued devices upon graduation, providing uninterrupted digital access while they search for jobs or pursue further education.⁷

The State Board of Education’s draft 5-year strategic plan⁸ recognizes the monumental changes students are likely to experience over the course of their lives through the rise of artificial intelligence and rapidly changing technologies. That plan seeks to equip students with the literacy skills to navigate these technologies safely and effectively. And the State’s Interagency Council for Ending the Achievement Gap⁹ acknowledges the key role that technology access plays in ensuring equal opportunities for student achievement and the delivery of essential services to families.

Connecticut’s commitment to digital equity does not end with high school. In terms of public institutions, Connecticut is home to the University of Connecticut, its four regional state universities, Connecticut State Community College and Charter Oak State College, the State’s online college. Our state also boasts 15 private colleges and universities. Virtually every one of these institutions has as its mission the goal of preparing students of all ages for work, life, and continuing education. And each speaks to the importance of providing equitable access to opportunities for advancement, goals that align with and are supported by the State Digital Equity Plan.

Adult Education in Connecticut served more than 2,000 students with distance learning in 2021, with a combined total of more than 200,000 hours of instruction.¹⁰ Adult Education provides significant support for foundational digital skills by offering training through the Northstar digital literacy curriculum and offers hundreds of proctored assessments each year to students in a wide range of digital literacy areas.¹¹ Adult Education also distributes devices to learners in need when resources are available. Unfortunately, device and funding shortages have prevented them from reaching a 1:1 ratio.

The Digital Equity Plan will improve student outcomes by supplementing these initiatives. The United States Department of Education’s Office of Educational Technology recognizes that

⁷ Connecticut Commission for Educational Technology. Device and Internet Access in K - 12 Schools.

<https://portal.ct.gov/DAS/CTEdTech/Commission-for-Educational-Technology/Publications>, accessed December 1, 2023.

⁸ Connecticut State Department of Education. Draft State Board of Education Plan 2023-2028.

https://portal.ct.gov/-/media/SDE/Board/Draft_SBE_Comprehensive_Plan_2023-28.pdf accessed November 30, 2023.

⁹ Connecticut State Department for Education. “Interagency Council for Ending the Achievement Gap” [Ct.gov/sde](https://portal.ct.gov/sde).

<https://portal.ct.gov/SDE/Interagency-Council/Interagency-Council-for-Ending-the-Achievement-Gap> accessed November 30, 2023.

¹⁰ Number provided by Adult Education, based on the Adult Ed Distance Learning Federal Report Table 4C, 2021.

¹¹ Number provided by Adult Education, based on internal agency analysis of Northstar data.

informed parental involvement in digital learning leads to improved student outcomes.¹² As the plan helps to expand local digital resources to support the effective use of technology and foster affordable device distribution solutions, it will offer the resources parents require to stay digitally engaged. In turn, greater affordable device options will allow even more learners to benefit from the resources and programming that Adult Education offers. Together, state agencies and local partners can promote a holistic web of digital literacy support for students and parents, at school, at home, and on the way to the workforce.

Table 5: Strategic Priorities¹³

How Digital Equity Will Support

Covered Populations

Equitable access to education as well as great teachers and leaders	Online Accessibility & Inclusivity	Aging Residents
Safe, compassionate, and culturally responsive learning spaces	Digital Literacy	Residents with Disabilities
Curriculum frameworks that support rigorous, engaging instruction to ensure required skills for life beyond school	Online Privacy & Cybersecurity	Residents in Covered Households
Opportunities to explore multiple career pathways		Residents with Language Barriers
		Members of Racial/Ethnic Minority Groups (see below)
		Rural Residents
		Veterans
		Residents Currently Incarcerated in State Facilities

¹² Office of Educational Technology. "Parent and Family Digital Learning Guide,"

<https://tech.ed.gov/publications/digital-learning-guide/parent-family/> accessed November 30, 2023.

¹³ Connecticut State Department of Education. Draft State Board of Education Plan 2023-2028. https://portal.ct.gov/-/media/SDE/Board/Draft_SBE_Comprehensive_Plan_2023-28.pdf accessed November 30, 2023.

Health Outcomes

As the world of health services becomes increasingly digital, so does the potential of digital inequities to widen health inequities. In contrast, digitizing service delivery through telemedicine may offer the opportunity to decrease inequality by lowering barriers to access. The Connecticut Department of Public Health Strategic Plan articulates a number of goals that the Digital Equity Plan will support, especially in the area of resiliency and equity of access to high-quality healthcare. In DataHaven's 2021 Community Wellbeing Survey, respondents from households making under \$15,000 per year were more than three times as likely as respondents from households making over \$50,000 a year to say that they had missed a doctor's appointment in the last year because of lack of transportation.¹⁴ This could place lower-income residents at greater risk of poor health outcomes.

About half of all respondents reported at least one telemedicine visit in the last year, but those from low-income households were more than twice as likely to report that the visit had been by telephone only, rather than videoconference.¹⁵ This is unfortunate, since there is preliminary evidence that videoconference likely improves the outcomes of telemedicine visits.¹⁶ Expanded access to technology should also help residents access their own medical records and leverage digital health and wellness resources.

By supporting the expansion of affordable device and internet options, and the development of skills to make effective use of those tools, the Digital Equity Plan will improve accessibility of telemedicine.

¹⁴ DataHaven 2021 Community Wellbeing Survey crosstabs:

<https://www.ctdatahaven.org/sites/ctdatahaven/files/DataHaven%20CT%20Statewide%20Crosstabs%20Summer%202021%20083021.pdf>

¹⁵ *Ibid.*

¹⁶ Jorge A. Rodgiguez, MD and Joseph R. Betancourt, MD. "Differences in the use of telephone and telemedicine visits during the COVID-19 pandemic." *AJMC*, (January 14, 2021). <https://www.ajmc.com/view/differences-in-the-use-of-telephone-and-video-telemedicine-visits-during-the-covid-19-pandemic> accessed 11/30/2023.

**Table 6:
Strategic Priorities¹⁷****How Digital Equity
Will Support****Covered
Populations**

Health Access & Quality	Online Accessibility & Inclusivity	Aging Residents
Community-Centered Solutions	Digital Literacy	Residents with Disabilities
Resilience Against Health Threats	Online Privacy & Cybersecurity	Residents in Covered Households
Public Health Workforce Development		Residents with Language Barriers
Trust & Transparency		Members of Racial/Ethnic Minority Groups (see below)
		Rural Residents
		Veterans
		Residents Currently Incarcerated in State Facilities

Civic and Social Engagement

The internet offers more opportunities for residents to participate in digital town halls and other public events. The Connecticut Digital Equity Plan will complement existing efforts to make civic events available to residents. Digital town halls at the state and local level have been available to Connecticut residents for over a decade now.¹⁸ Remote access to these events — both live and as on-demand archives — makes them more accessible for residents who cannot attend them in-person because of scheduling or transportation barriers.

In addition to participating in formal events, digital tools offer residents the opportunity to share their opinions, hear from their neighbors, and learn about current events. However, an internet connection and a device are not sufficient to improve social and civic engagement. Because residents can find a wealth of both accurate and inaccurate information (i.e., “misinformation”), media literacy is required to improve civic engagement.¹⁹

17 Connecticut Department of Public Health. Strategic Plan 2023 – 2025. (<https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/State-Health-Planning/Strategic-Planning/DPH-2023-2025-Strategic-Plan.pdf>) accessed November 30, 2023.

18 Gov. Jodi Rell. “State Reaching out to Citizens in First Electronic Town Hall Meeting on Mental Health Transformation Initiative.” <https://www.ct.gov/governorrell/cwp/view.as>

19 Renee Hobbs. “How Media Literacy Supports Civic Engagement in a Digital Age.” Communications Studies Faculty Publications. University of Rhode Island. https://digitalcommons.uri.edu/cgi/viewcontent.cgi?article=1048&context=com_facpubs accessed on November 30, 2023.

Table 7: Strategic Priorities**How Digital Equity Will Support****Covered Populations**

In-Person and Remote Voting Materials (CT.gov/SOTS)	Online Accessibility & Inclusivity	Aging Residents
Public Education Programming (ARPA funded)	Digital Literacy	Residents with Disabilities
SOTS Newsletter	Online Privacy & Cybersecurity	Residents in Covered Households
League of Women Voters Programming		Residents with Language Barriers
Red, White and Blue Schools Program		Members of Racial/Ethnic Minority Groups (see below)
		Rural Residents
		Veterans
		Residents Currently Incarcerated in State Facilities

Delivery of Other Essential Services

The Digital Equity Plan will also contribute to the deployment of other essential services by helping residents access them in the most convenient manner possible. This work includes ongoing efforts to digitize services delivered through State agencies. (See Section 3.1.1 for details.) Utilities also fall under the category of “essential services.” Companies serving the state provide support to residents in using online bill-paying and account management tools, for example. Online payments to Connecticut utility companies have steadily increased relative to mailed payments since January of 2020, as have the number of accounts connected to a web ID.²⁰ The Digital Equity Plan will increase the number of Connecticut residents who have the option to use digital methods to receive or engage with essential services. The banking and financial services industries have also actively engaged in efforts to move services online, equipping residents with the choices and agency to manage money and protect their privacy.

²⁰ Data shared from Connecticut utilities and shared through the Office of Consumer Counsel.

Table 8: Strategic Priorities**How Digital Equity Will Support****Covered Populations**

Digitization of State Services	Online Accessibility & Inclusivity	Aging Residents
Digitization of Utility and Other Essential Services	Digital Literacy	Residents with Disabilities
Online Banking and Financial Services	Online Privacy & Cybersecurity	Residents in Covered Households
		Residents with Language Barriers
		Members of Racial/Ethnic Minority Groups (see below)
		Rural Residents
		Veterans
		Residents Currently Incarcerated in State Facilities

Municipal, Regional, and Tribal Plans

Many of Connecticut’s municipalities have recognized the importance of digital access and inclusion in their strategic planning. Only two municipal Digital Equity Plans were identified at a local level, in New Haven and Mansfield. The digital equity team has reviewed these plans to identify synergies with the state Digital Equity Plan. Some municipal Plans of Conservation and Development (POCDs) also included components of digital equity without a holistic strategy. Local plans focus primarily on the expansion of broadband infrastructure and public wi-fi access points (see Section 3.1.2). While no formal digital equity plans exist for Connecticut’s Tribal Nations, the State has conducted outreach to and engaged with stakeholders from the Tribes and welcomes the opportunity to collaborate on common digital equity objectives.

The digital equity plan will empower regions to deploy locally sensitive digital skills and digital literacy programs. In this way, the plan will ensure that residents can fully benefit from municipal efforts to expand infrastructure. The plan will also enhance local digital inclusion work by increasing awareness of affordable internet programs for residents, sharing learnings on best practices, and ensuring access to a framework for digital skill development.

Other State Broadband Initiatives

Connecticut has already taken significant steps forward in identifying and closing gaps in broadband availability. The sections below provide highlights of these initiatives.

- State Legislation: Connecticut Public Act 21-159 (An Act Concerning Equitable Access to Broadband, CGS §289)²¹ establishes within the Office of Policy and Management a broadband mapping capability based on carrier-provided availability and adoption data (see BroadbandMaps.CT.gov). That legislation also calls on the Department of Energy and Environmental Protection (DEEP) to lead the development of ARPA-funded broadband expansion efforts as well as Connecticut's Broadband Equity, Access, and Deployment (BEAD) program.
- Connecticut Five-Year Broadband Action Plan:²² This plan serves as a strategic roadmap to achieve the state's broadband goals and serves as a comprehensive needs assessment that will inform the next steps of the funding process. Submission of the plan to the National Telecommunications and Information Administration (NTIA) also brings the state one step closer to receiving the more than \$144 million awarded to Connecticut through the BEAD Program this summer.
- Connecticut Broadband Report (2022):²³ This report provides insight into Connecticut's progress toward closing the digital divide via interagency efforts to facilitate the expansion of broadband infrastructure and support digital equity efforts across the state.
- BEAD Initial Proposal:²⁴ This document outlines the key strategies and design for achieving Connecticut's broadband expansion goals. Municipalities, internet service providers, community organizations, and additional stakeholders are encouraged to provide.

²¹ Connecticut General Assembly. Public Act 21-159, "CGS §289", https://cga.ct.gov/current/pub/chap_289.htm accessed December 1, 2023.

²² Connecticut Department of Energy and Environmental Protection. Connecticut's Five-year Broadband Action Plan, (2023). <https://portal.ct.gov/-/media/DEEP/energy/Broadband/CT-BEAD-Five-Year-Action-Plan.pdf> accessed December 1, 2023.

²³ Connecticut Department of Energy and Environmental Protection, Connecticut Broadband Report, (2022). https://portal.ct.gov/-/media/DEEP/energy/Broadband/DEEP_CT-Broadband-Report_FINAL.pdf, accessed December 2, 2023.

²⁴ Connecticut Department of Energy and Environmental Protection. "Broadband Equity, Access, and Deployment Program," CT.Gov. <https://portal.ct.gov/DEEP/Energy/Broadband-Deployment/BEAD-Program> accessed December 1, 2023.

- Feedback, insights, and suggestions during this comment period. As of the time of this writing, the plan is in public comment, scheduled to end Friday, November 17, 2023.
- CEN ConneCT:²⁵ The Connecticut Education Network (CEN) provides high-speed, secure Internet and connectivity services to every school district and university, as well as most libraries, towns, and state agencies, in Connecticut. CEN Connect is a program that provides direct investment in middle-mile broadband infrastructure in support of Connecticut’s municipalities, schools, colleges, universities, libraries, healthcare, open access, and cultural arts institutions, through upgrades and expansion of CEN. In addition, the program offers grant funding opportunities to attach to the CEN platform for Community Wi-Fi access²⁶ to CT citizens in need.
- Digital Navigation: In 2021, the Connecticut State Library, Division of Library Development, received ARPA funding to pilot digital navigation programs²⁷ in four public libraries. Each deployed “navigators” who work directly with residents who need computers, low-cost broadband in the home, and/or skills to participate fully in the digital world and gain access to such necessities as telehealth, employment assistance, social benefits, educational resources, and cultural enrichment. In 2023, the Connecticut State Library, in collaboration with 8 public libraries, will design and implement a replicable model for regional sharing of digital navigation services to underserved residents. The State Library of Connecticut’s Regional Navigator Sharing Plan will engage with 2,000 residents in need, distribute 400 computers, and create a toolkit for replication of such regional library collaboration. The implementation of this model is expected to inform those responsible for Digital Equity Act projects across the United States of ways to introduce centralization and efficiencies into the smaller navigation project models with which they are familiar.

²⁵ Connecticut Education Network. “CEN Connect: Where Connectivity Builds Community.” <https://ctedunet.net/cen-connect/> accessed December 1, 2023.

²⁶ Connecticut Education Network. “Community Wireless (Wi-Fi) Grant Program.” <https://ctedunet.net/cwifi/> accessed December 1, 2023.

²⁷ CT State Library. “ARPA Grants to CT Public Libraries.” <https://libguides.ctstatelibrary.org/dld/ARPAgrants/DNP> accessed December 1, 2023.

- Digital Skills Assessment: The Connecticut State Library, Division of Library Development has purchased a subscription to Northstar Digital Literacy for public libraries in Connecticut. Northstar Digital Literacy strategies align with states' digital equity plans. Northstar provides assessments, instructor-led curricula, and self-directed online learning for basic digital literacy skills. They provide standards for Essential Computer Skills, Essential Software Skills and Using Technology in Daily Life.²⁸
- Broadband Advocacy Office: Since 2015, Connecticut has had an Office of State Broadband (OSB) established by statute within the Office of Consumer Counsel, an independent state agency advocating on behalf of consumer interests in utility matters and broadband, telecommunications and cable regulatory and judicial proceedings. The Office of State Broadband is directed to "work to facilitate the availability of broadband access to every state citizen and to increase access to and the adoption of ultra-high-speed gigabit capable broadband networks." OSB is authorized to collaborate with state agencies, public and non-profit entities and provide advisory assistance to municipalities, local authorities and private corporations for maximizing opportunities for the expansion of broadband. OSB actively participates in state and national initiatives, as well as in proceedings at the FCC such as rule-making in the Digital Discrimination and the Safeguarding and Securing the Open Internet Dockets. OSB also serves as a resource for Connecticut State agencies administering the BEAD and Digital Equity programs, municipalities and libraries, state legislators and executive branch officials.

²⁸ CT State Library. "Digital Literacy: Digital Literacy." <https://libguides.ctstatelibrary.org/dld/digitliteracy/home> accessed December 1, 2023.



SECTION 3
**ASSETS
AND NEEDS**

Section 3: Assets and Needs

3.1 Asset Inventory

Progress toward digital equity will allow Connecticut residents an opportunity to shift the trajectory of their lives. A thoughtful review of resources available at the state and regional levels, among community anchor institutions, and regional and other municipal plans was necessary to determine the goals and strategies necessary to empower individuals with digital tools and skills.

There are many State agencies, collaboratives, and organizations that serve Connecticut's 3.5 million residents and 169 towns. Available resources vary at the local level. This section will outline the asset inventory process and then describe the State agencies and community anchor institutions that serve Connecticut's covered populations.

Connecticut Department of Administrative Services (DAS) Commissioner Michelle Gilman began this process by enlisting the help of her fellow State agency leaders, asking them to help identify programs that serve the covered populations that the Digital Equity Plan would serve. Following that outreach, DAS's Commission for Educational Technology conducted a series of comprehensive meetings with key leadership agencies. These meetings took place to look at the alignment of strategic plans, inventory programs, and assess needs to enhance technology access and adoption among our state's residents.

Based on these conversations, which led to introductions to other key leadership organizations, the State identified several categories of assets available to covered populations:

- State Agency Resources
- Regional Initiatives
- Local and Community Resources

3.1.1 Asset Inventory by Covered Population

State Agency Resources

Developing an asset inventory that includes resources, programs, and strategies that promote digital equity for each of the covered populations started at the state level. The digital equity team began to gather an asset inventory through organic meetings with State agencies. Those agencies went on to identify local partners.

The Process:

1. The digital equity team conducted outreach to the leadership of the following State agencies: Agency List: For more information on the listed agencies, see Appendix A. State Agency Descriptions.
 - a. Commission on Human Rights and Opportunities
 - b. Connecticut State Colleges and Universities
 - c. Connecticut State Library
 - d. Connecticut Technical High School System
 - e. Department of Aging and Disability Services
 - f. Department of Correction
 - g. Department of Economic and Community Development
 - h. Department of Education
 - i. Department of Housing
 - j. Department of Labor
 - k. Department of Public Health
 - l. Department of Social Services
 - m. Department of Veterans Affairs
 - n. Office of Early Childhood
 - o. Office of Workforce Strategy
 - p. Secretary of the State
2. The team conducted informational interviews with each agency.
3. Agency leadership often made referrals to additional partners, including other State agencies and non-profits.
4. To ensure a wide range of organizational representation, the digital equity team and the BEAD team cooperatively launched a Community Anchor Institution Survey to catalog the resources available to residents.

The final catalog of resources available to residents from State programs is extensive. An overview is presented in the table below. For a more detailed list, see Appendix B: State Programs to Support Covered Populations: [Full Table](#).

Table 9: State Programs to Support Covered Populations²⁹

Covered Population

Aging

1. [Aging and Disability: Resource Centers](#)
-  2. [Aging and Disability: Benefits Counseling](#)
-  3. [Aging and Disability: CHOICES \(Connecticut’s program for health insurance assistance, outreach, information and referral, counseling, eligibility screening\)](#)
4. [Aging and Disability Congregate Housing Services Program](#)
5. [Aging and Disability Connect to Work Project](#)
-  6. [Aging and Disability Connecticut Partnership for Long-Term Care](#)
7. [Aging and Disability LGBTQ+ Resources for Older Adults](#)
8. [Aging and Disability Live Well - a Chronic Disease Self-Management Program](#)
9. [Aging and Disability No Wrong Door Initiatives](#)
10. [Aging and Disability Older Worker Program](#)
-  11. [Aging and Disability Senior Community Service Employment Program](#)
-  12. [Aging and Disability Senior Medicare Patrol](#)

²⁹ Appendix B: State Programs to Support Covered Populations: [Full Table](#)

Covered Population
Residents with
Disabilities

1. (Digital Equity Specific) Aging and Disability Connecticut Tech Act Project
2. Aging and Disability: Adult Services - Bureau of Education and Services for the Blind
3. Aging and Disability: Adult Services – Bureau of Rehabilitation Services
4. Aging and Disability: Resource Centers
5. Aging and Disability: Benefits Counseling
6. Aging and Disability Business Enterprise Program
7. Aging and Disability Children's Services Program - Bureau of Education and Services for the Blind
8. Office of Early Childhood: Birth to Three
9. CHOICES (Connecticut's program for health insurance assistance, outreach, information and referral, counseling, eligibility screening)
10. Aging and Disability Deaf and Hard of Hearing Counseling
11. Aging and Disability Independent Living Program
12. Aging and Disability Level Up



Covered Population
Ethnic and Racial
Minorities

1. Department of Education: (Digital Equity specific) [21st Century Community Learning Centers](#)
2. Department of Education: [Interagency Council for Ending the Achievement Gap](#)

Covered Population
Covered Households

1. [Office of Early Childhood: Care 4 Kids](#)
2. [Office of Early Childhood: State-funded early care and education programs](#)
3. Department of Education: (Digital Equity specific) [21st Century Community Learning Centers](#)
4. Department of Education: [Homeless Education](#)
5. Department of Education: [Interagency Council for Ending the Achievement Gap](#)
6. [Department of Housing: UniteCT Workforce Rental Assistance Program](#)

Covered Population

Language Barriers



1. Department of Education: (Digital Equity specific) [21st Century Community Learning Centers](#)
2. Department of Education: [Interagency Council for Ending the Achievement Gap](#)



Covered Population

Rural

There are no rural population specific state agency programs, though the digital equity team has conducted outreach to members of the General Assembly's Rural Caucus.

Covered Population

Veterans

1. Department of Veterans Affairs: Office of Advocacy and Assistance
2. Department of Veterans Affairs: Residential Programs
3. Department of Veterans Affairs: Long Term Care - Skilled Nursing
4. Department of Veterans Affairs: Cemetery and Memorial Services
5. Department of Veterans Affairs: Mental Health Resources for Veterans, their Families and Employers
6. Department of Veterans Affairs: [Sgt. John L. Levitow Veterans Healthcare Center](#)
7. [Department of Veterans Affairs: Annual Stand Down Program](#)
8. [Aging and Disability Veterans Directed Home and Community Based Services Program](#)

Covered Population

Residents Currently Incarcerated in State Facilities



Connecticut Department of Correction Unified School District #1
All schools have computer testing labs.

A more detailed summary of how State agencies serve covered populations in ways that support digital equity is provided in the following pages.

For more detailed information on the State Information Technology Strategic Plan, see the State Information Technology Strategic Plan 2023³⁰ on the state website.

³⁰ Connecticut Office of Policy and Management, "The State of Connecticut Information and Telecommunications Strategic Plan FY23 - Part I," accessed November 29, 2023, <https://portal.ct.gov/-/media/OPM/Fin-CFO/The-State-of-Connecticut-Information-and-Telecommunications-Strategic-Plan-FY23---Part-I.pdf>.

- a. **Commission on Human Rights and Opportunities:**³¹ The Connecticut Commission on Human Rights and Opportunities³² (CHRO) is dedicated to eliminating discrimination through civil and human rights law enforcement. Their mission is to establish equal opportunity and justice for all individuals in the state through advocacy and education.
- b. **Connecticut State Colleges and Universities:**³³ Colleges and universities in Connecticut play a crucial role in promoting digital equity. They contribute to digital equity through various means, including providing access to technology, ensuring inclusive learning management systems, engaging in research and advocacy. This involvement helps bridge the digital divide and ensures all students have equitable access to educational tools, regardless of their socio-economic background.
- c. **Connecticut State Library:**³⁴ As an Executive Branch agency, the Connecticut State Library provides diverse services, including library, information, archival, public records, museum, and administrative services. The State Library supports citizens, government officials, researchers, public libraries, and town governments throughout the state. Their work in digital navigation further extends their commitment to serving the community.
- d. **Connecticut Technical High School System:**³⁵ The Connecticut Technical High School System (CTHSS) plays a significant role in promoting digital equity by ensuring all students have equal access to digital resources and opportunities. This includes access to technology, digital literacy curriculum, affordable digital learning resources, support services, and data collection for effective resource allocation.
- e. **Department of Aging and Disability Services:**³⁶ Recognizing the importance of digital equity for aging and residents with disabilities individuals, the Department of Aging and Disability Services plays a vital role in ensuring these populations have equal access to digital resources, technologies, and information. This effort enhances their independence, well-being, and access to necessary services and support.
- f. **Department of Correction:**³⁷ With a specific focus on School District #1, the Department of Correction is responsible for providing education to resident students currently incarcerated in State Facilities, serving a covered population within the correctional system.

³¹ Connecticut Commission on Human Rights and Opportunities, "CHRO IT Strategic Plan 2022" (2022), accessed November 29, 2023, <https://portal.ct.gov/-/media/CHRO/Reports/2022-CHRO-IT-Strategic-Plan.pdf>.

³² Connecticut Commission on Human Rights and Opportunities (CHRO) - Our Purpose Connecticut Commission on Human Rights and Opportunities, & Our Purpose," accessed November 29, 2023, <https://portal.ct.gov/CHRO/Commission/Commission/Our-Purpose>.

³³ Connecticut State Colleges and Universities, "CSCU," accessed November 29, 2023, <http://www.ct.edu/>.

³⁴ Connecticut State Library, "About," accessed November 29, 2023, <https://ctstatelibrary.org/about/>.

³⁵ Connecticut Technical Education and Career System, "CTECS," accessed November 29, 2023, <https://portal.ct.gov/SDE/School-Choice/CT-School-Choice/Connecticut-Technical-Education-and-Career-System>.

³⁶ Department of Aging and Disability Services, "Connecticut Department of Aging and Disability Services," accessed November 29, 2023, <https://portal.ct.gov/AgingandDisability>.

³⁷ Department of Correction, "Connecticut Department of Correction," accessed November 29, 2023, <https://portal.ct.gov/DOC>.

- g. **Department of Economic and Community Development:**³⁸ Workforce: Career and Education Building; Equity and Access; Data and Accountability: This department focuses on workforce development, career and education building, equity, and access, emphasizing data and accountability to support economic plans.
- h. **Department of Education:**³⁹ As the administrative arm of the Connecticut State Board of Education, the Department of Education ensures equal opportunity and excellence in education for all students. They distribute funds to public school districts, emphasizing leadership, curriculum, research, planning, evaluation, and data analyses.
- i. **Department of Housing:**⁴⁰ Serving covered households and those with disabilities, the Department of Housing also addresses the needs of multiple covered populations, including ethnic and racial minorities, individuals with language barriers, rural residents, and veterans.
- j. **Department of Labor:**⁴¹ Supporting covered populations such as individuals with language barriers, members of covered households, racial and ethnic minorities, rural residents, and residents with disabilities, the Department of Labor plays a crucial role in workforce development.
- k. **Department of Public Health:**⁴² The Department of Public Health aligns with digital equity, ensuring equal access to digital resources and information for public health promotion, education, and healthcare services. This alignment becomes particularly crucial during public health emergencies and crises.
- l. **Department of Social Services:**⁴³ Working to serve covered populations, including those living at or below 150% of the poverty line, aging individuals, individuals with disabilities, racial and ethnic minorities, veterans, and individuals with language barriers, the Department of Social Services provides essential support.
- m. **Department of Veterans Affairs:**⁴⁴ (VA) Digital Equity Alignment: Aligned with digital equity, the Department of Veterans Affairs supports veterans, a covered population, throughout Connecticut with healthcare services, job training, support, and housing support services.
- n. **Office of Early Childhood:**⁴⁵ Overseeing early childhood care, education, and development programs, the Connecticut Office of Early Childhood (OEC) focuses on the critical early years of a child's life, ensuring a positive impact on their future health, education, and success.

³⁸ Department of Economic and Community Development, "Connecticut Department of Economic and Community Development" accessed November 29, 2023, <https://portal.ct.gov/GWC>.

³⁹ Connecticut State Department of Education, "About," accessed November 29, 2023, <https://portal.ct.gov/SDE/About>.

⁴⁰ Department of Housing, "About Us," accessed November 29, 2023, <https://portal.ct.gov/DOH/DOH/Main/About-Us>.

⁴¹ Department of Labor, accessed November 29, 2023, https://portal.ct.gov/dol/?language=en_US.

⁴² Department of Public Health, "About Us," accessed November 29, 2023, <https://portal.ct.gov/DPH>.

⁴³ Department of Social Services, "About the Department of Social Services," accessed November 29, 2023, <https://portal.ct.gov/DSS/About-the-Department-of-Social-Services>.

⁴⁴ Department of Veterans Affairs, & "About Us", accessed November 29, 2023, <https://portal.ct.gov/DVA/About-Us>.

⁴⁵ Connecticut Office of Early Childhood, accessed November 29, 2023, Connecticut Office of Early Childhood.

- o. **Office of Workforce Strategy:**⁴⁶ Supporting covered populations, including individuals living at or below 150% of the poverty line, individuals with language barriers, racial and ethnic minorities, veterans, and individuals with disabilities, the Office of Workforce Strategy plays a key role in workforce support.
- p. **Secretary of the State:**⁴⁷ Dedicated to serving underrepresented communities, the Secretary of the State's office promotes civic engagement among all Connecticut residents, with a specific focus on individuals living at or below 150% of the poverty line, those facing language barriers, racial and ethnic minorities, veterans, and individuals with disabilities.

Regional Initiatives

Examining these well-established regional initiatives will also contribute to advancing digital equity alignment. Consideration of these established regional initiatives will further support finding digital equity alignment. This section identifies the regional collaboratives considered.

Regional Councils of Governments⁴⁸ (COG- MAP)⁴⁹ Connecticut's nine planning regions, established under Section 16a-4c of the General Statutes, provide a geographic framework within which municipalities can jointly address common interests, and coordinate such interests with state plans and programs. The municipalities within each region have voluntarily created a Regional Council of Governments (RCOG), by adopting Secs. 4-124i through 4-124p, Gen. Stat., through local ordinance to carry out a variety of regional planning and other activities on their behalf, as authorized under Chapter 127, Gen. Stat.

Connecticut COGs:

- Capitol Region COG
- Connecticut Metro COG
- Lower Connecticut River Valley COG
- Naugatuck Valley COG
- Northeastern COG
- Northwest Hills COG
- South Central Regional COG
- Southeastern Connecticut COG
- Western Connecticut COG

⁴⁶ Connecticut Department of Economic and Community Development, "OWS Initiatives," accessed November 29, 2023, <https://portal.ct.gov/GWC/OWS-Initiatives>.

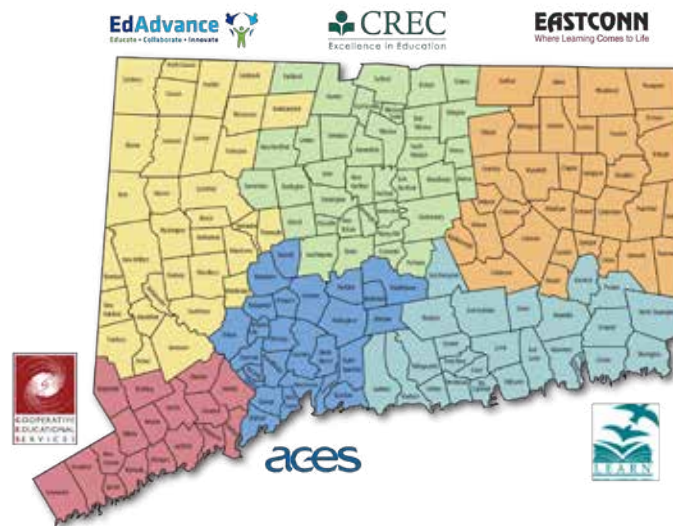
⁴⁷ Secretary of the State, "Connecticut Secretary of the State," accessed November 29, 2023, <https://portal.ct.gov/SOTS>.

⁴⁸ Connecticut Secretary of the State, "Regional Councils of Governments," accessed November 29, 2023, <https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Regional-Councils-of-Governments>.

⁴⁹ Connecticut Department of Transportation, "Councils of Governments and Metropolitan Planning Organizations," accessed November 29, 2023, <https://portal.ct.gov/-/media/DOT/documents/AEC/COGandMPOpdf.pdf>.

Regional Educational Services Centers⁵⁰ are nonprofit, fee-for-service, public education agencies with a mission to provide quality, cost-effective education resources, programs, and services to the state's public schools. In the 1990s, the six RESCs formed the RESC Alliance to create greater access to resources and savings for all Connecticut public schools. Each RESC is governed by an executive board composed of local school districts' Board of Education members.

Figure 1: Connecticut Regional Education Service Centers



Six Service Centers:

- Area Cooperative Education Services (ACES)
- Capitol Region Education Council (CREC)
- Cooperative Educational Services (C.E.S.)
- EASTCONN
- EdAdvance
- LEARN

Regional Educational Service Centers (RESCs) play a pivotal role in Connecticut's Digital Equity Plan, serving as essential partners in advancing our state's commitment to ensuring equitable access to digital resources and opportunities for all residents. RESCs possess the necessary infrastructure, allowing them to effectively support Connecticut's diverse communities by leveraging their local and regional facilities and resources.

One of the key strengths of RESCs is their unique ability to convene and collaborate with service organizations within each region. This collaborative approach ensures that every region within Connecticut receives equitable support, tailoring solutions to address the specific needs of local communities. By working closely with RESCs, we can foster a more

⁵⁰ Regional School Choice Office, accessed November 29, 2023, <https://www.rescalliance.org/?lightbox=dataitem-kr2brz9j>.

inclusive and connected digital landscape, bridging the digital divide and empowering all our residents to participate in the digital age.

Workforce Development Boards - There are five (5) Connecticut Regional Workforce Development Boards established by the Connecticut General Assembly. The boards have a regional focus and serve many functions including coordinating policy and programs, assessing employment and training needs and priorities, and coordinating programs that address regional needs.

Equity and access strategies seek to address persistent barriers that undermine access to sustainable work and training arrangements. The foremost barriers facing Connecticut’s lower-paid workforce include childcare, transportation, benefits cliffs, and access to behavioral health services. Many of these barriers disproportionately affect specific underserved populations. (Strategic Plan, pg. 11)⁵¹

Regional Workforce Development Boards:⁵² The Regional Workforce Development Boards feature prominently in the [Governor's Workforce Council Strategic Plan](#).⁵³ They serve Connecticut through a five-pronged regional approach.

- North Central Region: Capital Workforce Partners⁵⁴
- Eastern Region: Eastern CT Workforce Investment Board⁵⁵
- Northwest Region: Northwest Regional Workforce Investment Board, Inc.⁵⁶
- South Central Region: Workforce Alliance⁵⁷
- Southwest Region:⁵⁸ The Workplace, Inc.⁵⁹

Workforce development works to serve all Connecticut residents and digital equity is a fundamental support to aid in their efforts.

⁵¹ Connecticut Department of Economic and Community Development, “Workforce Development Boards: Strategic Plan” accessed November 29, 2023, Workforce Development Boards: Strategic Plan.

⁵² Connecticut Department of Labor, “Workforce Investment Board (WIB) Areas,” accessed November 29, 2023, Workforce Investment Board (WIB) Areas.

⁵³ Connecticut Department of Economic and Community Development, “Connecticut’s Workforce Innovation and Opportunity Act (WIOA) State Plan,” accessed November 29, 2023, <https://portal.ct.gov/-/media/GWC/GWC-Strategic-Plan-FINAL.pdf>

⁵⁴ Capital Workforce Partners, accessed November 29, 2023, <http://www.capitalworkforce.org>.

⁵⁵ Eastern Workforce Investment Board, accessed November 29, 2023, <http://www.ewib.org>.

⁵⁶ [Northwest Regional Workforce Investment Board](#)

⁵⁷ Northwest Regional Workforce Investment Board, accessed November 29, 2023, <http://www.nrwib.org>.

⁵⁸ Workforce Alliance, accessed November 29, 2023, <http://www.workforcealliance.biz>.

⁵⁹ WorkPlace, accessed November 29, 2023, Attachments 2020 Plan Draft.

Local and Community Resources

The Asset Inventory findings included numerous digital inclusion programs and organizations specifically supporting various covered populations. Resources in Connecticut vary at the local level. This includes community anchors, libraries, and adult education programs. Connecticut Adult and Continuing Education provides a full list of programs by town.⁶⁰ For a detailed list by covered population, see Appendix C: Nonprofits that Support Covered Populations.

Adult Education:⁶¹ Adult Education programs are free to Connecticut residents aged 17 and older who are no longer enrolled in a public school. Instructional programs are provided predominantly through local school districts. Programs are also available through various community and faith-based organizations. Adult Education breaks intergenerational cycles, builds civic engagement, and helps adults acquire the literacy or numeracy skills that they need to take the next step. This may include getting a job that enables residents to help support their families enroll in a community college. Adult Education meets current challenges, stimulates the economy, connects talent to employers, and is an integral part of the workforce system. Additionally, it unifies all four Workforce Innovation and Opportunity Act (WIOA)⁶² titles and provides wraparound services to the most marginalized populations. Millions of adult learners want to be connected and have the digital skills they need to get an education, turn in homework, find jobs, earn credentials to start or advance their careers, access telehealth services, communicate with teachers, family, and friends, and participate in online banking and other financial tasks.

Adult Education has a total of 53 agencies who receive state and/or federal funding to offer adult education programming across Connecticut. In Fiscal Year 2022-2023, adult education agencies across Connecticut served 22,063 residents. Adult learners must be digitally proficient to participate in the digital economy. Millions of adult learners want to be connected and have the digital skills they need to get an education, turn in homework, find jobs, earn credentials to start or advance their careers, access telehealth services, communicate with teachers, family, and friends, and participate in online banking and other financial tasks.

⁶⁰ Connecticut Adult and Continuing Education Program by Town. <https://static1.squarespace.com/static/571f6caec2ea512ae02540dc/t/6351ab40faca200b6950ccc1/1666296640463/2022-2023+Program+Directors+and+Additional+Contact+People+-+Program+Directory+by+Town+%281%29.pdf> accessed December 11, 2023.

⁶¹ Connecticut State Department of Education, "Adult Education Services," accessed November 29, 2023, <https://portal.ct.gov/SDE/Services/Adult-Education>.

⁶² Connecticut Department of Labor, "Workforce Innovation and Opportunity Act (WIOA)," accessed November 29, 2023, <https://www.ctdol.state.ct.us/wia/wioa.htm>. (WIOA) [Map](#)

Libraries:⁶³ Connecticut has 165 principal public libraries, and 25 non-principal public libraries resulting in 190 total public libraries (counting by administrative unit). There are also 45 branch libraries, and 5 libraries have Bookmobiles, for a combined total of 240 total library “Outlets”. There are 4 Towns with no libraries (these towns contract with other towns to provide services). Public Library funding and resources vary by community. There are 45 academic libraries that work to support enrolled students and are funded through student fees. Libraries play a crucial role in promoting digital equity by providing access to information, technology, and digital resources to all members of their communities, regardless of their socio-economic status, age, education level, or other potential factors. Libraries in Connecticut have a longstanding history as inclusive and equitable spaces that promote digital literacy and access to digital resources for everyone. They play a vital role in empowering individuals and communities to participate fully in the digital age, thereby reducing disparities in digital access and skills.

Connecticut Libraries and Partners for Digital Equity:⁶⁴ Connecticut Libraries and Partners for Digital Equity is a group gathered to ensure that community voices and the frontline experience of public library staff are elevated into the statewide conversation about digital equity best practices and policy priorities. Connecticut Libraries and Partners for Digital Equity will advance the collaboration of libraries, community organizations, state agencies, and philanthropic groups to advocate the achievement of digital equity through universal affordable residential broadband adoption, the provision of devices to all who lack them, digital life skills training, and technical support. We aim to amplify community voices and needs through educational presentations and conversations with libraries, library organizations, library partners, and library stakeholders around the state. We will work to ensure that CT residents have the tools necessary to support education, health, well-being, economic prosperity, and the ability to function fully in society.

⁶³ Connecticut State Library, “Connecticut Libraries Digital Equity Partners Map Widget,” accessed November 29, 2023, <https://libguides.ctstatelibrary.org/dld/CTLPDE/mapwidget>.

⁶⁴ Connecticut Libraries Digital Equity Partners, accessed November 29, 2023, <https://sites.google.com/view/ctlibrariespartnersdigequity>.

Asset Inventory Conclusions

Through the asset inventory, the digital equity team has identified three essential stakeholders to Digital Equity in Connecticut: The Alliance of RESCs, The Connecticut State Library and local libraries, and adult education programs. These stakeholders have shown tremendous potential to support the needs of Connecticut residents. Conclusions from focus groups and resident surveys point to the need for networks of trusted community organizations to support the goals set forth in the Digital Equity Plan for Connecticut.

The Alliance of RESCs, with their equity-focused missions and extensive experience in education, training, and technology, stands out as a pivotal partner with the capacity to deliver essential support in every Connecticut town. Through collaborative outreach efforts, Connecticut will entrust the RESC alliance with convening trusted community organizations and harnessing the potential to foster best practices that will advance the cause of digital equity in Connecticut.

Additionally, the Connecticut State Library and the local libraries within the state have demonstrated a remarkable track record of nurturing strong, enduring relationships with the communities they serve. These libraries play a fundamental role in digital equity, as they have consistently provided equitable access to the internet, technology, and valuable support for individuals seeking to enhance their technical skills.

Adult education programs have proven an invaluable resource for Connecticut residents in need of foundational skills. Their dedicated efforts have been essential to providing comprehensive support to the target populations, covering essential life skills and the tools necessary to promote digital equity and civic engagement. This holistic educational approach holds significant value for all residents throughout the state of Connecticut.

3.1.2 Existing Digital Equity Plans

The digital equity team identified only two towns (New Haven and Mansfield) with dedicated digital equity plans. The team also inventoried Plans of Conservation and Development (POCD) that included elements of digital equity across the state.

Municipalities are required by the Office of Policy and Management (OPM) to complete POCDs on a regular basis in order to be eligible for certain types of state funding. There is no requirement for POCDs to address broadband or digital equity. Towns that chose to include a forward-facing plan to address one or more elements of digital equity are noted in the inventory below.

No tribal plans containing elements of digital inclusion were identified, and none of Connecticut's indigenous nations applied for digital equity funding to create parallel plans.

Municipal plans that included components of digital equity focused most heavily on expanding internet infrastructure, with a secondary emphasis on expanding affordable internet by improving or adding public wi-fi. Only a few plans have contained initiatives to expand resident digital skills or access to affordable devices. Several towns pledged to make progress toward expanding their digital government offerings and make current resources more inclusive and effective. To see more about how each town in this table incorporated elements of digital inclusion, see Appendix D: Municipal Strategic Plans.

The digital equity team incorporated the inventoried plans (primarily POCDs) into the Digital Equity Plan by identifying common gaps in service areas, that is, initiatives that expand digital skills and access to affordable devices. The state Digital Equity Plan will address gaps that exist at the municipal level.

Table 10:

Town	Plan Name	Internet Infrastructure	Affordable Internet	Affordable Devices	Digital Skills/Digital Literacy	Resident Digital Security and Privacy	Accessibility/inclusivity of digital government and online public resources
Ansonia	2018 POCD	Yes	No	No	No	No	No
Barkhamstead	2017-2027 POCD	Yes	No	No	No	No	No
Berlin	2023-2033 POCD	Yes	No	No	No	No	No
Bolton	2015 POCD	Yes	No	No	No	No	No
Bridgeport	Plan Bridgeport	Yes	Yes	No	No	No	Yes
Burlington	2020 POCD	Yes	No	No	No	No	No
Cornwall	2020 POCD	Yes	No	No	No	No	No
Coventry	2020 POCD	Yes	No	Yes	Yes	No	No
Danbury	2023 POCD	Yes	No	No	No	No	No
Darien	2016 POCD	Yes	No	No	No	No	No
Easton	2018-2028 POCD	Yes	No	No	No	No	No
East Haddam	2019 POCD	Yes	No	No	No	No	No
East Lyme	2020 POCD	No	Yes	No	No	No	No
Greenwich	2019 POCD	Yes	No	No	No	No	No
Hamden	2019 POCD	Yes	No	No	No	No	No
Ledyard	2020 POCD	Yes	No	No	No	No	No
Mansfield	Mansfield Digital Inclusion Initiative	Yes	Yes	Yes	Yes	No	Yes
Middletown	2030 POCD	Yes	Yes	No	No	No	No
New Britain	2021 POCD	Yes	Yes	No	No	No	Yes
New Haven	City of New Haven Digital Inclusion Plan	Yes	Yes	Yes	Yes	No	Yes
New London	2017 POCD	Yes	No	No	No	No	No
New Milford	2021 POCD	Yes	Yes	No	No	No	No
Newington	2020 POCD	Yes	No	No	No	No	No
Norfolk	2019 POCD	Yes	No	No	No	No	No

Table 10:

Town	Plan Name	Internet Infrastructure	Affordable Internet	Affordable Devices	Digital Skills/ Digital Literacy	Resident Digital Security and Privacy	Accessibility/ inclusivity of digital government and online public resources
North Branford	2019 POCD	Yes	No	No	No	No	No
Plainville	2019 POCD	Yes	No	No	No	No	No
Redding	2018 POCD	Yes	No	No	No	No	No
Ridgefield	2020 POCD	Yes	No	No	No	No	No
Rocky Hill	2015 POCD	Yes	Yes	No	No	No	No
Roxbury	2020 POCD	Yes	No	No	No	No	No
Seymour	2016 POCD	Yes	No	No	No	No	No
Sherman	2023 POCD	Yes	No	No	No	No	No
Southington	2016 POCD	Yes	No	No	No	No	No
Stonington	2015 POCD	Yes	Yes	No	No	No	No
Stratford	Plan Stratford 2023-2033	Yes	No	No	No	No	No
Thompson	2022 POCD	No	Yes	No	Yes	No	No
Vernon	2021 POCD	Yes	Yes	No	No	No	No
Warren	2019 POCD	Yes	No	No	No	No	No
Waterbury	2015 POCD	Yes	No	No	No	No	No
Watertown	2018 POCD	Yes	No	No	No	No	No
West Haven	2017 POCD	No	No	Yes	No	No	No
Weston	2020 POCD	Yes	No	No	No	No	No
Willington	2018 POCD	Yes	No	No	No	No	No
Wilton	2019 POCD	Yes	Yes	No	No	No	No
Windsor Locks	2021 POCD	Yes	No	No	No	No	No
Windsor	2015 POCD	Yes	No	No	No	No	No

3.1.3 Existing Digital Equity Programs

Through the asset inventory, the digital equity team identified five existing digital equity programs, which are profiled below. These programs already provide much-needed affordability support and digital skill development to residents and members of covered populations.

Program: **Digital Navigator Program**

Leading Agency: **Connecticut State Library**

Funding Source: **National Leadership Grant**

Program Description: The Connecticut State Library, in collaboration with 8 public libraries, will design and implement a replicable model for regional sharing of digital navigation services to underserved residents.

Expected impact: The State Library of Connecticut's Regional Navigator Sharing Plan will engage with 2,000 residents in need, distribute 400 computers, and create a toolkit for replication of such regional library collaboration. The implementation of this model is expected to inform those responsible for Digital Equity Act projects across the United States of ways to introduce centralization and efficiencies into the smaller navigation project models with which they are familiar.

Program: **NorthStar Digital Literacy⁶⁵**

Leading Agency: **Connecticut State Library**

Funding Source: **The State of Connecticut and the Institute of Museum and Library Services under the provisions of the Library Services and Technology Act, administered by the Connecticut State Library**

Program Description: The Connecticut State Library, Division of Library Development has purchased a subscription to Northstar Digital Literacy for public libraries in Connecticut.

⁶⁵ Connecticut State Library, "Digital Literacy LibGuide," accessed November 29, 2023, <https://libguides.ctstatelibrary.org/dld/digitliteracy/home>.

Expected Impact: Northstar Digital Literacy strategies align with states' digital equity plans. Northstar provides assessments, instructor-led curricula, and self-directed online learning for basic digital literacy skills. They provide standards for Essential Computer Skills, Essential Software Skills and Using Technology in Daily Life.

Program: **CT Tech Act⁶⁶**

Leading Agency: **Department of Aging and Disability**

Funding Source: **Federal Administration for Community Living, 21st Century Assistive Technology Act**

Program Description: The CT Tech Act Project was established in CT in 1992. The mission is to increase independence and improve the lives of individuals with disabilities through increased access to Assistive Technology for work, school and community living.

Expected impact: The overarching goal is to ensure that individuals of all ages and with diverse disabilities, along with their families, employers, educators, and professionals, have access to Assistive Technology devices and services. The CT Tech Act Project positions itself as a valuable resource, striving to enhance accessibility and support for the disability community.

The CT Tech Act Project aims to have a broad and positive impact by providing a range of Assistive Technology programs and services. These offerings, delivered directly or through community Assistive Technology Partner agencies, encompass various initiatives: Assistive Technology Device Demonstrations and Lending: Facilitating hands-on experiences and temporary use of devices. Recycling and Reusing Assistive Technology Devices: Promoting sustainability and affordability by facilitating the recycling and reuse of Assistive Technology devices. Financial Loan Program: Offering a financial assistance program to support individuals in acquiring necessary Assistive Technology devices. FCC Program for Dual Sensory Impairments: Providing a specialized program for individuals facing both Deafness/Hard of Hearing and Blindness/Vision loss, tailored to their unique needs. Grant-Based Additional Programs: Introducing supplementary programs based on grants, expanding the range of services

⁶⁶ CT Tech Act Project, accessed November 29, 2023, <http://www.CTtechact.com>.

available. Funding Identification Assistance: Assisting individuals in identifying funding sources to facilitate their acquisition of Assistive Technology devices.

For a list of partner programs, locations, and offerings with CT Tech Act, see Appendix E: CT Tech Act: Partners & Programs.

Program: **FY 2023 Affordable Connectivity Outreach Grant Program**

Leading Agency: **City of New Haven, Department of Economic Development**

Sub-grantee: **CfAL for Digital Inclusion**

Partners: **New Haven Free Public Library, Elm City Communities**

Funding Source: **Federal Communications Commission**

Program Description: The City of New Haven was awarded \$250,000. Grant will support a partnership between the New Haven Free Public Library, Elm City Communities and CfAL for Digital Inclusion will allow CfAL, a local technology education nonprofit. Four part-time staff will be hired and will conduct outreach and help people sign up for the Affordable Connectivity Program.

Expected Impact: Grant Activity: The staff will work through June 2025, holding weekly sign-up events as part of the New Haven ACP Outreach Program, which the city announced Tuesday. Twice a month, the event will be at a property of Elm City, New Haven's housing authority. As federal housing assistance recipients, all Elm City residents qualify for the broadband program. The ACP funding gives eligible households up to \$30 a month to put toward internet services and a one-time discount of \$100 to put toward a laptop, desktop computer or tablet if they contribute \$10-\$50 to the purchase.

Program: **Affordable Connectivity Outreach Grant Program (period of performance through June 2025)**

Project title: **Greater Hartford ACP Sign-Up Initiative**

Lead Agency: **Town of East Hartford (East Hartford Public Library)**

Sub-grantee: **Hartford Public Library**

Partners: **LCI Consortium members (20, not including EHPL)**

Funding Source: **Federal Communications Commission**

Program Description: The East Hartford Public Library was awarded \$250,000 as the lead agency for a regional ACP outreach initiative to be conducted in partnership with Hartford Public Library and members of the Library Connection consortium. The project will deploy traveling ACP navigators on a circuit rider model to sign residents up for the ACP at participating libraries through events and 1:1 appointments.

Expected impact: 1,500 households enrolled in the ACP

3.1.4 Broadband Adoption

Connecticut's network infrastructure, high overall adoption rates, and existing programs provide a strong base for furthering digital equity in the state.

Network Infrastructure

Connecticut is fortunate to have adequate internet infrastructure deployed across much of the state. Broadband Now ranks Connecticut 7th among US states for internet connectivity across the coverage, speed and price access categories.⁶⁷ In practice, this translates to wide availability of high-speed internet. State broadband mapping efforts estimate that less than 1% of all eligible broadband serviceable locations (BSLs) lack access to the FCC's 100 Mbps download, 20 Mbps upload standard.⁶⁸ Additionally, more than 60% of the state's locations now have access to fiber-to-the-premise (FTP) service offering at least 1 gigabit symmetrical service.⁶⁹ While some areas remain challenging, the widespread access and increasing competition between cable and fiber providers is a significant asset for the state.

Support Services

67 Jason Shevik. "Best & Worst States for Broadband, 2023" (August 9, 2023). BroadbandNow. <https://www.benton.org/headlines/best-worst-states-broadband-2023#:~:text=The%20best%20states%20for%20broadband,%2C%20West%20Virginia%2C%20and%20Alaska>. Accessed December 11, 2023.

68 Connecticut Department of Energy and Environmental Protection, Connecticut Broadband Report, (2022). https://portal.ct.gov/-/media/DEEP/energy/Broadband/DEEP_CT-Broadband-Report_FINAL.pdf, accessed December 2, 2023.

69 Data as of June 30, 2023 as collected by the CT Office of Policy and Management.

Digital literacy programming is available in most areas of the state. The primary pipeline for these programs is libraries, but they are accompanied by significant adult education and workforce development programs, as well as a mix of other non-profits.

Connecticut public libraries are powerful assets in closing the digital divide. Public libraries with service areas covering the entire state of Connecticut offer a variety of digital literacy services. Of 177 libraries reporting digital equity services, the vast majority offer some type of skills training, outdoor Wi-Fi, and in-facility access to devices as seen in Table 11 below.⁷⁰

Table 11:

Service	Number of Libraries Offering Service
In-Facility Device Use	173
Outdoor Wi-Fi	161
Skills Training	121
Digital Literacy Training	116
Short-term Device Rentals	91
Low-Cost Broadband Registration Assistance	23
Long-Term Device Rentals	9

⁷⁰ The Digital Equity Team used this publicly-available map to look at public library locations in Connecticut: <https://www.google.com/maps/d/viewer?mid=1tl6UruA9JjKB8nPebSFkfrnugwgHs8&ll=41.554307338502916%2C-73.09955750038169&z=8> accessed December 11, 2023.

Figure 2: Types Of Digital Skills Training Provided By Connecticut Libraries

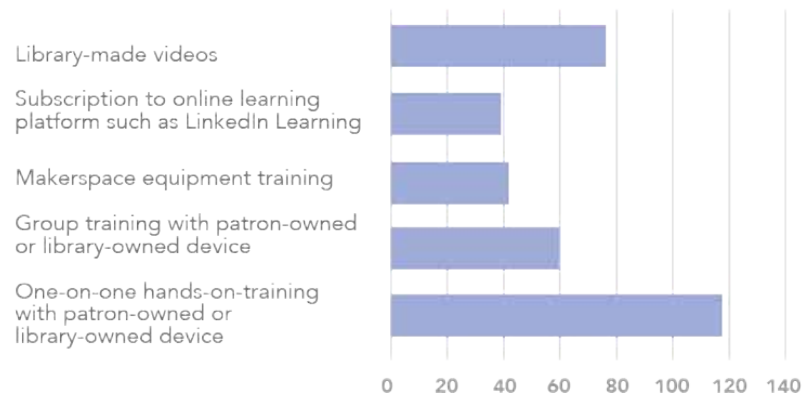
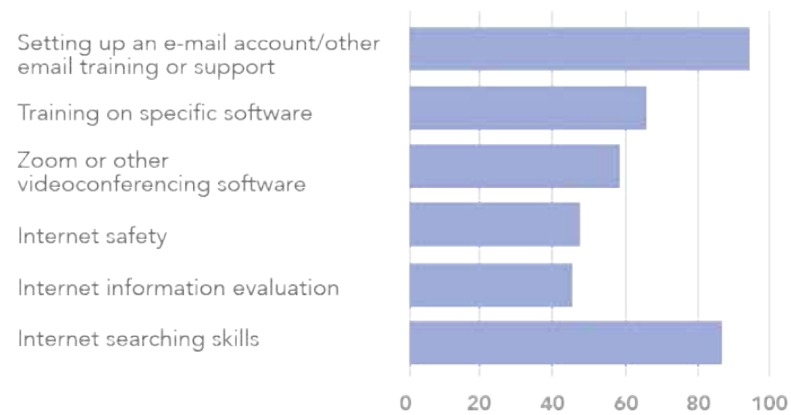


Figure 3: Libraries Providing Digital Literacy Assistance Programs



Connecticut public libraries have also been awarded grant-funding to support four digital navigator pilot programs with assistance from the National Digital Inclusion Alliance to evaluate data collected through the process and highlight best practices with Connecticut State Libraries in support of these efforts and seeking to expand the program.

3.1.5 Broadband Affordability

In addition to the public wi-fi access points provided by local libraries, Connecticut households have taken advantage of federal affordability programs. About 5% of all Connecticut households had received Affordable Connectivity Program (ACP) assistance to pay for their monthly home internet subscription as of April 2023.

These benefits totaled just over \$2.25 million in the first few months of 2023 alone.⁷¹ An additional 5% of Connecticut households had completed the federal enrollment process but had not yet begun to receive home internet benefits as of that date. This suggests that up to 10% of households in Connecticut may rely on the Affordable Connectivity Program to provide or supplement their monthly internet service.

Additionally, ACP provides qualifying residents with access to low-cost computers. To date, the program has provided more than 25,000 computers to needy households at a cost savings of nearly \$2.5 million.

Despite these enormous benefits to Connecticut and other states, the program is in danger of running out of funds by mid-2024. More than 20 million Americans are now at risk of losing home internet. This would add to the need for digital inclusion work.

3.2 Needs Assessment

3.2.1 Digital Equity Components in Connecticut

While Connecticut is fortunate to have such a wide range of assets supporting residents, the digital divide nonetheless persists in Connecticut at an alarming scale. Achieving Digital Equity will require a plan that is aligned with the diverse needs of members of covered populations and conscious of the barriers they face. This needs assessment outlines the digital equity team's research approach to identifying needs and

⁷¹ Data on the ACP in CT in this paragraph is based on an analysis of the publicly-available data from the Benton Institute's Affordable ACP tool: https://www.benton.org/acp_tool accessed December 2, 2023.

barriers, assesses statewide trends, and presents a profile of the state of digital access for each of the covered populations.

To measure the need in Connecticut, the Digital Equity Grant Programs require that baseline measures be obtained for each covered population in the key elements of digital equity:

1. Affordability of and Access to High-Speed Internet
2. Affordability of and Access to Devices
3. Affordability and Accessibility of Tech Support
4. Accessibility and Inclusivity of Public Resources
5. Digital Literacy
6. Security and Privacy Use and Awareness

The Digital Equity research team identified disparities in these categories for most of the covered populations within the state relative to the statewide average. This section describes these components of digital equity at the state level and across all covered populations. It also includes the research team's methods for measuring each key concept.

Methodology

The Connecticut data presented in this needs assessment comes from the sources below. For more detailed notes on methodology, see Appendix F: Data Source Methodology.

1. The Connecticut Digital Equity Resident Survey

- a. A resident survey was created through a collaboration between the digital equity team, Core Planning Team, the UConn School of Public Policy, and DEEP's Office of Telecommunications and Broadband to mutually inform BEAD and DE programs. The survey was distributed both online and on paper, with English and Spanish options, through a variety of channels. Partner agencies were given access to a communications toolkit to promote survey distribution. The toolkit can be seen in Appendix G of this plan. The resulting convenience sample included 6,275 resident responses. Surveys were only completed by residents 18 years of age and older. The English and Spanish text of the survey questionnaires can be seen in Appendix H (English) and Appendix I (Spanish).

- 2. The Census ACS 5-year 2021 Microdata**
 - a. The digital equity team compiled weighted estimates for different sub-sections residents over 18 of Connecticut using the 5-year ACS microdata.
- 3. State of Connecticut Digital Equity Assets and Needs Survey**
 - a. The Assets and Needs Survey, designed through a collaboration between OPM, DEEP and DE teams, asked Community Anchor Institutions about their internet needs, the services they offer, and the covered populations they serve. As of December 1, there were 370 responses. For a list of responding organizations by type, see Appendix J.
- 4. Focus groups with members of covered populations**
 - a. Six focus groups with members of covered populations were conducted by the UConn School of Public Policy at locations throughout Connecticut. For more details on the Focus Group Methodology, see Appendix K: UConn Focus Group Report.
- 5. Community conversations with frontline workers who serve covered populations**
 - a. The UConn School of Public Policy also facilitated several community conversations with frontline workers. See Appendix K: UConn Focus Group Report for more information on community conversations.
- 6. Discussions with state agencies that serve covered populations**
 - a. Some of the information included in this needs assessment was contributed through direct correspondence with state agency staff about their services and the covered populations they serve.
- 7. Subscription data collected by the Office of Policy and Management directly from ISPs**
 - a. Data is collected semi-annually from all internet service providers occupying the public right-of-way pursuant to PA 21-159. Submissions document the number of subscribers by speed package in each census tract across Connecticut. This data provides greater insight into the speeds to which residents subscribe, but does not include satellite and fixed wireless subscriptions.
- 8. Survey with the Connecticut Conference of Municipalities**
 - a. The Office of Policy and the Connecticut Conference of Municipalities cooperated to develop and promote a survey to better understand availability, affordability, reliability, and use among Connecticut residents. The convenience-sample survey was completed by 2,196 residents via an online platform and included an embedded speed test to document users' connection speeds. The survey was distributed by CCM, OPM and municipalities across the state and results included respondents from 152 of Connecticut's 169 towns.

Using the research sources above, the digital equity team generally followed the definitions in the table below to identify covered populations. In certain cases, the team used an alternate definition because of data constraints. For a detailed reference of definitions by research source, see Appendix L: Defining and Measuring Covered Populations.

Table 12:

Covered Population	Definition
Aging Residents	Age 60+
Residents with Disabilities	Residents who report difficulties, or self-identify as having a disability
Residents in Covered Households	Residents from households under 150% of the Federal Poverty Level
Residents with Language Barriers	Residents who report difficulty reading and/or writing English
<i>Members of Racial/Ethnic Minority Groups</i>	–
+Black/African American Residents	Residents who identify primarily as Black/African American
+Hispanic/Latino Residents	Residents who self-identify as Hispanic/Latino
Rural Residents	Residents who live in towns that have a population of less than 50,000, and are not adjacent to any towns of 50,000 or more
Veterans	Residents who formerly served in the military
Residents Currently Incarcerated in State Facilities	Residents who currently reside in a state correctional facility. In some cases, residents who have recently re-entered society are used to estimate the needs of currently incarcerated individuals.

Research on the components of digital equity for the incarcerated population required a more individualized research strategy. The findings for this covered population are presented in section 3.2.2: Needs Assessment by Covered Population.

For a one-page view of baseline metrics by covered population, see Appendix M: Baseline Data by Covered Population.

Affordable and Accessible Internet⁷²

“... it's just ridiculous. So I got rid of cable companies years ago, and I just get Internet and the Internet, I'll just call their name out, Xfinity. They want 76, to, 80 something dollars a month just for Internet ... And it's supposed to be — it's the slowest Internet service that they got. For 76 to 80 something dollar Internet” – Focus Group Participant

Having an internet connection that meets the needs of the user is a key part of digital equity, and the needs of users are evolving. Demands on internet speed have grown over time. Plan speeds that worked well for sending emails may not be fast enough for a telemedicine video visit.

Unfortunately, 20% of respondents to the Digital Equity Resident Survey said their internet speed was not adequate for the number of people in their home. There are many reasons why residents might not have an internet connection that suits their needs, including the affordability and availability of high-speed internet plans in their area.

Focus group participants across covered populations shared concerns about internet affordability, particularly in areas where internet options are limited, and prices are high.⁷³

“Where do you think they're putting the cheaper prices in... Not our area. The area where people got money to pay...But in the area that people cannot afford to pay, the price is sky high because of Cox, because we live on the south end. And so we're very close to Wethersfield. And so ...I shop around to see what you'd like me to and Cox is so cheap. But I can't get it. I'm only offered like say \$100 something or \$100 for basic cable. 100 for Internet.”

⁷² UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 1. September 29, 2023.

⁷³ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 1. September 29, 2023.

To better understand the internet access of covered populations, the digital equity team leveraged the Census’s American Community Survey 5-year microdata and subscription data collected by the Office of Policy and Management directly from internet service providers.⁷⁴

Statewide Availability of Broadband

According to the American Community Survey,⁷⁵ 92.3% (±0.5%) of households in Connecticut have an internet subscription while between 76,000 and 88,000 households have no access at all. Both ACS and state-collected data sources show that undersubscription is concentrated in 1) rural areas in the Northwest Corner and east of the state and 2) more primarily in large cities with higher-than-average poverty levels as seen in Figure 4 below. These geographic trends point to the relationship between access to high-quality service and adoption and the importance of affordability in increasing broadband adoption.

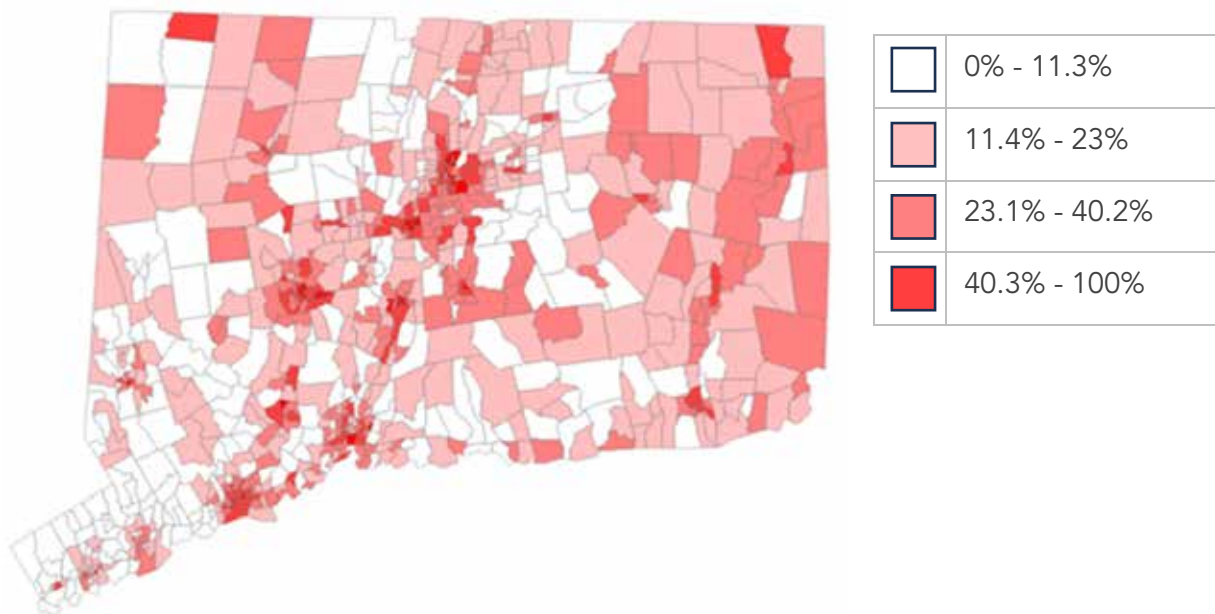


Figure 4: Percent of Households without Broadband per ACS 2021 (5 year)

⁷⁴ The former is valuable due to its consistency across geographies and years of study; however, it lacks detail about the type and quality of broadband subscriptions. Specifically, the American Community Survey groups DSL, Cable and Fiber together as “broadband” and does not differentiate between actually subscribed speeds. On the other hand, the state-collected dataset does not neatly differentiate between households and small-businesses that may be on the same tier of plan, households with two subscriptions, or other uncommon situations, but does offer a degree of detail regarding the quality and type of services subscribed to in a particular geography.

⁷⁵ U.S. Census Bureau, "TYPES OF COMPUTERS AND INTERNET SUBSCRIPTIONS," 2021. American Community Survey, ACS 1-Year Estimates Subject Tables, Table S2801, 2021, accessed on October 27, 2023, <https://data.census.gov/table/ACSST1Y2021.S2801?q=Telephone,+Computer,+and+Internet+Access&g=040XX00US09>.

State-collected subscription data indicates a similar percentage of all households and businesses are subscribed to mass-market broadband and provides a window into the quality and type of service to which residents subscribe. Despite growing access to gigabit synchronous service, as of December 2022, only 35% of households and small-businesses are subscribed to packages that meet the standard for FCC’s 100/20 standard for “served” broadband.

Since December 2021, the number of locations with access to gigabit service in Connecticut has increased from just under 180,000 to over 636,000 as of December 2022. However, uniform increases in high-speed subscriptions have not followed this rapid increase in high-speed service availability. State-collected data on subscriptions indicates that uptake of gigabit synchronous packages has so far been slow and highly variable across the state. As seen in Figure 5, the distribution of subscriptions to high-speed service is concentrated primarily in suburbs along the state’s population corridors while households with no or low-speed subscriptions are concentrated primarily in the urban core and rural areas.

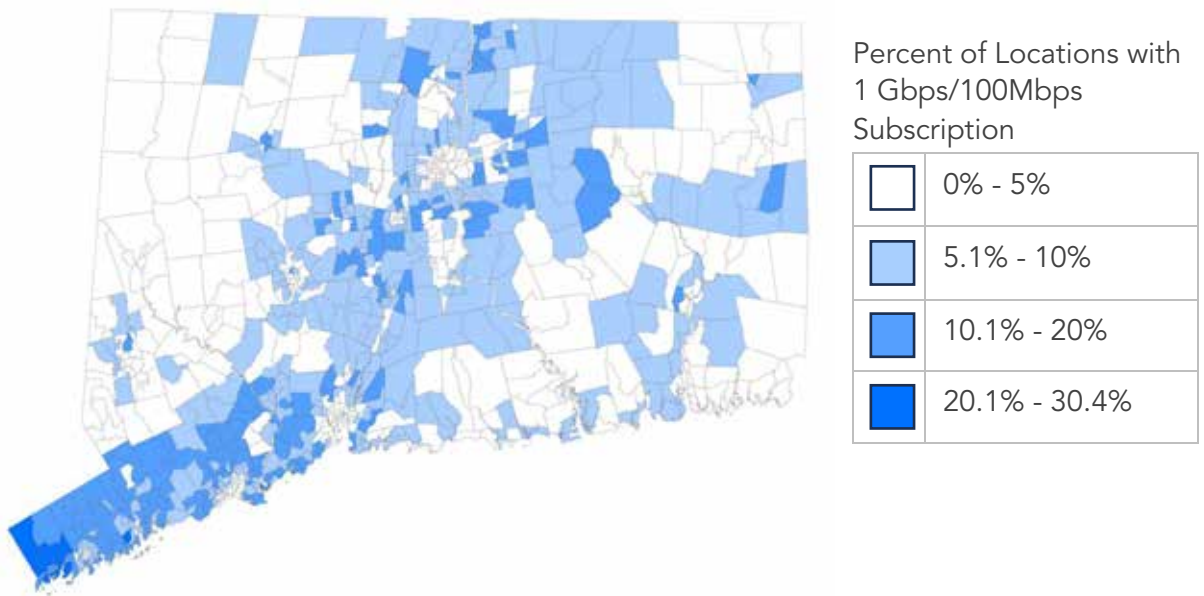


Figure 5: Adoption of Gigabit capable service per state data collection as of June 30, 2023

Statewide Affordability of Broadband

Broadband service affordability is a significant issue in Connecticut. Resident surveys demonstrate that cost is one of the most significant barriers to adoption and the most significant reason for dissatisfaction with service. At the same time, pricing data for broadband service is inconsistent across the state and even within individual municipalities, making affordability difficult to measure.

According to BroadbandNow,⁷⁶ only 27.5% of Connecticut households have access to a high-speed plan for less than \$60. According to the CT 2023 Digital Equity Resident Survey,⁷⁷ the average monthly cost of internet service was just under \$77 per month, roughly 2% of a four-person household's income at 150% of the federal poverty line.

Unsurprisingly, households in low-income areas are less likely to subscribe to the internet. Based on an analysis of state-collected subscription data and ACS estimates, poverty at the town level is among the strongest correlations with low levels of Internet subscribership in Connecticut. For each percentage increase in the percent of a Connecticut town's population under 150% of the poverty line, there is a corresponding increase of unsubscribed locations of 0.6%. In census tracts with a poverty rate of 5.3% or less (accounting for approximately 1.5 million residents), 7.9% of all locations lack a broadband subscription. However, in census tracts with a poverty rate of 16.4% or higher,⁷⁸ this number increases to 25%. Households in moderately low-income areas are therefore about three times as likely to lack an internet subscription. In the highest poverty areas (over 38.3%), over one-third (34.2%) of all locations lack a broadband subscription, almost five times higher than the rate in low-poverty areas.

Even outside of high-poverty areas in the state, affordability still appears to be a dominant factor influencing broadband adoption. According to a state-wide survey completed by the Connecticut Conference of Municipalities and OPM, affordability was the primary concern for more than 60% of respondents⁷⁹ including those in low-poverty suburbs.

76 Broadband Now. "Connecticut Internet Coverage and Availability in 2023." <https://broadbandnow.com/Connecticut#:~:text=Connecticut%20Internet%20Facts%20in%202023&text=Connecticut%20currently%20ranks%207th%20among,internet%20coverage%2C%20speed%20and%20availability.&text=This%20means%20that%20roughly%20zero,25Mbps%20download%20and%203Mbps%20upload>. Accessed November 30, 2023.

77 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

78 This is one-half standard deviation above the mean for all census tracts.

79 The sample size for this survey was 1,340 individuals.

To calculate baseline measures of affordability and access for each of the covered populations, the team selected two important indicators of internet access:

1. Share of respondents without a fixed broadband connection (DSL, fiber, or cable)
2. Share of respondents without any household internet connection

These figures provide a baseline indicator of the current disparities between covered populations and the statewide average in connecting to the internet. These measures come from the Census ACS, and are expected to be replicable in future years.

Residents Without Home Internet Access

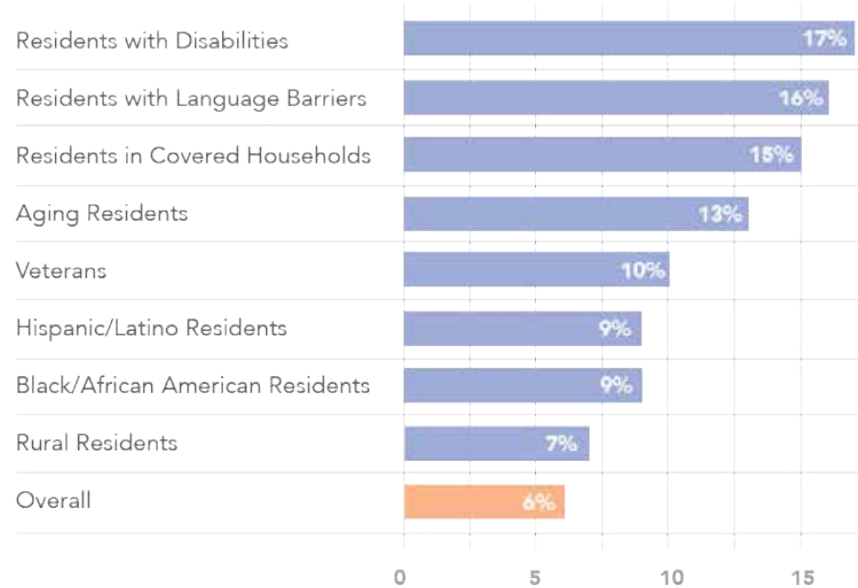
While many effective uses of internet require a broadband connection, the Digital Equity team recognizes that obtaining any internet connection at all could be an important first step for digitally disconnected residents. Residents with no internet may face unique barriers to developing their digital skills.

Therefore, the first baseline measure is the share of residents who reported that they had no internet service in their household. Residents who responded “no” had no internet connection at home – not even a mobile data plan for a smartphone.

At the statewide level, only 6% of residents said they did not have any kind of internet connection in their home.⁸⁰ All covered populations were more likely than the average to say that they did not have an internet connection at home. Those most likely to be without internet were residents with disabilities, with language barriers, and those who lived in covered households.

80 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and snvr. November 30, 2023.

Figure 6: Residents Without an Internet Connection



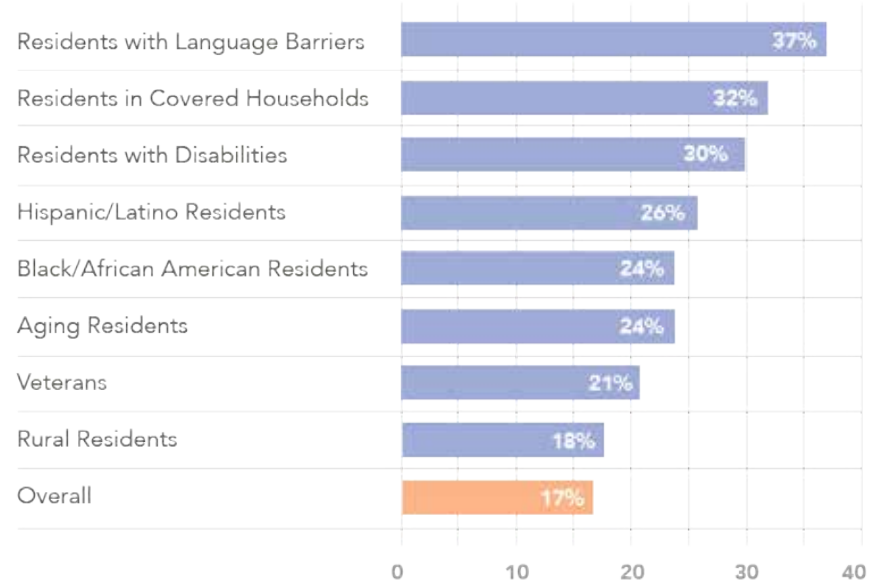
Residents Without a Broadband Connection

The second baseline measure for affordable and accessible internet is the share of residents who did not have a subscription with a fixed (i.e., not cellular or satellite) internet provider. The census includes cable, fiber, and DSL in this category. This indicator was determined to be the closest available proxy for a broadband internet connection, even though some services in this category may not meet the FCC definition of served speeds.

The use of this baseline measure recognizes that increasing access to high-speed internet is key for many residents to make the best possible use of digital tools. For residents who already have some kind of internet connection, the transition to a broadband connection is likely simpler than for those who have no internet.

Members of all covered populations were less likely to have a broadband connection compared to the overall rate.

Figure 7: Residents Without a Fixed Broadband Connection



Affordable and Accessible Devices

Residents must have access to a device that meets their needs to use digital tools and services effectively. Not everyone may need or want a laptop computer. After all, many online tasks can be completed with a smartphone or tablet alone. However, the cost of purchasing or maintaining a laptop computer should not be a barrier for residents who would like to use a computer to achieve their digital goals.

There are many forms of digital engagement. Agencies, organizations, and companies that deliver essential services digitally should take into account the many technologies residents may use to access them. It is critical to ensure that services are available in mobile-friendly interfaces and provide analog options to digitally disconnected residents.

Residents With No Internet-Enabled Device at Home

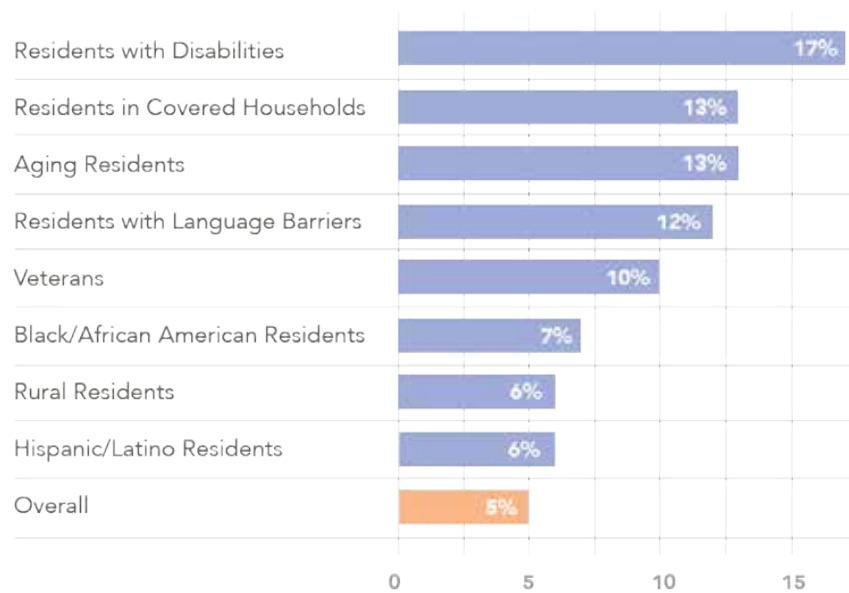
Having at least one internet-enabled device at home can be an important first step for residents who may be digitally unconnected. An internet-enabled device allows residents access to many digital tools, especially websites or services that are both mobile- and desktop-friendly.

Most Connecticut residents own at least one internet-enabled device, such as a smartphone, tablet, or laptop. Only 5% say they have no internet-enabled device at all.⁸¹ Members of

81 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and snyr. November 30, 2023.

covered populations are more likely to say they don't have any of those devices. Residents with disabilities had the most severe device gap, and were over three times likelier than the rest of the population to say they owned no internet-enabled devices.

Figure 8: Residents Who Own No Internet-Enabled Device(s)



This disparity means that many members of covered populations cannot use digital tools at home. The fallout from the Covid-19 Pandemic underscored the social costs of digital disconnection. And over the past few years, agencies and other providers have accelerated the shift of services to online, self-service channels to help ensure continuity and choice of services. Therefore, not owning any internet-enabled devices can place members of covered populations at higher risk of losing access to healthcare, schooling, and social connections when access to public resources is disrupted. Device ownership has also been linked to many positive long-term outcomes.⁸²

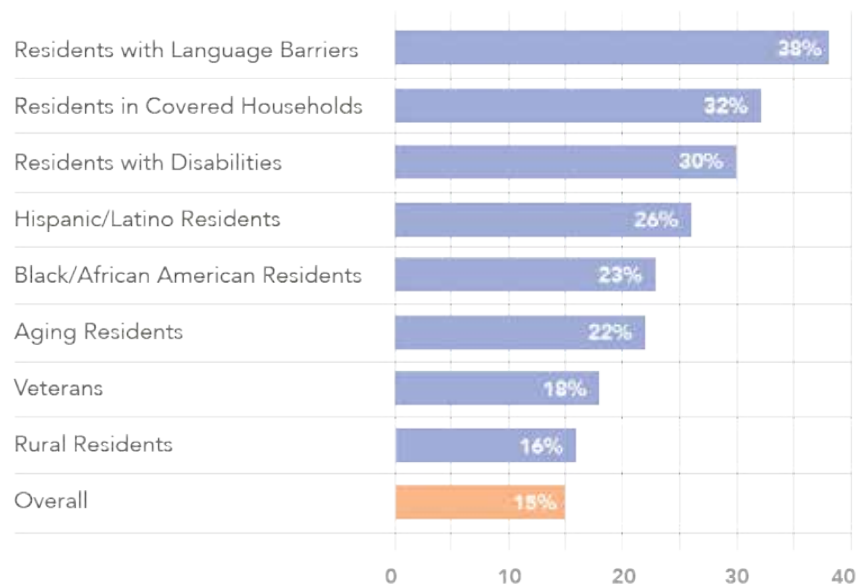
⁸² Amy Gonzales. "The Importance of Large Screen Device Ownership," (November 29, 2021), Digitunity. <https://digitunity.org/research/device-ownership-matters/> accessed November 30, 2023.

Residents With No Laptop or Computer at Home

Members of covered populations in Connecticut are also less likely to say they have a laptop or personal computer in their home. Large-screen devices expand the range of digital tools residents can access, and provide increased computing power for complex tasks.⁸³

Residents with language barriers or disabilities, or who live in a covered household, were more than twice as likely as the statewide average to report that they did not own a laptop or computer.⁸⁴ This disparity makes it more challenging for these groups to access digital tools or improve their employment outcomes.

Figure 9: Residents Who Do Not Own a Laptop/Computer



⁸³ Ibid.

⁸⁴ U.S. Census Bureau, 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

Connecticut's Digital Connection Benchmark

...my internet's not enough.

"[My students] cannot afford not to get [a laptop]. So we were buying Chromebooks because Chromebooks are less expensive than buying laptops. Yeah, and I figure Chromebooks, between \$200, you know, tops \$300, laptops are going to be \$800. But if you don't have a stable internet connection, a Chromebook is pretty much worthless because it relies on being able to connect to the internet in order to access the information. So, you know, we would issue Chromebooks to some of our key students to take home, and then they'd say, 'Why can't we sit at home?' Because my internet's not enough. So we try to save money and buy more. We can get a lot more Chromebooks, but if you can't use them, you might as well buy a few less laptops. You have a better chance of being able to actually use them for something"⁸⁵

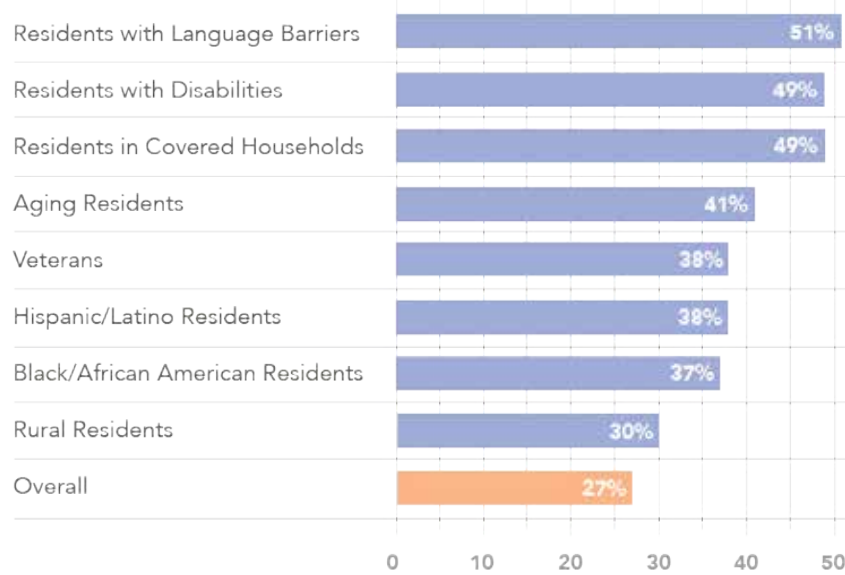
Digital access is a combination of many factors, including internet connection, speed, device ownership, and digital skills. In recognition of the interconnected nature of digital equity, the state has set several benchmarks to evaluate Connecticut's performance in increasing the number of residents who meet a set of standards for digital connection. The first of these is the digital connection benchmark.

To meet the digital connection benchmark, residents needed to have a broadband connection, a smartphone, and a computer. The digital connection benchmark might not be appropriate for all residents, based on their individual needs. Nevertheless, large

85 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group [6]. September 29, 2023.

disparities exist between the statewide average and members of covered populations in reaching this benchmark. Given this digital divide, the Digital Equity team believes that work must be done to narrow the gap between covered populations and the overall population.

Figure 10: Residents Not Meeting the Digital Connection Benchmark



Available and Affordable Technical Support

I don't have the contrast app.

"I have an iPad at home that somebody just got me for Christmas and we have not had a chance to really set it up. So it's still sitting there ... It connected to the Internet. But I don't have the contrast app on it to where I can visually work with it. So I just haven't done anything really at home ... I'm going to put a plug in the Center for the Blind because they have support groups there. So somebody that comes in who is, I think is legally blind and helps us with our iPhones. And he's, he's a big techie guy. So there's that kind of support in the Center, which is helpful"⁸⁶

Connecticut residents are fortunate to have access to a range of resources and assets that can provide technical support. Based on data from the community anchor institution survey, the Digital Equity team has begun to collect a picture of the technical support resources that are available to residents. Many of these resources provide important and well-utilized support to members of covered populations. However, while some programs and regions have high support capacity, other regions may offer fewer options. The baseline indicators of technical support attempt to measure available options and the information residents have about these options.

Resident Awareness of Technical Support Assets

Residents may report a lack of technical support access because they are not aware of the resources that exist. While the first iteration of the Digital Equity Resident Survey did not contain a measure for resident awareness of existing services, this metric is necessary to gauge progress. When implementation begins, the digital equity team will obtain a baseline for the level of

⁸⁶ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.

awareness that members of covered populations have about resources in their area, to assess the need for greater information sharing and communications. This baseline will inform the communications strategy.

Accessible and Inclusive Public Resources

The state of Connecticut has already taken huge steps towards ensuring that state public resources are accessible. The Bureau of Information and Technology Solutions (BITS) within the Department of Administrative Services has conducted numerous focus groups with individuals with disabilities to ensure the qualitative accessibility of state websites. They have also developed and added many accessibility key features, and currently maintain channels for reporting accessibility issues with state webpages. The BITS team is working diligently to expand these features to all state webpages.

At the local and regional levels, the state has not encountered centralized efforts to improve web accessibility. Many municipalities have taken the initiative to implement changes on their own, while others may lack the resources or capacity to take these steps, or may be unaware of the accessibility challenges their websites present.

The digital equity team within the Department of Administrative Services (DAS) Connecticut Commission for Educational Technology will use two measures to evaluate the accessibility and inclusivity of online public resources as the plan moves forward.

Inaccessible State Websites

The digital equity team will maintain a close partnership with BITS, sharing any relevant information about the accessibility needs of residents uncovered by research. They will also monitor the progress of the comprehensive audit and accessibility upgrade expected to be complete by 2024.

Inaccessible Municipal and Regional Public Resources

The digital equity team will work with the regional partners, including COGs and RESCs, to develop regionally led catalogs of the online public resources that may have accessibility issues and that have not yet been updated with accessibility in mind. The team will strategize with partners to develop sustainable solutions that can decrease the number of inaccessible online public resources from this initial baseline.

Digital Literacy

“[T]echnology is so advanced that you talk to anyone and anyone pretends or assumes that you are going at the same level or at the same [fast] pace that there is in life, and not all of us are going at the same pace ... [They speak] to me like I’m speaking in another language ... But I think that what happens [is that] sometimes it’s like people believe that the whole world keeps pace with technology, with technological knowledge, and it’s not like that.”⁸⁷

Digital literacy is the ability to understand and use digital tools effectively. The terms digital literacy or digital skills may evoke advanced computer skills such as coding or website development. However, the foundations of digital literacy are much simpler. Tasks such as turning on a device, using a web browser, sending an email, or making a video call all require digital literacy. Developing basic digital skills can make the difference that helps a resident use the internet to improve their lives. A lack of digital skills may be a barrier.



**Afraid of technology?
Yes.**

“[I have] [f]ear of damaging the equipment. I think that was it ... Something that one had and well, and I still believe that I still have [is] that fear and I get in front of the computer and when I click on something, oh, my God, what did I do here? Oops, I did this. No, no, no, it had to be fear ... Afraid of technology? Yes ...”⁸⁸

⁸⁷ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group [x]. September 29, 2023.
⁸⁸ Ibid.

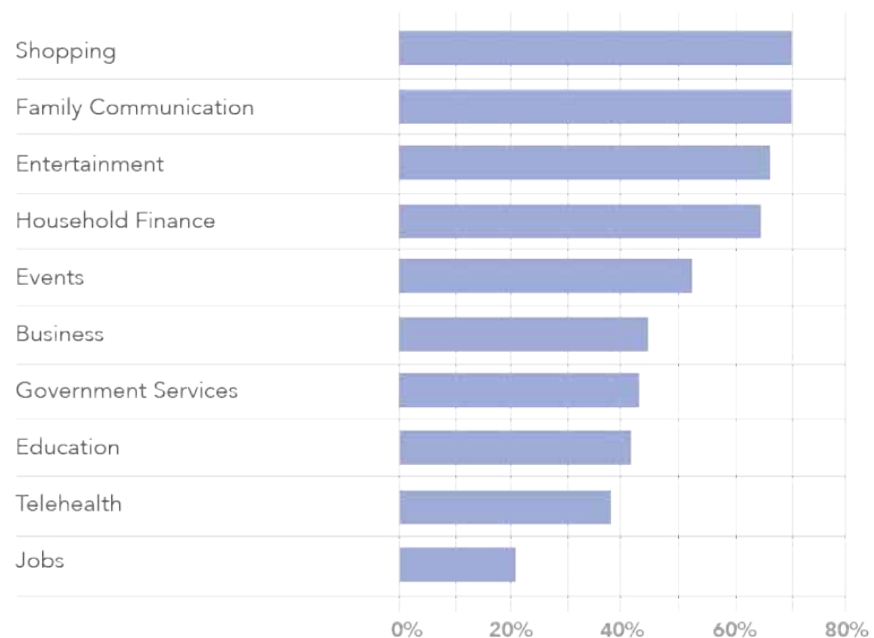
Statewide Digital Literacy and Internet Use

Access and subscriptions are a necessary, but insufficient, condition for full participation in digital civil society. Residents must have digital literacy, or the ability to use digital tools in a way that helps them reach their goals. Digital literacy and meaningful use of broadband are difficult to assess based on generalizable data. In addition to those identified through a review of Census data, the disparities among covered populations in internet connection and device ownership persisted in the State's Resident Survey, where residents were asked about their digital skills and internet use.

Respondents to the Digital Equity Resident Survey reported a variety of types of internet use. While these overall use categories do not provide a representative sample of the statewide population, they suggest lower levels of use for target services such as education and workforce training compared to entertainment.

Entertainment, shopping, and communication ranked as the most cited uses of broadband in the home by residents. As seen in the figure below, the use of the internet for education, telehealth, and job searches was the least common response by respondents.

Figure 11: Percent of Respondents Reporting Use of the Internet by Category



To measure relative digital literacy across covered populations, the digital equity team constructed a Digital Literacy Benchmark.

Connecticut's Digital Literacy Benchmark

The Benchmark is created using resident responses to a question that asked them about digital tasks they could complete without any help. Residents could select any number of tasks from the list.

**Which of the following tasks can you complete without any help?
(Check all that apply)**

- Set up an online account
- Make video calls
- Access and use social media
- Compare prices for products or services online
- Write documents or use spreadsheets
- Fix my computer or phone when they are not working

Not everyone has the same goals when getting online, but successful digital outcomes require many of the skills needed to complete the tasks above. To create comparability and identify residents with at least a foundational level of working digital skills, the digital equity team set a Digital Literacy Benchmark standard.

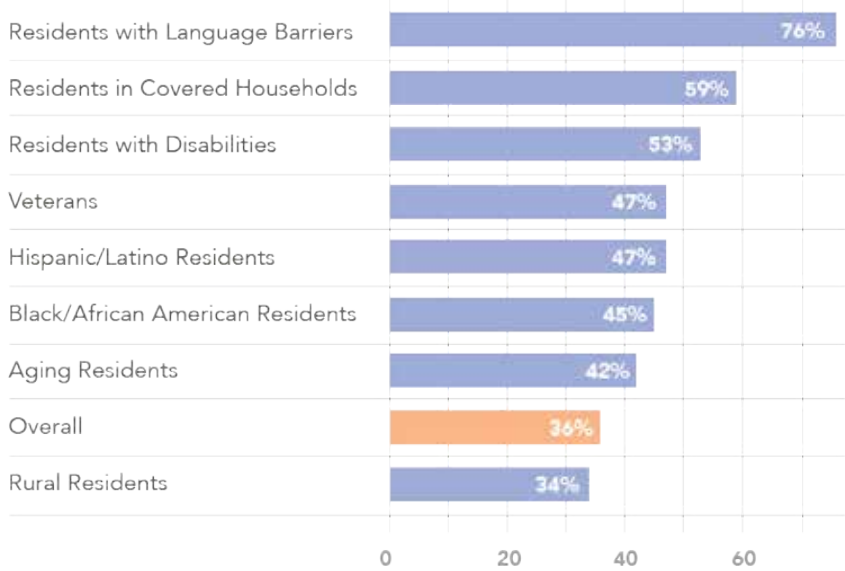
To meet the **Digital Literacy Benchmark, a respondent must have checked at least five of the six boxes in the question above.**

Out of all residents who responded to the survey, 64% met the Digital Literacy Benchmark. Unfortunately, the share of members of covered populations who met the benchmark was lower in all cases except for rural residents.

As with internet and device connectivity, three groups with particularly large disparities among those surveyed were individuals with a language barrier, with a disability, and those living in covered households. For all three of these groups, fewer than half of those surveyed felt they could complete at least five of the six tasks alone. In focus groups, some residents reported

that a lack of confidence in their ability to use digital tools may keep them from seeking out a device or internet connection.

Figure 12: Share Below Digital Literacy Benchmark



Security and Privacy Use and Awareness

Scams are a significant concern.

“It's about being mistrustful of the information source and delivery method. During the Covid pandemic, we worked with trusted agencies that the community relied on, rather than relying solely on government information that some people are suspicious of. This is especially important for undocumented individuals in our community who have to be cautious due to their immigration status ... Even older adults have trust issues with signing up for things online. Scams are a significant concern.”⁸⁹

As digital tools change and expand in number, so do the dangers associated with them. Security and privacy practices online are key elements of digital literacy that impact the outcomes residents can expect from using the internet. Connecticut residents who participated in focus groups often raised concerns about their safety when getting online. Given this concern for safety, many residents feel ill-equipped to protect themselves. To assess a foundational level of security and privacy skills, the State set a Digital Security Benchmark standard.

Connecticut's Digital Security Benchmark

The Connecticut Resident Survey asked about familiarity with a list of security and privacy concepts. Residents could say that they were “not at all” familiar, that they had “limited familiarity,” that they were “fairly familiar,” or “very familiar” with a list of items.

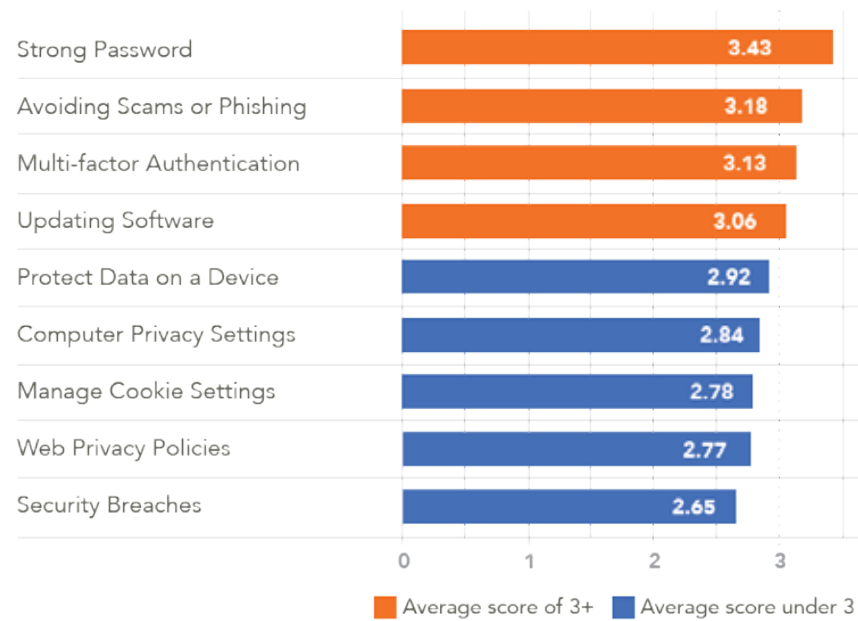
To meet the Digital Security Benchmark, a respondent must be at least “fairly familiar” with all nine items on this list.

What is your degree of comfort or familiarity with these concepts regarding Internet security and privacy?

	Not at all	Limited Familiarity	Fairly Familiar	Very Familiar
Computer privacy settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A strong password (hard to guess)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protecting data on a computer or device	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Updating software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Multi-factor authentication for logging into websites	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Avoiding computer scams or phishing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing cookie settings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Web privacy policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security breaches	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Some of these concepts were more familiar to respondents than others. The table below shows the average familiarity scores across all respondents for each security concept. High scores indicate more familiarity. A score of 1 would mean that respondents said they were “not at all” familiar, while a score of 4 would mean that respondents were “very familiar.”

Figure 13: Average Overall Scores by Security Concept



Four concepts were fairly or very familiar to most respondents:

- Strong passwords
- Avoiding scams/phishing
- Multi-factor authentication
- Updating software

The five remaining concepts were less familiar:

- Protecting data on a computer or device
- Computer privacy settings
- Cookie settings
- Web privacy policies
- Security breaches

These rankings were consistent across covered populations. Groups with an average score above three for only one category were most familiar with strong passwords, groups with an average score above three for two categories were most familiar with both strong passwords and avoiding scams, and so on. No covered population had average scores above three for more than four categories.

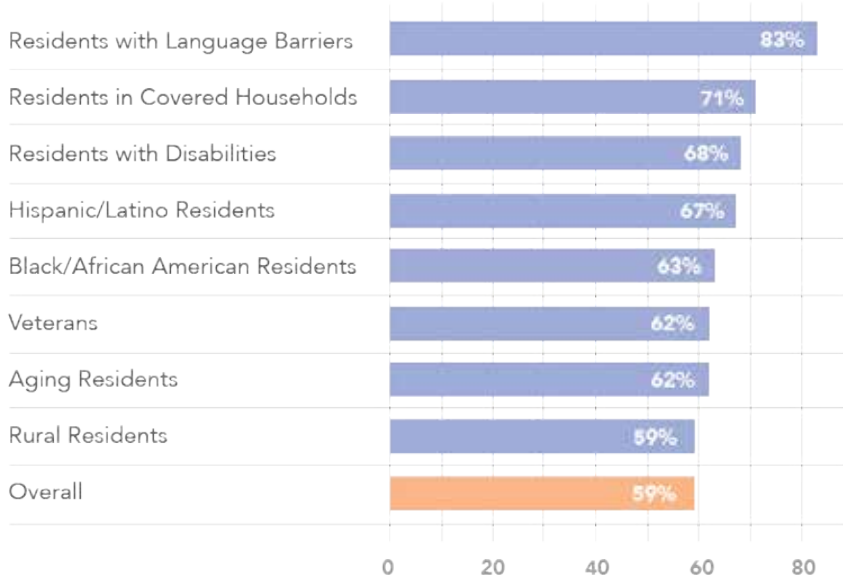
Tellingly, most respondents overall (59%) fell below the Digital Security Benchmark. They had limited or no familiarity with at least one item on the list. This is worrisome, given the ever-evolving nature of cyber threats. Supporting Connecticut residents to maintain their online safety will require coordinated investment and education at many levels.

Covered populations scored well below the statewide average in their comfort level with digital security concepts.

Mirroring the findings with digital literacy, the same three covered populations face the most severe barriers to online security:

- Individuals with a language barrier
- Individuals in households under 150% FPL
- Individuals with a disability

Figure 14: Share Below Digital Security Benchmark



When looking at the number of covered populations who expressed some level of mastery of cybersecurity concepts, thus meeting the digital security benchmark, the disparities become more severe.

Individuals with language barriers had average scores of less than three. This suggests that most respondents had no or limited familiarity with each of these concepts. Several other covered populations only scored above an average score of three in one concept: setting a strong password that was hard to guess. These included veterans, Hispanic/Latino respondents, individuals from households under 150% FPL, and individuals with disabilities.

3.2.2 Needs Assessment by Covered Population

Given the different degrees of disparity observed among different covered populations, the digital equity team created a digital equity needs assessment profile of each group to better understand these unique challenges.

The profiles include a summary of the barriers to digital equity that are faced by each covered population based on various data sources as well as excerpts from focus groups with members of covered populations that allow them to express barriers to digital access in their own words.

Aging Residents

"[S]ometimes when they update it, it's all different. . . . It's different, now it's a different application or whatever. And it just moves very quickly. It changes very quickly."⁹⁰

"The greatest problem is security. You can get devices, and people can pick up your signal through IP addresses. You know, that's a big problem."⁹¹

"These federal programs reach too low an income . . . the amount you get from Social Security, actually puts you above the line to qualify for these programs."⁹²

⁹⁰ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 2. September 29, 2023.

⁹¹ Ibid.

⁹² Ibid.

Aging residents in Connecticut can access a wide range of assets, including the AARP, Public Libraries, Senior Centers, and other resources. However, they consistently lag the statewide average across all measures of digital skills and access.

Compared to most other covered populations, a larger share of the aging population has exited the workforce without the intent to return. Therefore, employment-focused digital tools and skills may be less relevant to most members of this covered population.

However, research suggests that many aging residents still struggle to obtain the connection and digital skills to help them use the internet safely to accomplish their goals.

Digital Equity Component

Summary

Baseline Metric(s)

Affordability and Access to Internet

Connecticut residents who are 60 and older are less likely to have full connection to the Internet. They were twice as likely to report having no Internet at all (13% vs 6% overall). They were also more likely not to have a fixed broadband connection (24% vs 17% overall).⁹³

Share without
- Any Internet: 13%
- Broadband: 24%

Some aging individuals are more likely to struggle with internet access than others. In nationwide studies, factors like having low education levels or low income, being single, living in rural areas, struggling with health issues, or being Black and/or Latino correlated with lower rates of internet access for aging Americans.⁹⁴

Some aging residents who attended focus groups were concerned about affording internet service. Fixed incomes like Social Security could make a resident ineligible for subsidized internet programs,

⁹³ U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

⁹⁴ Humana Foundation and Older Adults Technology Service. AGINGconnected: Exposing the Hidden Connectivity Crisis for Older Adults. (2021) https://agingconnected.org/wp-content/uploads/2021/05/Aging-Connected_Exposing-the-Hidden-Connectivity-Crisis-for-Older-Adults.pdf<https://oats.org/wp-content/uploads/2021/01/Aging-Connected-Exposing-the-Hidden-Connectivity-Crisis-for-Older-Adults.pdf> accessed November 30, 2023.

such as the ACP. Paying market prices for internet service is difficult on those incomes. Others remarked that they opted for slow internet because a faster plan was too expensive.⁹⁵

Affordability and Access to Devices

Connecticut residents who are 60 and older are less likely to meet the state's Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. A lower share (41%) of aging residents met this standard, compared to 27% overall.⁹⁶ Aging residents are also more likely to say there are no internet-enabled devices in their household (13% vs only 5% overall) and to say they do not own a computer (22% vs 15% overall).⁹⁷

Share below Digital Connection Benchmark: 41%

**Share without:
-Any device: 13%
-A computer: 22%**

Nationwide, aging individuals are more likely than younger individuals to rely on analog devices. About 29% reported having a cellphone rather than a smartphone, much higher than the rate for younger groups.⁹⁸

Aging focus group participants did not highlight affordability of devices as a barrier to ownership.⁹⁹

Digital Literacy

Connecticut residents who are 60 and older are less likely to meet the state's Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Only 36% of overall respondents fell below this benchmark, compared with 42% of aging residents.¹⁰⁰

Share below Digital Literacy Benchmark: 42%

95 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 2. September 29, 2023.

96 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and svyr. November 30, 2023.

97 Ibid.

98 Stephen Cutler, John Hendricks, and Amy Guyer. "Age Differences in Home Computer Availability and Use", The Journal of Gerontology Series B, (September 2023), pages S271-280, <https://academic.oup.com/psychsocgerontology/article/58/5/S271/611340> accessed November 30, 2023.

99 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 2. September 29, 2023.

100 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Nationwide, older Americans tend to score lower on tests of digital skills compared to younger Americans. There is also significant variation in terms of skill level within this group.¹⁰¹ Those from historically marginalized groups, including women and people of color, are less likely to have strong digital skills.¹⁰²

Focus group participants talked about times they had difficulty using their devices. Many of them had difficulty re-learning how to use familiar devices after installing the latest updates made changes. Sometimes they reported websites failing to load for unknown reasons, or other unexplained technology malfunctions that they were unable to fix.¹⁰³ Residents may not know whether device error or user error had caused a problem. While both may occur, these comments display low levels of comfort fixing devices and learning new digital skills, which are both part of digital literacy.

Digital Security and Privacy

Connecticut residents who are 60 years or older were slightly more likely to fall below the state's Digital Security Benchmark (62% compared to 59% overall). To meet this standard, residents needed to say they were "fairly" or "very" familiar with all items on a list of security concepts.¹⁰⁴

Share below Digital Security Benchmark: 62%

However, older individuals who own a computer usually have more digital skills than those who do not.¹⁰⁵ Since most aging respondents in the state's resident survey used the electronic version of the survey, this number likely overestimates security competencies among the aging population.

101 Urban institute <https://www.urban.org/sites/default/files/publication/104771/digital-skills-and-older-workers.pdf>

102 Humana Foundation and Older Adults Technology Service. AGINGconnected: Exposing the Hidden Connectivity Crisis for Older Adults. (2021) [org/wp-content/uploads/2021/01/Agging-Connected-Exposing-the-Hidden-Connectivity-Crisis-for-Older-Adults.pdf](https://www.org/wp-content/uploads/2021/01/Agging-Connected-Exposing-the-Hidden-Connectivity-Crisis-for-Older-Adults.pdf) accessed November 30, 2023.

103 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 2. September 29, 2023.

104 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

105 Ian Hecker, Shayne Spaulding, and Daniel Kuehn. "Digital Skills and Older Workers," Building America's Workforce. Urban Institute. <https://www.urban.org/sites/default/files/publication/104771/digital-skills-and-older-workers.pdf> accessed November 30, 2023.

Focus group participants were concerned about security and privacy when using the internet.¹⁰⁶ Security concerns may make them more hesitant to use the internet, even when it could improve their daily life.

Technical Support

When residents 60 and over are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, aging residents may still struggle.

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to aging residents. This list is a work in progress.

Focus group participants were often very reluctant to seek formal technical support, preferring to rely on family members when possible. Participants said technicians were less likely to explain solutions in an accessible way and were often not sensitive to their needs.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents ages 60 and over are entitled to inclusive and accessible online public resources. Connecticut's vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of aging residents who are aware of affordable and accessible technical support options available to them.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

¹⁰⁶ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 2. September 29, 2023.

accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Focus group participants did not identify specific accessibility barriers unique to aging residents. However, aging residents may also experience language or literacy barriers, or have a disability.

The digital equity plan will support the expansion of online public resources that are accessible to all.

Other Barriers to Digital Equity

Some focus group participants said that they were not interested in using the internet because they were able to live well without it.

**Other barriers:
Lack of
interest/desire to
use the Internet**

Residents with a Disability

"I think [being] blind [makes you more vulnerable to issues related to the internet], if you don't have JAWS or Zoom text [two apps that help make digital resources accessible to people with disabilities], or if you're relying on one or the other. I'm thinking being totally blind ... You get to the point where, like, you know, like I said, I have some vision now and I got to learn JAWS on top of that. So that way I can go back on the Internet. It's still a whole new learning process and knowing what we all know about hackings and bad websites, I don't want to get involved. I just don't want to risk it. And all I'm trying to do is get a recipe for chicken noodle bake or something."¹⁰⁷

"[She has] [n]euoropathy [a disease of the nervous system]... she has to use a touchscreen ... She, she had her phone set up through Alexa so that she can make calls through Alexa to get into that. But it's very difficult for her to hit buttons, to dial a number ... [f]or the computer .. [s]he uses the iPad ..."¹⁰⁸

107 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.

108 Ibid.

"If you are in school or if you're going to college, you're all set. The state will provide you all these services. But when you're 65 plus, they don't provide anything. . . And that's, that's a place I'd like funding because, you know, there's more elderly blind than there are schoolchildren. . . Using the devices, providing help, buying expensive software sets, accessibility software, you know, people that need it. I think we should get . . . the same services that the K through 12 kids get, you know, so that we have access, too."¹⁰⁹

Residents with disabilities in Connecticut also have numerous assets at the state and local level that can provide support. Nevertheless, they are well below statewide average across all indicators of digital skills and connection.

Individuals with disabilities face several specific barriers that can make getting online more difficult. The assistive software or hardware required to adapt a device to an individual's needs can be very expensive. This high cost may discourage some residents from purchasing a device or internet connection to begin with. Individuals who do not use the internet or devices do not have the opportunity to develop their digital skills.

Individuals with disabilities who have an internet connection, a device, and the digital literacy to use it are often confronted with websites that were not accessible. When websites are not designed to accommodate screen-readers, for example, they can become difficult or impossible to use. This frustrating reality leaves some residents with disabilities unable to access the same online resources and opportunities as other residents.

109 Ibid.

Affordability and Access to Internet

Connecticut residents who have a disability are less likely to have full connection to the internet. They were almost three times as likely to report having no internet overall (17% vs 6% overall). They were also more likely not to have a fixed broadband connection (30% vs 17% overall).¹¹⁰

Share without
- Any Internet: 17%
- Broadband: 30%

Nationwide, working-age people with disabilities are more likely to struggle to afford internet compared to those without disabilities.¹¹¹

Focus group participants highlighted cost as a barrier to home internet access, especially for individuals on fixed incomes.¹¹²

Affordability and Access to Devices

Connecticut residents with a disability are less likely to meet the state's Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. About 49% of residents with disabilities fell below this standard, compared to only 27% overall.¹¹³ Residents with disabilities are three times as likely to say there are no internet-enabled devices in their household (17% vs only 5% overall). They are twice as likely to say they do not own a computer (30% vs 15% overall).¹¹⁴

Share below Digital Connection Benchmark: 49%

Share without:
-Any device: 17%
-A computer: 30%

110 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

111 Statistically significant differences were found in this nationwide study for the Office of Disability Employment Policy at the US Department of Labor. The study found these differences only for adults ages 25-64. Office of Disability Employment Policy. "Disability and the Digital Divide: Internet Subscriptions, Internet Use, and Employment Outcomes," (June 2022). United States Department of Labor. <https://www.dol.gov/sites/dolgov/files/ODEP/pdf/disability-digital-divide-brief.pdf> accessed November 30, 2023.

112 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.

113 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

114 Ibid.

The device divide persists at a national level. Studies show that individuals with disabilities are less likely to own computers, smartphones, and other digital devices compared to the average American.¹¹⁵

Some individuals with disabilities require adaptive software or equipment to be able to use their devices. These tools may include text-to-speech software, magnification software, or other adaptations to accommodate a variety of impairments.

Focus group participants said these tools are costly and can be difficult to maintain. These challenges are even greater for those with multiple disabilities. Obtaining and maintaining the software or adaptations for devices may prevent an individual from owning a device at all. These costs could explain a large part of the device ownership gap between individuals with disabilities and the statewide average.¹¹⁶

Digital Literacy

Connecticut residents with disabilities are less likely to meet the state's Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Of residents with disabilities who responded to the state's Resident Survey met the benchmark, 53% fell below the benchmark compared to only 36% of the overall sample.¹¹⁷

**Share below
Digital Literacy
Benchmark: 53%**

115 Andrew Perrin and Sarah Atske. "Americans with Disabilities Less Likely Than Those Without To Own Some Digital Devices," (September 10, 2021), Pew Research Center. <https://www.pewresearch.org/fact-tank/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/> accessed November 30, 2023.

116 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.

117 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

The two items where residents with disabilities scored the furthest below the overall average were fixing a device when it is not working and using documents and spreadsheets. When residents cannot fix a device when it breaks, they may need technical support. Residents who struggle to use documents or spreadsheets may also struggle to complete some academic or employment tasks.¹¹⁸

Focus group participants identified a lack of training as a barrier to access. They expressed frustration that many digital skills training programs restrict eligibility to youth and employed adults.¹¹⁹ This may limit the resources available to adults with disabilities who are not currently able to work.

Digital Security and Privacy

Connecticut residents who have a disability were more likely to score below the state's Digital Security Benchmark (68% compared to 59% overall). To meet this standard, residents needed to say they were "fairly" or "very" familiar with all items on a list of security concepts.¹²⁰

**Share below
Digital Security
Benchmark: 68%**

Individuals with disabilities had lower levels of familiarity across all privacy and security concepts. This could put them at higher risk for falling victim to cybercrime or privacy violations.

Some residents with disabilities may not be able to rely on certain auditory or visual clues that their online security is compromised. One focus group participant described the

¹¹⁸ Ibid.

¹¹⁹ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.

¹²⁰ Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

challenges of having multiple disabilities and attempting to navigate the internet safely.¹²¹ Another said they sometimes avoided using the internet completely because they worried about hackers and bad websites.¹²²

Technical Support

When residents with disabilities are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some still struggle.

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to residents with disabilities. This list is a work in progress.

Focus group participants described a need for technical support professionals who had experience working with people with disabilities. General technical support staff may not be sensitive to the needs of individuals with disabilities. They may also be unaware of or unfamiliar with the assistive technology that some individuals with disabilities use.¹²³

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of residents with disabilities who are aware of affordable and accessible technical support options available to them.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents with disabilities are entitled to inclusive and accessible online public resources. Connecticut's vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

Percent of BITS accessibility upgrade completed: 0%

121 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.
122 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.
123 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages. Focus group participants shared many problems with inaccessible websites. In some cases, they described websites with simple flaws that prevented screen-reading software from working, or websites that were hard to read. Participants also talked about a general lack of accessibility options on many websites that made them difficult to customize.¹²⁴

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

Other Barriers to Digital Equity

Focus group participants shared that some individuals with disabilities may not be able to access support resources. Individuals without transportation or for other reasons experience social isolation may not know about or be able to access digital supports services.¹²⁵

Other barriers:
-Lack of transport
-Social isolation

¹²⁴ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 3. September 29, 2023.
¹²⁵ Ibid.

Residents Incarcerated in State Facilities

"I did 26 years and seven months...(for a few years) we had access to computers, (they) kind of helped us learn how to type but we didn't have Internet access."¹²⁶

"So the tablets... (In the prison) where I was at, was one of the last prisons to get it (The computer tablet program). They're so limited in what you can do, it's basically a glorified phone and a TV because you can watch a lot of media on it. You can watch music and movies. But as for... learning something on there, it doesn't really teach you. I had the tablet... for a year or two before I got out here, and it's just a totally different experience. The tablet is very, very limited."¹²⁷

"The problem, at least what I ran into in the prison is that they'll have these programs... but they're limited to certain people. There's so many stipulations, guidelines, for you to get into these programs. It goes by... your discipline history, it goes by all these things. So more than likely, most of the people are not going to be able to participate in these programs because what the DOC does is they make it where it's like an exclusive program."¹²⁸

Residents who are incarcerated in state facilities face unique legal and policy barriers to internet and device access and use. These policies are driven by local statute and the security concerns and discretion of specific institutions.

Despite these limitations, some assets exist to connect incarcerated residents. All facilities have tablets that connect residents with some free material and the option to pay for additional features. While devices are not permitted to connect to the internet directly, they may allow for basic internet features such as e-mail through a secure and monitored interchange.

Incarcerated residents who eventually re-enter society are immediately expected to navigate a digital world. However, they often do not have the devices, internet connection, or training to do so effectively. This deficit of digital skills and resources further complicates an already difficult transition.

¹²⁶ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 11. September 29, 2023.

¹²⁷ Ibid.

¹²⁸ Ibid.

Digital Equity Component**Summary****Baseline Metric(s)**

Affordability and Access to Internet

In most cases, direct internet access is limited or prohibited by law within correctional facilities.¹²⁹

Institutions have local wi-fi connections to facilitate tablet programming.¹³⁰

Institutions with local wi-fi (no internet access): 13/13

Affordability and Access to Devices

Residents in correctional facilities increasingly have access to tablets like the ones expanding in Connecticut facilities. While the devices may be free, in some cases inmates are charged above-market prices for some content.¹³¹ USD #1 also provides educational services to students that may include the use of computer labs or other devices that are not connected to the Internet.

Restricting inmate devices to access only the facility's secure local area network (LAN) is a common practice nationwide.¹³²

Focus group participants who had been incarcerated noted that affordability was a significant issue during the transition from incarceration back into society.¹³³ People who are re-entering may not have the funds to afford internet access until they have a job.

Institutions with 1:1 laptops: 1/13

Institutions with computer labs: 2/13

Institutions with JPay tablet kiosks: 11/13

129 Arguelles, Paolo and Isabelle Ortiz-Luis. Bars Behind Bars: Digital Technology in the Prison System (May 2021). Available at SSRN: <https://ssrn.com/abstract=3812046> or <http://dx.doi.org/10.2139/ssrn.3812046>

130 Source: meeting with Dept of Corrections staff

131 Arguelles, Paolo and Isabelle Ortiz-Luis. Bars Behind Bars: Digital Technology in the Prison System (May 2021). Available at SSRN: <https://ssrn.com/abstract=3812046> or <http://dx.doi.org/10.2139/ssrn.3812046>

132 Arguelles, Paolo and Isabelle Ortiz-Luis. Bars Behind Bars: Digital Technology in the Prison System (May 2021). Available at SSRN: <https://ssrn.com/abstract=3812046> or <http://dx.doi.org/10.2139/ssrn.3812046>

133 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 11. September 29, 2023.

However, getting a job without internet access can also be difficult. This creates an unfortunate paradox that can keep justice impacted people in a state of self-reinforcing disconnection.

Digital Literacy

Focus group participants described how not having access to the open internet limited their ability to learn the digital skills required to use a smartphone or computer.¹³⁴ Many said they had difficulty using or learning new technologies once they re-entered society.¹³⁵

Formerly incarcerated residents shared their frustrations with attempting to catch up on their digital skills after re-entry:

"How come we don't have a group in the halfway houses just teaching basic technology? ...How to use the GPS... why are we not doing that? ...Some of us have been home for 5 or 6 years, and don't know everything."¹³⁶

"You click there, it sends you somewhere else. Gives you an ad, right? And then you're like, wait, I just clicked this, now I'm buying Clorox bleach. And I'm like, wait a minute, what happened to the Walmart job? Go back, start all over... The DMV, everything is online. Just, I mean, everything you can think of."¹³⁷

Digital Security and Privacy

Currently incarcerated residents in Connecticut have limited to no connections to the open internet. All contact is monitored for security by the facility in question.

Institutions offering computer science courses: 1/13

Secure firewalls in place on 100% of connections

134 Ibid.
135 Ibid.
136 Ibid.
137 Ibid.

The ability of these residents to maintain their privacy is also regulated by policies that are beyond the scope of the Digital Equity Plan.

Technical Support

When incarcerated residents are not able to resolve problems themselves, they require technical support.

When technical support is required for devices inside facilities, existing institutional processes are in place to provide support. Focus group participants did not provide any additional context on these processes.¹³⁸

Providing technical support to residents who are currently incarcerated in state facilities is regulated by policies beyond the scope of the Digital Equity Plan. The digital skills gap for those on the inside likely translates into an increased need for available technical support assets as they re-enter society.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents are entitled to inclusive and accessible online public resources. Connecticut's vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

Individuals incarcerated in state facilities do not currently have access to online public resources because of institutional policies. However, once they leave the jurisdiction of these facilities, they have the opportunity to access these resources.

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of re-entering residents aware of affordable and accessible technical support options available to them.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

138 Ibid.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Focus group participants did not describe any specific accessibility issues.¹³⁹ However, many of the currently incarcerated may also have a disability, a language barrier, or characteristics of other covered populations that make accessibility more challenging.

Other Barriers to Digital Equity

Focus group participants discussed several barriers to digital equity during incarceration and re-entry. Eligibility for training programs inside correctional facilities could be limited at the discretion of the facility based on discipline history or other factors. Participants also talked about the poor internet availability at halfway houses, which complicated their efforts to re-integrate.

Other barriers:
-Program eligibility
-Poor Internet at re-entry facilities

¹³⁹ Ibid.

Residents with a Language Barrier

"[Some groups are] learning English and then [also the] new technology ... It is sad to see those people who are the instructors but who do not have that empathy, that empathy, that dedication to say yes they are going to teach you. I mean, there are at least three barriers, right? ... [O]ne is the language, knowledge ... of what we're trying to learn and then how it's taught"¹⁴⁰

"All new learning is difficult and takes time. Now when you acquire the skill, you say 'no, I do this job in one hour,' [but] the one who doesn't know does it in five hours. This means that there is an efficiency. When you have knowledge of something ... it makes it more effective. And in our case it is the [limited] computer [knowledge], plus the language."¹⁴¹

"[M]any people who come from other countries, it's like it's further back there. The internet should already be more advanced ... because there are many people who do not have internet access in their country, but when they come here they go to schools [and need to use it]."¹⁴²

Individuals with difficulty speaking, reading, or writing English confront many of the same barriers to digital equity that are described in other covered populations. Layered onto these is the need to understand and translate many complex ideas about internet connectivity, use, and safety from one language into another.

Many individuals with language barriers in Connecticut are immigrants. Some of those who migrate from developing countries with limited internet infrastructure may need to develop working knowledge of the internet from scratch.

Even once individuals with language barriers have obtained a device and an internet connection, the technical support or digital skills training that would help them use these tools effectively may be inaccessible if they cannot speak, understand, read, and write in English.

140 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 5. September 29, 2023.(FG5-Covered Populations, 42:38-43:01).

141 Ibid.

142 Ibid.

Digital Equity Component**Summary****Baseline Metric(s)**

Affordability and Access to Internet

Connecticut residents with a language barrier are less likely to have full connection to the internet. They were almost three times as likely to report having no internet overall (16% vs 6% overall), and over twice as likely not to have a fixed broadband connection (37% vs 17% overall).¹⁴³

Share without
- Any Internet: 16%
- Broadband: 37%

Many individuals with language barriers may belong to immigrant households. Some studies suggest that recent immigrants are more likely to be un-banked, and less likely to have internet access.^{144 145}

Affordability and Access to Devices

Connecticut residents with a language barrier are less likely to meet the state's Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. Of residents with language barriers, 51% fell below this standard, compared to only 27% overall.¹⁴⁶ Residents with a language barrier are over twice as likely to say there are no internet-enabled devices in their household (12% vs only 5% overall). However, they are more than three times as likely not to own a computer (38% vs 15% overall).¹⁴⁷

Share below Digital Connection Benchmark: 51%

Share without:
-Any device: 12%
-A computer: 38%

¹⁴³ U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.
¹⁴⁴ Victoria Rideout and Vikki S. Katz. 2016. Opportunity for All? Technology and Learning in Lower Income Families. New York: The Joan Ganz Cooney Center at Sesame Workshop https://www.migrationpolicy.org/sites/default/files/publications/mpi_low-income-immigrants-factsheet_final.pdf accessed November 30, 2023.
¹⁴⁵ https://www.migrationpolicy.org/sites/default/files/publications/mpi_low-income-immigrants-factsheet_final.pdf
¹⁴⁶ U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.
¹⁴⁷ Ibid.

Digital Literacy

Connecticut residents with language barriers are less likely to meet the state’s Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Of those with language barriers who responded to the state’s Resident Survey, 76% fell below the benchmark, compared to 36% of the overall sample.¹⁴⁸

Share below Digital Literacy Benchmark: 76%

Focus group participants shared that translation difficulties add an extra layer to the process of learning new digital skills.¹⁴⁹ They also mentioned that recent immigrants from areas with less-developed internet infrastructure may not have learned how to get or use the internet in their home countries. This can add to the difficulties of adjusting to a new place.¹⁵⁰

Digital Security and Privacy

Connecticut residents who have a language barrier were less likely to meet the state’s Digital Security Benchmark (83% scored below the benchmark compared to 59% overall). To meet this standard, residents needed to say they were “fairly” or “very” familiar with all items on a list of security concepts.¹⁵¹

Share below Digital Security Benchmark: 83%

Technical Support

When residents with language barriers are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some residents may still struggle.

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to residents with language barriers. This list is a work in progress.

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of residents with language barriers who are aware of affordable and accessible technical support options available to them.

148 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

149 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 5. September 29, 2023.

150 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

151 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Focus group participants remark that effective instructors of digital skills must be sensitive to the backgrounds and dialects of their students.¹⁵² They also mentioned the extreme difficulty of reaching technical support call centers that do not offer support in multiple languages. These assets are not accessible for residents with limited English.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents with language barriers are entitled to inclusive and accessible online public resources. Connecticut's vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

Online public resources should be made available in as many languages as possible. Differences between Spanish dialects in Mexico and Puerto Rico, for example, can lead to different interpretations of directions or forms.¹⁵³

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. They also have language translation options provided by Google. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Other Barriers to Digital Equity

Participants in focus groups highlighted how linguistic and cultural barriers increased existing barriers to digital equity. Setting up service with an internet provider or understanding available options all required linguistic and cultural fluency in addition to digital knowledge.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

Other barriers:
- Linguistic and cultural differences that are not always taken into account by service providers

¹⁵² UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 5. September 29, 2023.
¹⁵³ Ibid.

Residents in Covered Households

Connecticut residents who live in households earning incomes under 150% of the Federal Poverty Level (FPL) are considered to live in covered households. While 150% FPL is standard income level nationwide, the cost of living in Connecticut is exceeded by only ten other states.¹⁵⁴ This suggests that individuals from covered households in Connecticut may have greater financial challenges than those in other states.

In a nationwide 2021 survey, 22% of low-income adults said that \$25 per month for internet access would be affordable, while 38% said that between \$55 – \$70 per month would be affordable.¹⁵⁵ The affordable level for low-income households in Connecticut may be even lower, given the higher cost of living. Many Connecticut residents have already enrolled in the Affordable Connectivity Program, suggesting strong demand for lower monthly costs of internet.

¹⁵⁴ Missouri Economic Research and Information Center. "Cost of Living Data Series," (Third quarter 2023). <https://meric.mo.gov/data/cost-living-data-series> accessed December 1, 2023.

¹⁵⁵ John B. Horrigan. Affordability and the Digital Divide. EveryoneOn. (December 2021) <https://static1.squarespace.com/static/5aa8af1fc3c16a54bcbb0415/t/61ad7722de56262d89e76c94/1638758180025/EveryoneOn+Report+on+Affordability+&+the+Digital+Divide+2021.pdf> accessed November 30, 2023.

Digital Equity Component**Summary****Baseline Metric(s)**

Affordability and Access to Internet

Connecticut residents from covered households (those earning under 150% FPL) are less likely to have full connection to the internet. They were almost three times as likely to report having no internet overall (15% vs 6% overall). They were also more likely not to have a fixed broadband connection (32% vs 17% overall).¹⁵⁶

Share without
- Any Internet: 15%
- Broadband: 32%

Across focus groups, especially those in geographic areas with a high percentage of covered households, participants discussed how the high prices and lack of competition between some service providers made access to high-speed internet unaffordable.¹⁵⁷ In addition, broadband adoption rates generally correlate with socioeconomic levels, by census tract, in Connecticut.

Affordability and Access to Devices

Connecticut residents from covered households are less likely to meet the state's Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. About 49% of residents in covered households did not meet this standard, compared to only 27% overall.¹⁵⁸ Those in covered households are also more than twice as likely to say there

Share below Digital Connection Benchmark: 49%

Share without:
-Any device: 13%
-A computer: 32%

¹⁵⁶ U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

¹⁵⁷ UCONN School of Public Policy. Focus Group Report: Covered Populations and Frontline Workers. September 23, 2023.

¹⁵⁸ U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

are no internet-enabled devices and no computers in their household (13% have no internet-enabled device at all vs only 5% overall, and 32% have no computer vs 15% overall).¹⁵⁹

Nationwide, smartphone ownership is more common among lower-income households than computer ownership.¹⁶⁰ Many low-income households may rely on smartphones as a cheaper digital access option. Unfortunately, smartphone reliance can also limit digital literacy.¹⁶¹

No focus group was held with individuals who were specifically identified as members of covered households based on income, though input was gathered from communities with a high percentage of covered households. However, some focus group participants raised the issue of cost of quality device ownership as a barrier for low-income families.¹⁶²

Digital Literacy

Connecticut residents from covered households are less likely to meet the state's Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Of those from covered households who responded to the state's Resident Survey, 59% fell below the benchmark, compared to only 36% of the overall sample.¹⁶³

Share below Digital Literacy Benchmark: 59%

159 Ibid.

160 Emily A. Vogels. "Digital divide persists even as Americans with lower incomes make gains in tech adoption" Pew Research Center (June 22, 2021) <https://www.pewresearch.org/short-reads/2021/06/22/digital-divide-persists-even-as-americans-with-lower-incomes-make-gains-in-tech-adoption/> accessed December 1, 2023.

161 <https://digitalopportunity.network/resource-hub/research/the-importance-of-large-device-ownership/>

162 UCONN School of Public Policy. Focus Group Report: Covered Populations and Frontline Workers. September 23, 2023.

163 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Digital Security and Privacy

Connecticut residents from covered households were less likely to meet the state’s Digital Security Benchmark (71% scored below the benchmark compared to only 59% overall). To meet this standard, residents needed to say they were “fairly” or “very” familiar with all items on a list of security concepts.¹⁶⁴

Share below Digital Security Benchmark: 71%

Technical Support

When residents from covered households are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some residents may still struggle.

Digital support assets:

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to residents in covered households. This list is a work in progress.

As the Digital Equity plan moves forward, we will set a baseline for the share of residents from covered households who are aware of affordable and accessible technical support options available to them.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents from covered households are entitled to inclusive and accessible online public resources. Connecticut’s vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

Percent of BITS accessibility upgrade completed: 0%

Given the higher reliance on smartphones as a primary form of internet connection, mobile-friendly web accessibility is a priority for lower-income households. Members of covered households may also have a language barrier or a disability, leading to additional barriers to accessibility.

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS

¹⁶⁴ Ibid.

on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Other Barriers to Digital Equity

No specific additional barriers were identified for this covered population.

Residents Who Are Members of Racial/Ethnic Minority Groups

The digital equity team acknowledges that the experiences of racial and ethnic minority groups in Connecticut are varied and intersectional. Connecticut is home to a rich diversity of racial and ethnic communities. Quantitative data collection for smaller communities is difficult, so data and sample size constraints allowed for estimates to be created only for three minority groups:

- 1) Residents who self-identify as Black/African American
- 2) Residents who self-identify as Hispanic/Latino
- 3) Residents who self-identify as Asian

Since Hispanic/Latino is an ethnicity, while Black/African American and Asian/Pacific Islander are racial categories, an individual may be represented in multiple groups. No significant digital equity disparities were detected for residents who identify as Asian/Pacific Islander, so baseline metrics are reported here only for the first two groups.

Black/African American Residents

“What I’m saying is, a lot of the time the information is given to us last. Like, you see it and it’s tomorrow or at 2:00. When we go to the suburbs in towns and stuff, they are really handed it out in school a month or before. We have it in the day you find out about it, like you go that, oh, I got this. And they said 8:30 in the same day and you’re going like, yeah but I have something else . . . You know, so I’m just saying we’re treated very poorly. How do they have a bunch of flyers posted for that day, when you go somewhere else it’s plastered all over the place?”¹⁶⁵

“So yeah, so that’s to me is a big barrier, is, how does the information get, get across to these families. And a lot of them don’t have Internet now or time to get on the Internet because they’re busy working a full time job to provide food for their children. So I don’t know. I mean, I see it all the time with my friends kind of being like, oh, you heard about this? And I’m like, I’ll say, how did you hear about you? How are you getting this information? And I’m not. And we live in Hartford together. Explain to me.”¹⁶⁶

Due to a long history of racism and systemic disenfranchisement in the United States, Black/African American residents are overrepresented among low-income households within Connecticut. Even at the same income level, disparities have been found in broadband adoption between white vs Hispanic/Latino and Black/African American households.¹⁶⁷

In neighborhoods with a high concentration of lower-income Black/African American families, the combination of limited internet infrastructure and options, combined with a lack of access to training and digital literacy resources, could account for some of the observed digital divide.

¹⁶⁵ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 1. September 29, 2023.

¹⁶⁶ Ibid.

¹⁶⁷ Kevin Taglang. “Race, Ethnicity, and Digital Equity”, Digital Beat, Benton Institute for Broadband and Society. <https://www.benton.org/blog/race-ethnicity-and-digital-equity> accessed December 1, 2023.

Digital Equity Component**Summary****Baseline Metric(s)**

Affordability and Access to Internet

Connecticut residents who identify as Black/African American are less likely to have full connection to the internet. They were slightly more likely to report having no internet (9% vs 6% overall). They were even more likely not to have a fixed broadband connection (24% vs 17% overall).¹⁶⁸

Focus group participants discussed how residents in poor Black neighborhoods may be asked to pay higher prices for the same internet service that is offered at lower prices in wealthier areas.¹⁶⁹ Black/African American residents have long faced housing discrimination in the United States that can make relocating to wealthier areas more difficult than for a white family at the same income level. Limited housing options can limit internet plan and provider options.

Share without
- Any Internet: 9%
- Broadband: 24%

¹⁶⁸ U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

¹⁶⁹ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 1. September 29, 2023.

Affordability and Access to Devices

Black/African American residents are less likely to meet the state’s Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. About 37% of Black/African American residents fell below this standard, compared to only 27% overall.¹⁷⁰ The share who do not own any internet-enabled device is very similar to the statewide average (7% vs 5% overall). However, they are more likely to say they do not have a laptop or computer at home compared to the sample average (23% vs 15% overall).¹⁷¹

Share below Digital Connection

Benchmark: 37%

Share without:

-Any device: 7%

-A computer: 23%

Digital Literacy

Black/African American residents are less likely to meet the state’s Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Of those who responded to the state’s Resident Survey, 45% fell below the benchmark, compared to only 36% of the overall sample.¹⁷²

Share below Digital Literacy Benchmark: 45%

The National Skills Coalition notes that digital skill gaps disproportionately affect people of color, including Black workers.¹⁷³

Digital Security and Privacy

Black/African American residents were slightly less likely to meet the state’s Digital Security Benchmark (63% scored below the benchmark vs 59% overall). To meet this standard, residents needed to say they were “fairly” or “very” familiar with all items on a list of security concepts.¹⁷⁴

Share below Digital Security Benchmark: 63%

170 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

171 Ibid.

172 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

173 Amanda Bergson-Shilcock. “Applying a Racial Equity Lens to Digital Literacy,” Nationalskillscoalition.org, <https://nationalskillscoalition.org/resource/publications/applying-a-racial-equity-lens-to-digital-literacy/> accessed December 1, 2023.

174 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Technical Support

When Black/African American residents are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some residents may still struggle.

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to Black/African American residents. This list is a work in progress.

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of residents from covered households who are aware of affordable and accessible technical support options available to them.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents are entitled to inclusive and accessible online public resources. Connecticut's vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

Other Barriers to Digital Equity

Focus group participants mentioned the disparity in information distribution about programs and resources between poorer Black/African American neighborhoods and wealthier suburbs.

Other barriers: - Information distribution

Hispanic/Latino Residents

Connecticut is also home to a sizable Hispanic/Latino population, with representation from a variety of Hispanic groups. The single largest Hispanic group in Connecticut is Puerto Ricans, followed by Mexicans.¹⁷⁵ While a majority are from Connecticut, the state is also home to a growing community of Hispanic/Latino immigrants from other countries or Puerto Rico. Linguistic barriers make it more challenging for these recent arrivals to access digital resources in Connecticut. In addition, many may not have received education and digital skills that prepare them to access digital tools and resources in Connecticut

Hispanic/Latino residents in general are also over-represented among lower-income families in Connecticut, and earn less on average than white residents.¹⁷⁶ A lack of digital connection may amplify other barriers to opportunity.

¹⁷⁵ José Luis Martínez. "Charting CT: About Half of CT Hispanics are Puerto Rican." (October 6, 2023). CT Mirror. <https://ctmirror.org/2023/10/06/charting-ct-about-half-of-ct-hispanics-are-puerto-rican/>

¹⁷⁶ Mary Katherine Wildeman. "A Look at Connecticut's Growing, Diverse, Hispanic and Latino Population," CT Insider, (October 9, 2021). <https://www.ctinsider.com/news/article/A-look-at-Connecticut-s-growing-diverse-16520069.php>

Digital Equity Component**Summary****Baseline Metric(s)**

Affordability and Access to Internet

Connecticut residents who identify as Hispanic/Latino are less likely to have full connection to the internet. They were slightly more likely to report having no internet (9% vs 6% overall). They were even more likely not to have a fixed broadband connection (26% vs 17% overall).¹⁷⁷

Share without
- Any Internet: 9%
- Broadband: 26%

Even within the same income group, disparities have been found in broadband adoption between white vs Hispanic/Latino and Black/African American households.¹⁷⁸

Affordability and Access to Devices

Hispanic/Latino residents are less likely to meet the state's Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. About 38% of Hispanic/Latino residents fell below this standard, compared to only 27% overall.¹⁷⁹ The share who do not own any internet-enabled device is very similar to the statewide average (6% vs 5% overall).

Share below Digital Connection Benchmark: 38%

Share without:
-Any device: 6%
-A computer: 26%

However, they are more likely to say they do not have a laptop or computer at home compared to the average (26% vs 15% overall).¹⁸⁰

177 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

178 Kevin Taglang. "Race, Ethnicity, and Digital Equity," Digital Beat, The Benton Institute for Broadband and Society. <https://www.benton.org/blog/race-ethnicity-and-digital-equity> accessed December 1, 2023.

179 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

180 Ibid.

Digital Literacy

Hispanic/Latino residents are less likely to meet the state’s Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Of those who responded to the state’s Resident Survey, 47% scored below the benchmark, compared to only 36% of the overall sample.¹⁸¹

The National Skills Coalition notes that digital skill gaps disproportionately affect people of color, including Hispanic workers.¹⁸²

The Hispanic/Latino focus group participants noted that language and cultural barriers can also impact both baseline digital literacy and the ease of learning new digital skills.

Share below Digital Literacy Benchmark: 47%

Digital Security and Privacy

Hispanic/Latino residents were less likely to meet the state’s Digital Security Benchmark (67% scored below the mark vs 59% overall). To meet this standard, residents needed to say they were “fairly” or “very” familiar with all items on a list of security concepts.¹⁸³

Share below Digital Security Benchmark: 67%

Technical Support

When Hispanic/Latino residents are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some may still struggle.

Digital support assets:

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to Hispanic/Latino residents. This list is a work in progress.

As the Digital Equity plan moves forward, we will set a baseline for the share of residents from covered households who are aware of affordable and accessible technical support options available to them.

Some Hispanic/Latino residents also experience language barriers. Focus group participants with language barriers mentioned that help centers offering support in multiple languages are needed.

181 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

182 Amanda Bergson-Shilcock. “Applying a Racial Equity Lens to Digital Literacy,” [Nationalskillscoalition.org](https://nationalskillscoalition.org), <https://nationalskillscoalition.org/resource/publications/applying-a-racial-equity-lens-to-digital-literacy/> accessed December 1, 2023.

183 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Online Accessibility and Inclusivity of Public Resources

All Connecticut residents are entitled to inclusive and accessible online public resources. Connecticut’s vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

The higher reliance on mobile technology seen among Hispanic/Latino residents suggests that mobile-friendly services are a high priority. Some may also be members of other covered populations who face distinct barriers to digital access. This intersectionality may magnify accessibility barriers.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Other Barriers to Digital Equity

No specific additional barriers were identified for this covered population.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

Rural Residents

“So, when you are connected online, your primary use of the internet is for work. But as others have mentioned, it doesn't work reliably even at home ... It's unreliable, maybe around 60% of the time. Sometimes it just stops working.”¹⁸⁴

“When I moved from California to Windsor, the switch was drastic. In California, I could get help with my internet on the same day within a few hours. But here ... it took about a week to fix our spotty internet. We have limited providers, and the competition is scarce. Over there, we had options to compare prices and packages, but here we only have Spectrum. Additionally, the quality of the internet depends on which area of my house I'm in. I don't even have LTE [cellular service] anymore and no signal. The difference between urban and rural areas is significant.”¹⁸⁵

“It's mind-boggling. A few months ago, there was a fatal crash on Kennedy Drive, the main road we use for work. I was trying to text or explain something, and it took 20 to 30 minutes because there's a Verizon tower issue. I never had these problems back home. Now, it's a matter of knowing where the Verizon Towers are and adjusting accordingly.”¹⁸⁶

“I've always lived in a rural area, so even if you're at the bottom of a building, don't call me ... the area has spotty coverage.”¹⁸⁷

Census data on internet subscriptions does not show a wide disparity between urban and rural areas in Connecticut. However, the census only measures subscription rates, not speeds. Rural residents in Connecticut complain of many of the same frustrations as rural residents nationwide. Slow or unreliable internet service, when the infrastructure exists at all, limits opportunities to work from home or access digital resources. Furthermore, mobile data coverage is limited, which can have severe consequences for communication.

Rural residents did not have measurable digital skill or digital literacy gaps compared to the overall population.

¹⁸⁴ UCONN School of Public Policy, Digital Equity Focus Group Transcripts: Focus Group 6 September 29, 2023.

¹⁸⁵ Ibid.

¹⁸⁶ Ibid.

¹⁸⁷ Ibid.

**Digital Equity
Component****Summary****Baseline Metric(s)**

**Affordability and
Access to Internet**

Connecticut's rural residents connect to the internet in similar ways to the overall population. Based on The Census ACS data, residents in rural areas were about equally likely to say they had internet or broadband compared to the state average (7% had no internet vs 6% overall, 18% had no broadband vs 17% overall).

However, the variable used for broadband in the census includes a wide range of technologies. For many rural residents, the quality of the service they receive may be slower or less reliable compared to urban residents.

Rural residents who participated in focus groups highlighted slow speeds and gaps in coverage. Several said internet infrastructure was the main reason they might not have internet. They said providers in their area often charge high prices for services that are unreliable and often stop working.¹⁸⁸

Share without
- Any Internet: 7%
- Broadband: 18%

¹⁸⁸ Ibid.

Affordability and Access to Devices

Rural residents are slightly less likely to meet the state’s Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. About 30% of residents living in rural areas fell below this standard, compared to 27% overall.¹⁸⁹ Rural residents are slightly more likely to say there are no internet-enabled devices in their household (6% vs 5% overall). They are about as likely to say they do not own a computer (16% vs 15% overall).¹⁹⁰

Share below Digital Connection Benchmark: 30%

Share without:
-Any device: 6%
-A computer: 16%

Nationwide, rural adults are less likely to have smartphones or computers than urban residents.¹⁹¹

The close alignment between the rates of rural device ownership and overall device ownership suggests that these gaps may be smaller in Connecticut compared to the nationwide average.

However, device performance may not be as uniform as device ownership. Focus group participants mentioned that internet speeds could be just as slow and unreliable for smartphones as they are for home Internet.¹⁹²

Digital Literacy

There were no disparities in digital literacy observed for rural residents; they were equally likely to meet the state’s Digital Literacy benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. 34% of rural residents scored below the benchmark, as did 36% of the overall sample.¹⁹³

Share below Digital Literacy Benchmark: 34%

189 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

190 Sarah’s analysis of ACS data

191 Emily A. Vogels. “Some digital divides persist between rural, urban and suburban America” Pre Research Center (August 19, 2021)

<https://www.pewresearch.org/fact-tank/2021/08/19/some-digital-divides-persist-between-rural-urban-and-suburban-america/> accessed December 1, 2023.

192 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 6. September 29, 2023.

193 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Nationwide analysis of the digital divide between rural and urban users suggests that it may be largest between urban and rural residents without a high school diploma.¹⁹⁴ Connecticut's digital equity research did not disaggregate users by education level, so some gaps may exist for rural residents with lower levels of education. However, Connecticut's rural areas are often adjacent to urban ones, which may lead to fewer disparities than seen in other states.

Focus group participants in rural areas outlined similar concerns around digital literacy as members of several other covered populations.¹⁹⁵ These comments highlight that, regardless of observed disparities, residents across the state can benefit from expanded digital literacy resources.

Digital Security and Privacy

There were no disparities for rural residents in meeting the state's Digital Security and Privacy benchmark (they matched the overall rate of 59% who failed to meet the benchmark). To meet this standard, residents needed to say they were "fairly" or "very" familiar with all items on a list of security concepts.¹⁹⁶

Share below Digital Security Benchmark: 59%

¹⁹⁴ Edward Carlson and Justin Goss. "The State of the Urban/Rural Digital Divide", NTIA.gov, National Telecommunications and Information Administration. <https://www.ntia.gov/blog/2016/state-urbanrural-digital-divide> accessed December 1, 2023.

¹⁹⁵ UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 6. September 29, 2023.

¹⁹⁶ Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Technical Support

When rural residents are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some may still struggle.

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to rural residents. This list is a work in progress.

Because of slow and unreliable services, rural focus group participants reported that they were often in contact with their internet service provider's customer support team. Many were frustrated that problems were not resolved.¹⁹⁷

Online Accessibility and Inclusivity of Public Resources

All rural residents are entitled to inclusive and accessible online public resources. Connecticut's vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Other Barriers to Digital Equity

No specific additional barriers were identified for this covered population.

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of residents from covered households who are aware of affordable and accessible technical support options available to them.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

197 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 6. September 29, 2023.

Veterans

“Regarding veterans' Internet usage, I think any veteran who has served in the last 15 to 20 years is likely to be comfortable using the Internet. It's just part of their training and career. In the military, they receive real-time commands on the battlefield through advanced devices.”¹⁹⁸

Veterans in Connecticut benefit from the services of the Department of Veterans Affairs, which has attempted to digitize many services. The digital divide is not as pronounced for veterans as it is for many other covered populations in Connecticut.

However, older veterans are particularly likely to be digitally disconnected. Therefore, they are also more likely to have difficulty accessing online public resources and services.

Digital Equity Component

Summary

Baseline Metric(s)

Affordability and Access to Internet

Connecticut veterans are less likely to have full connection to the internet. They are slightly more likely to report having no internet or broadband connection (10% with no internet vs 6% overall, and 21% with no broadband vs 17% overall).¹⁹⁹

Nationwide surveys have found that other factors, such as living in a rural area, can increase the likelihood that veterans will have limited access to internet infrastructure.²⁰⁰

Share without
- Any Internet: 10%
- Broadband: 21%

198 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 4. September 29, 2023.

199 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

200 Wireline Competition Bureau. Report on Promoting Broadband Internet Access Service for Veterans, Pursuant to the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018. (May 2019). Federal Communications Commission. <https://docs.fcc.gov/public/attachments/DOC-357270A1.pdf> accessed December 1, 2023.

Affordability and Access to Devices

Connecticut veterans are less likely to meet the state's Digital Connection Benchmark. To meet the benchmark, residents must have broadband internet, a computer, and a smartphone. About 38% of resident veterans scored below this standard, compared to only 27% overall.²⁰¹ Connecticut veterans are about twice as likely to say there are no internet-enabled devices in their household (10% vs only 5% overall). They are only slightly more likely to say they do not own a computer (18% vs 15% overall).²⁰² This suggests that while more veterans than average may be fully disconnected, veterans who do connect to the internet are more likely to have an appropriate connection.

Share below Digital Connection Benchmark: 38%

**Share without:
-Any device: 10%
-A computer: 18%**

Veterans who were surveyed nationwide were more likely to report that not having a computer, or having an outdated computer, was the primary reason they had not subscribed to an internet service.²⁰³

Digital Literacy

Connecticut veterans are less likely to meet the state's Digital Literacy Benchmark. To meet the benchmark, residents had to say that they could complete at least five of six key tasks without help. Of those who responded to the state's Resident Survey, 47% scored below the benchmark, compared to 36% of the overall sample.²⁰⁴

Share below Digital Literacy Benchmark: 47%

201 U.S. Census Bureau. 2017-2021 ACS 5-year Microdata. Retrieved via API call. Estimates created using the R packages tidycensus and srvyr. November 30, 2023.

202 Ibid.

203 Wireline Competition Bureau. Report on Promoting Broadband Internet Access Service for Veterans, Pursuant to the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018. (May 2019). Federal Communications Commission. <https://docs.fcc.gov/public/attachments/DOC-357270A1.pdf> accessed December 1, 2023.

204 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Focus group participants mentioned that veterans who have served recently are more likely to have received advanced technical training, thereby developing stronger digital literacy skills and likely seeing more value in technology's potential than would those without formal training.

Older veterans may drive much of the disparity between veterans and the general population in both internet connection and digital skills.²⁰⁵

Digital Security and Privacy

Connecticut veterans were slightly less likely to meet the state's Digital Security Benchmark (62% did not meet the benchmark compared to 59% overall). To meet this standard, residents needed to say they were "fairly" or "very" familiar with all items on a list of security concepts.²⁰⁶

Share below Digital Security Benchmark: 62%

Technical Support

When Connecticut veterans are not able to resolve problems themselves, they require technical support. While assets exist at the state and national level to provide this support, some residents may still struggle.

As noted in section 3.1, the digital equity team has conducted outreach and research to compile a list of digital support resources available to veterans. This list is a work in progress.

Digital support assets:

As the Digital Equity plan moves forward, we will set a baseline for the share of residents from covered households who are aware of affordable and accessible technical support options available to them.

205 UCONN School of Public Policy. Digital Equity Focus Group Transcripts: Focus Group 4. September 29, 2023.
206 Connecticut digital equity team and UCONN School of Public Policy. Digital Equity Resident Survey. (2023). Connecticut digital equity team.

Some veterans may also be members of other covered populations, adding additional accessibility barriers.

Online Accessibility and Inclusivity of Public Resources

All Connecticut veterans are entitled to inclusive and accessible online public resources. Connecticut’s vision for accessibility and inclusivity of public resources is to reach the lowest common denominator for accessibility.

All websites in the CT.gov domain already have an option for residents to submit accessibility issues that are reviewed by BITS on an ongoing basis. In addition to this support, BITS is conducting a comprehensive accessibility audit and upgrade that will improve 100% of CT.gov web pages.

Percent of BITS accessibility upgrade completed: 0%

As the Digital Equity plan moves forward, the Commission will catalog local and regional public resources that may be inaccessible to covered populations.

Other Barriers to Digital Equity

No specific additional barriers were identified for this covered population.

Conclusions

Based on the research presented in the covered population profiles above, the digital equity team identified the following barriers faced by covered populations within the state. Additional barriers for the covered populations may be uncovered as program implementation, outreach, and research continue.

Table 13: Summary of Barriers by Covered Population

Barriers to Digital Equity	Aging Residents	Residents with Disabilities	Residents Incarcerated in State Facilities	Residents with a Language Barrier	Residents in Covered Households	Residents Who Are Members of Racial/Ethnic Minorities	Rural Residents	Veterans
Affordability and availability of internet	X	X	X	X	X	X	X	X
Affordability and availability of devices and technical support		X	X	X	X	X		X
Accessible and inclusive online public resources	X	X	X	X	X	X	X	X
Digital Literacy	X	X	X	X	X	X		X
Security and Privacy Use and Awareness	X	X	X	X	X	X		X
Other Barriers identified by focus group participants:								
Lack of interest/desire to use the internet	X							
Lack of transportation		X						
Social isolation		X						
Facility-imposed eligibility restrictions			X					
Poor internet at re-entry facilities			X					
Lack of support or accommodations for linguistic or cultural differences when receiving tech support				X				
Asymmetrical information distribution between different neighborhoods						X		

Members of Connecticut's covered populations may struggle with digital access for a variety of reasons. Many residents have called attention to a lack of affordable and varied internet plans at their homes as a key barrier to digital equity. This problem is more severe for members of covered households, who face a steep cost of living in Connecticut and may find the limited available options to be unaffordable. For residents in rural areas, the poor performance of broadband and cellular networks may amplify difficulties connecting to the internet.

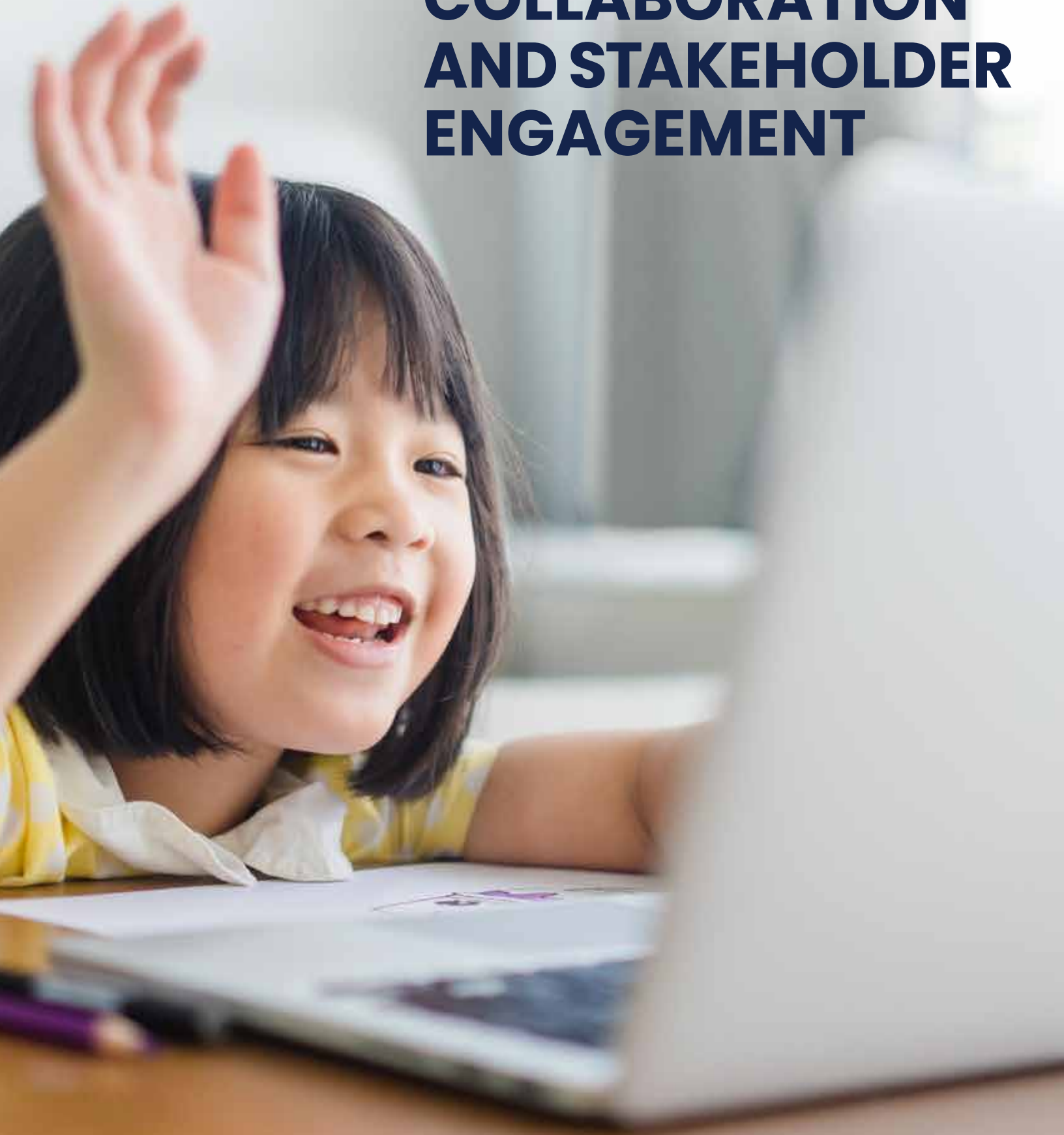
However, even for residents that are already connected, skill gaps and safety concerns remain key barriers to effective digital use. These barriers are only amplified for less connected residents. Formerly incarcerated residents, residents with disabilities, residents with language barriers, and aging residents may be especially likely to lack access to appropriate technical support and digital skill-building resources.

In other cases, the barrier may be institutional in nature. Online public resources should be accessible to all residents, and designed with a wide range of accommodations. Residents with language barriers or disabilities may not be able to access public resources that have not been designed with their use-cases in mind. While many online resources at the state level have already been through, or will soon undergo, a comprehensive accessibility audit and upgrade, work remains to bring municipal and regional websites in line with these standards.

To address these specific needs and bring Connecticut closer to a state of Digital Equity, a comprehensive and collaborative approach will be necessary, as will targeted objectives that incorporate the needs of covered populations and can be regularly evaluated to assess plan performance.

Building on its existing assets, Connecticut has a strong foundation with which to meet these needs. The digital equity team plans to address these needs in collaboration with a range of partners, many of whom also collaborated on the design of the Digital Equity Plan.

SECTION 4
**COLLABORATION
AND STAKEHOLDER
ENGAGEMENT**



Section 4: Collaboration and Stakeholder Engagement

Stage 1: Core, Partner, and Public Outreach

To write the Digital Equity Plan, the digital equity team leveraged the insights of stakeholders within State agencies, municipalities, community anchor institutions, and residents. Even before the award of planning funds, DAS recruited, formed, and tapped the expertise of a core planning team, including the following leaders:

- Burton Cohen, Staff Attorney and Broadband Policy Coordinator, Office of Consumer Counsel
- Dawn LaValle, Director of the Library Development Division, Connecticut State Library
- David Lukens, Broadband Mapping Coordinator, Office of Personnel Management
- Kevin Pisacich, Director of Telecommunications and Broadband, Department of Energy and Environmental Protection
- Adrianna Ramirez, Executive Director, Connecticut Family Support Network

Each member contributed a wealth of professional experience with different facets of digital equity. Their areas of expertise include a profound understanding of broadband, hands-on involvement in frontline initiatives in support of covered populations, and the ability to cultivate support and develop infrastructure for both organizations and the individuals the Digital Equity Plan hopes to reach.

The core planning team members proved instrumental in the design of resident and community anchor surveys as well as focus groups with members of covered populations. DAS and DEEP leads for the Digital Equity and BEAD programs met weekly even prior to planning fund awards and continue to align outreach efforts to ensure the capture of stakeholder input across these programs.

Through meetings, presentations, and other correspondence, DAS captured the following:

- Strategic and digital equity plans
- Input from community anchor institutions regarding digital inclusion efforts and broadband needs (in close coordination with the DEEP BEAD team)
- Assistance with distributing the resident digital equity survey
- Recommendations of other organizations to contact
- Invitations to present to separate organizations to collect the above information

The digital equity team developed a master event ledger²⁰⁷ as well as a master contact list. These documents capture details about organizations and individuals providing programmatic and training support, as well as how digital equity efforts align with the organizations.

Early outreach took place with State agencies responsible for the welfare of covered populations as well as those agencies whose missions align directly with the objectives of the Digital Equity Program. The digital equity and BEAD teams held conversations with the following State agencies and offices:

- Commission on Human Rights and Opportunities
- Connecticut State Colleges and Universities
- Connecticut Technical High School System
- Department of Aging and Disability Services
- Department of Correction
- Department of Disability Services
- Department of Education
- Department of Housing
- Department of Labor
- Department of Public Health
- Department of Social Services
- Department of Veterans Affairs
- Secretary of the State

²⁰⁷ See Appendix M: Outreach and Event Ledger.

Surveys and Focus Groups

The digital equity team designed and used two primary survey instruments to solicit input to gauge digital equity indicators and provide an index of digital inclusion resources in Connecticut.

- Resident Survey: In the late fall of 2022 through the spring of 2023, the DAS digital equity team, core planning team, and leaders from the University of Connecticut School of Public Policy designed a survey to collect input from residents. Questions addressed all aspects of digital equity, including basic demographics to identify members of covered populations, access to and adoption of broadband and devices, attitudes toward and barriers to adopting digital tools, and comfort with online activities that helped define the Digital Connection, Digital Literacy, and Digital Security benchmarks covered in Section 3 of this plan. The DAS team leveraged its master outreach and stakeholder list, distribution channels provided through partner agencies and organizations, and in-person engagement opportunities such as library drop-ins to raise awareness of and responses to the survey. The DAS team made the instrument available in English and Spanish, online and in paper and received more than 6,000 responses.
- Assets and Needs Survey:²⁰⁸ As with the resident survey, the assets and needs survey came about through engaged collaboration across members of the core planning team. The intent was to collect input to establish a digital equity asset map, identifying where digital equity programming was currently being offered in Connecticut, which covered populations were being served, and to assess organizational needs. The DAS and DEEP teams coordinated outreach to maximize responses, requesting that responding organizations complete the survey and share it with their network of partner agencies, nonprofits, etc. that provide digital equity programs and have insights and plans to share.
- Focus Groups: The digital equity team and UCONN partnered to design focus groups for each covered population, resulting in the collection of insights from more than 60 residents from across the state.

208 Community Anchor Survey Results (Excel Sheet)

- Community Conversations: Four additional sessions took place to gather the input of public services professionals who directly serve members of covered populations. They included individuals serving with public and academic libraries and the Connecticut Department of Labor.

In close collaboration with the core planning team, the digital equity team undertook a series of outreach activities to solicit the input of other stakeholders in the Digital Equity Plan design process.

In-Person Events

- Fall 2022 Digital Equity Summit. On October 26, 2022, the Commission for Educational Technology convened a summit just prior to planning award funding to provide a current state of digital equity in Connecticut and enlist the input of stakeholders on assets and needs within the state. More than 250 leaders received invitations, representing State agencies and the General Assembly, non-profits, workforce boards, councils of government, Tribal Nations, municipal governments, regional education service centers, and civil rights organizations.
- Survey Launch Press Conference: On June 20, 2023, Lieutenant Governor Susan Bysiewicz, DAS Commissioner Michelle Gilman, and the digital equity team welcomed members of the press at the East Hartford Public Library to announce the launch of the resident digital equity survey. The event featured leaders from DEEP as well as UCONN and helped raise immediate awareness of the survey to maximize responses. Formal press releases and blog posts helped amplify awareness and increase response rates.

- Digital Equity Listening Session. On August 24, 2023, the digital equity team hosted a hands-on event to gather insights from leaders and practitioners in digital inclusion programs to advance plans on a state, regional, and local scale. Following a welcome by DAS Commissioner Gilman, table-top exercises helped achieve the goals of sharing information, gathering ideas, and building potential partnerships for future digital equity collaborations. The 22 attendees included leaders from libraries, education, state programs, city administration, healthcare, and broadband providers — all with a vested interest in achieving digital equity.

Digital

The Commission for Educational Technology has an easy-to-reach and remember address at CT.gov/DigitalEquity, located on the website for the State of Connecticut Commission for Educational Technology, part of DAS. The page provides general information about the federal program and Connecticut-specific initiatives, links to the asset and needs (i.e., community anchor) survey, and additional resources concerning digital equity. A recorded version and transcript of the presentation shared at the August 2023 listening session also appears on the site, including an online form where members of the public may provide ideas and feedback.

In addition to the web page, DAS created DigitalEquity@ct.gov to send and collect input from residents and stakeholders. The digital equity team used the account to promote surveys, enlist members for focus groups and in-person events, and respond to resident inquiries. DAS manages all digital correspondence through this shared and secure account. As the team is able, they captured contact information, and other details from partners that have been distributed in the outreach and event ledger.

Stage 2: Public Comment

The plan was posted and distributed for public comment in accordance with the Notice of Funding Opportunity requirements. (207) The complete Connecticut Digital Equity Plan, along with appendices and an executive summary, has been published to the DAS Digital Equity page noted above.

Opportunities for Comments

- In-Person Events: Events were scheduled in every region in the state to allow for the widest representation of resident and stakeholder voices. The DAS team targeted presentations at preexisting community events, increasing the likelihood of attendance. The DAS team requested time to share an overview of the Plan and offered space for community feedback and questions.
- Online (Web) Events: The digital equity team hosted live (synchronous) as well as recorded presentations to share the Digital Equity Plan and collect responses. Residents were able to provide feedback anytime during the public comment period through a submission form available at CT.gov/DigitalEquity.
- Phone Line: Most recently, the digital equity team created a phone line (860-622-2032) to accept suggestions from residents and stakeholders on the Digital Equity Plan.

As a cornerstone of our commitment to transparency and inclusivity, the digital equity team placed great importance on public input. The team recognized the invaluable insights and perspectives that members of the public brought to the table. To facilitate an open dialogue, we actively sought and encouraged public comments on our initiatives, plans, and projects related to digital equity. Public comments served as a crucial feedback channel to help ensure that Connecticut's plan is responsive to the diverse needs of the community.

The Public Comment period opened on December 20th, 2023, and closed on January 24th, 2024. Comments were received in person, at virtual meetings, through email, and via a voice mailbox specifically dedicated to Public Comment. Connecticut received nearly 500 responses during this period, with an average score of 4.3 out of 5. Commenters included individuals with a variety of perspectives, including frontline workers, administrators, state and federal legislators, leaders of organizations serving covered populations, and residents.

The digital equity team's strategy included participation in pre-existing events. The RESC Alliance and various community organizations were approached to provide potential opportunities to share the draft plan. Highlights of engagement activities include the following:

- Outreach emails were sent to a list of individuals the digital equity team had engaged with throughout the planning process. Recipients included State agency commissioners, providers, libraries, and non-profit organizations.
- Governor Lamont, Senator Blumenthal, and Congresswoman DeLauro hosted a press conference to announce the Draft Digital Equity Plan.
- Several news outlets covered the project and published articles.
- The digital equity team hosted a virtual public comment session.
- RESCs provided regional opportunities to present the plan to teachers, school support staff, and parents.
- The digital equity team presented at key partner meetings:
 - Connecticut Association of Councils of Governments
 - CT Libraries and Partners for Digital Equity
 - State Diverse Communities Task Force (individuals nominated as trusted community members serving vulnerable populations)
 - Statewide adult education leadership

For a complete list of Public Comment Activities, see Appendix O.

Public Comment Reflection

The digital equity team was dedicated to reviewing thoroughly and considering all public comments received. Feedback from various stakeholders, including individuals, organizations, and community representatives, was thoughtfully analyzed to refine and enhance our digital equity efforts. By actively engaging with public comments, we aimed to foster a collaborative approach that reflected the collective aspirations and concerns of the communities we serve.

Comments from the public underscored specific priorities in the plan, including a strong push to create new and expand existing relationships with a variety of organizations in the state to implement the plan. Stakeholders of several of these organizations used public comment to establish ties with the digital equity team. Comments also emphasized the promotion of healthy technology use, identifying gaps in availability, building stronger partnerships with a range of organizations throughout the state, and clarifying the structure of the Digital Equity Collaboratives and the funding streams available through the program.

Numerous best practices for grassroots implementation were also identified that may be too detailed for the initial Digital Equity Plan and that will inform the program during the implementation phase. Still other comments highlighted issues — including policies affecting competition and pricing of internet — that the Digital Equity Plan does not directly address but that should be highlighted as key resident concerns for the ongoing state broadband work. The digital equity team ensured that such comments reach the relevant BEAD and ARPA CPF program leads.

Stage 3: Implementation

The Regional Education Service Centers (RESCs) will leverage their unique regional networks to convene stakeholders and build key partnerships once the implementation phase begins.

The RESCS will run each regional Digital Equity Collaborative, collectively including every town in Connecticut. They will use partnerships to reach the established goals for their communities. Quarterly meetings to engage trusted community partnerships will start this important conversation in each RESC service area. Trusted organizations can in turn provide feedback to reach the goals set forth in the Digital Equity Plan:

1. Promote Development of Digital Skills and Technical Support Programs
2. Increase Public Awareness of Digital Equity Resources
3. Ensure Residents Have Affordable Options for Getting Online that Meet Their Needs
4. Support Development of Accessible and Inclusive Digital Government at the State and Local Levels
5. Support High-Speed Broadband Infrastructure Buildout
6. Foster Ongoing Learning About Digital Equity Best Practices

These potential partners include, but are not limited to, the following types of organizations and programs:

- Community anchor institutions, which may include faith-based institutions;
- Municipal governments and regional councils of government;
- Local educational agencies, including early childhood and early intervention coordinators;
- Indian Tribes;
- Nonprofit organizations, such as labor unions, digital inclusion initiatives, chambers of commerce and industry associations, and public housing resident associations, as well as reentry organizations;
- Organizations that represent the covered populations;
- Civil rights organizations;
- Entities that carry out workforce development programs;

- Agencies of the State that are responsible for administering or supervising adult education and literacy activities in the State; and
- Public housing authorities in the state.

See Appendix N: Outreach and Events Ledger for a list of engagement efforts.

Outreach Strategy

Reaching residents is a top priority and goal, necessitating a deliberate and multifaceted communication approach. This involves being intentional and employing a multimodal strategy to ensure effective outreach to Connecticut's diverse communities. The RESCS cover the entire state and in many cases deliver services directly to residents. They have formulated best practices for communicating with families, building awareness and understanding, outreach, and impact evaluation. Leveraging the RESCs to reach residents will enhance communication efforts for the benefit of all Connecticut residents.

The digital equity team will work closely with the RESCs and through the regional Digital Equity Collaboratives to accomplish outreach goals based on Barbakoff's research:^{209 210}

- **Inform:** Ensure that information is clear and available in the languages spoken by the community.
- **Consult:** Gather feedback from participants on where they received information and seek ideas on effective promotion channels.
- **Involve:** Engage frontline workers and participants in outreach initiatives to foster a collaborative approach.
- **Collaborate:** Prioritize the establishment of relationships with trusted community organizations for effective outreach.
- **Empower:** Foster widespread awareness of digital equity activities and ensure community members are aware of available resources in times of need. The success of the program relies on word of mouth about resource availability.

209 WebJunction, "Taking Community Partnerships to the Next Level," accessed November 29, 2023, <https://www.webjunction.org/events/webjunction/taking-community-partnerships-to-the-next-level.html>.

210 The Digital Equity Collaboratives are described in detail in Section 5: Digital Equity Plan Objectives and Implementation.

Communication Efforts

To promote digital equity work, the DAS team and RESCs will use a variety of channels. It will be particularly important to include non-digital modes, recognizing that many residents who would benefit from digital inclusion work may face challenges learning about opportunities from digital media alone. These diverse channels will support the need for inclusive efforts that meet individuals where they are and ensure accessibility and engagement with various segments of the community. Channels will include:

- Digital
- Physical Promotion
- Community Events
- Local Media

Coordination with Other Efforts

The State of Connecticut will ensure coordination of digital equity funding and impact through current and planned cross-agency collaborations. The Department of Administrative Services (DAS), as the administrator of the Digital Equity Program, meets bi-weekly with administration of the Broadband Equity, Access, and Deployment (BEAD) program, overseen by Connecticut's Department of Energy and Environmental Protection (DEEP). Under the direction of Governor Lamont, the Connecticut Bipartisan Infrastructure Law Team (BILT) conducts a monthly "broadband huddle" of state agency leaders overseeing broadband programs funded through ARPA, IIJA, and other sources. For a list of partner agencies, see <https://portal.ct.gov/ctbilt/Our-Partners>.

The above collaborative work addresses broadband programs that address different aspects of digital inequities in Connecticut, including the following:

- Digital Equity Program (IIJA funded, DAS)
- BEAD Program (IIJA funded, DEEP)
- Community Wireless (ARPA funded, DAS)
- Capital Projects Fund Broadband Expansion (ARPA funded, DEEP)

Key governance documents that help ensure cross-agency collaboration in support of digital equity include Public Act 21-159, "[An Act Concerning Equitable Access to Broadband](#)," which calls for cross-agency coordination and a biennial report of progress toward statewide goals. This activity and reporting align with the [Five-Year Broadband Action Plan](#), required through the BEAD program and published in 2023. The Five-Year Broadband Action Plan specifically lists the implementation of the State Digital Equity Plan as a strategic goal.

Conclusion

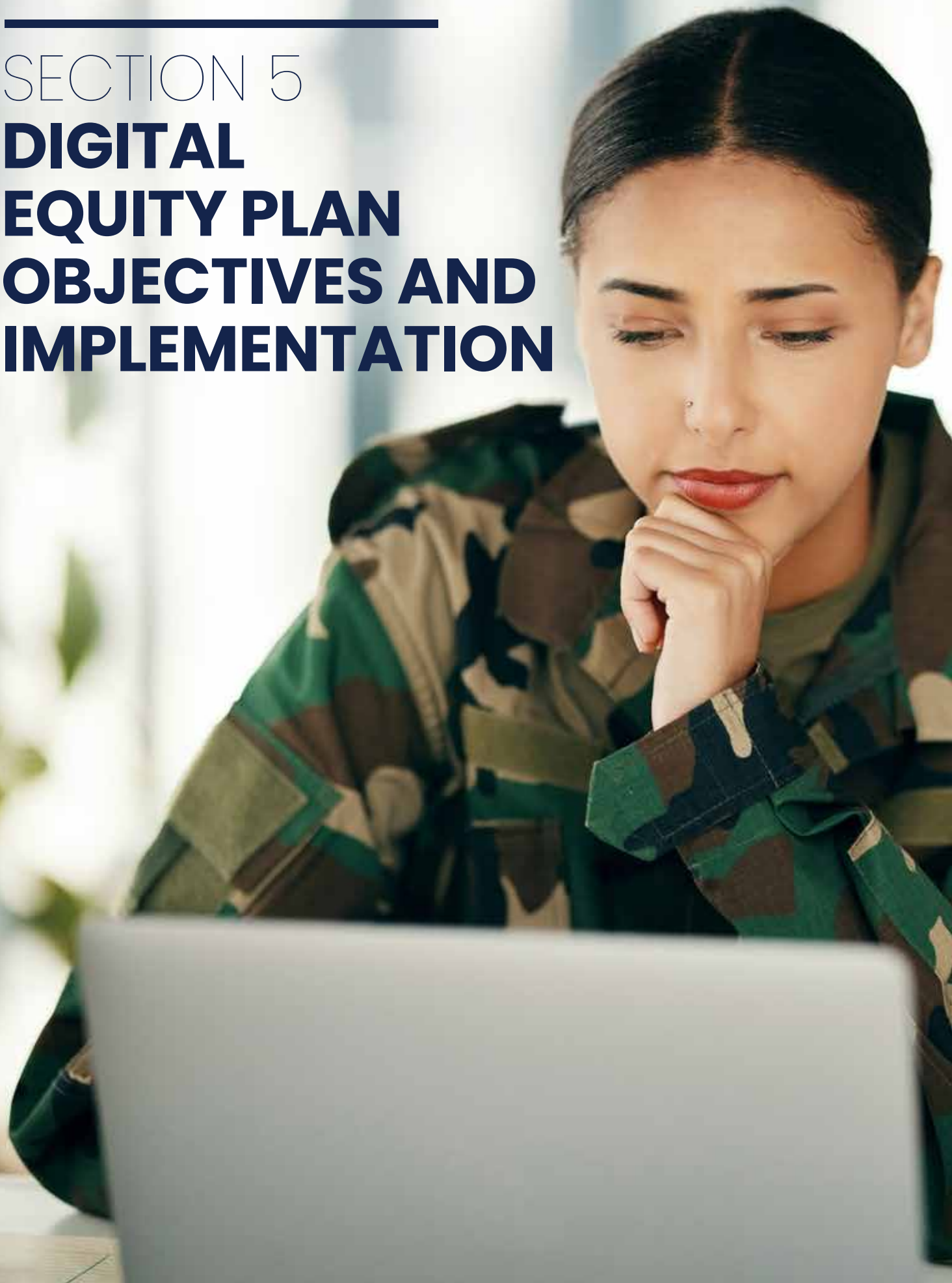
In summary, the digital equity team has actively collaborated with diverse stakeholders during the planning phase and will expand these relationships through the Plan's implementation.

During this period, the RESCs will lead efforts to convene stakeholders and cultivate essential partnerships at the regional and local levels. Quarterly Digital Equity Collaborative meetings with trusted community organizations will help gather feedback and refine strategies. The identified goals encompass various digital equity aspects, and a curated list of partners, from councils of government to local libraries, will ensure a comprehensive approach.

The team emphasizes effective outreach through a well-defined strategy, including intentional and collaborative communication methods. Best practices are established for clarity and accessibility, aligning with the goal of meeting individuals where they are through trusted, local relationships and ensuring that digital equity efforts are communicated effectively and inclusively.

SECTION 5

**DIGITAL
EQUITY PLAN
OBJECTIVES AND
IMPLEMENTATION**



Section 5: Digital Equity Plan Objectives and Implementation

5.1 Objectives, Implementation Strategies, and Performance Evaluation

To achieve this vision for digital equity, the digital equity team will pursue the following six goals:

1. Promote Development of Digital Skills and Technical Support Programs
2. Increase Public Awareness of Digital Equity Resources
3. Ensure Residents Have Affordable Options for Getting Online that Meet Their Needs
4. Support Development of Accessible and Inclusive Digital Government at the State and Local Levels
5. Support High-Speed Broadband Infrastructure Buildout
6. Foster Ongoing Learning About Digital Equity Best Practices

Much of the Digital Equity programming will take place through regional Digital Equity Collaboratives, which the RESCs will convene. The digital equity team will work with the RESCs to ensure that representatives and advocates for each of the covered populations — including adult education, libraries, workforce boards, public health centers — will have open opportunities to participate in the Collaboratives.

Leveraging the RESCs as planning and implementation partners ensures that we tap the deep training, outreach, and technical expertise of these institutions. Operating the Digital Equity Collaboratives through the RESCs will provide regional efficiencies as well as the power of local, trusted providers of digital inclusion services that each RESC can leverage through its deep network of relationships.

In addition to funding the work of the Digital Equity Collaboratives directly, some funding will be made available in the form of competitive grants administered by the digital equity team through the Collaboratives. These grants will fund programs providing innovative digital equity initiatives that align with the priorities of the Digital Equity Plan. Specific funding amounts and grant guidelines will be developed during the implementation phase, prioritizing equitable and impactful deployment of funds to covered populations across Connecticut.

The six Digital Equity Goals each have one or more objectives with Key Performance Indicators (KPIs), and several implementation strategies. Each of the KPIs has a baseline and measurable target values for 3 years, 5 years, and 10 years following the start of the planning process. Some KPIs are designated “statewide KPIs”, and will benefit the entire population, including members of covered populations. In recognition of the varied needs of covered populations, the Digital Equity Plan includes some KPIs that are specific to each covered population.

The magnitude of the need for digital inclusion work differs drastically across covered populations. As seen in the table below, to achieve a target of a 1% change in rate for residents with language barriers, digital equity programming would need to impact 1,400 residents. To achieve a change of the same size for aging residents, the digital equity programming would need to impact 8,900 residents. The scale of this work is daunting and underscores the importance of sustained work over time to foster digital inclusion.

Table 14: Covered Populations by the Numbers

Covered Population	Estimated share of CT population ²¹¹	Definition	Number of residents in 1% of this covered population
Aging Residents	31%	Age 60+	8,900
Residents with Disabilities	14%	Residents who report difficulties, or self-identify as having a disability	4,000
Residents in Covered Households	21%	Residents from households under 150% of the Federal Poverty Level	6,000
Residents with Language Barriers	5%	Residents who report difficulty reading and/or writing English	1,400
Members of Racial / Ethnic Minority Groups (see below)			
+Black/African American Residents	10%	Residents who identify primarily as Black/African American	2,900
+Hispanic/Latino Residents	15%	Residents who self-identify as Hispanic/Latino	4,300
Rural Residents	11%	Residents who live in towns that have a population of less than 50,000, and are not adjacent to any towns of 50,000 or more	3,200
Veterans	5%	Residents who formerly served in the military	1,400
Residents Currently Incarcerated in State Facilities	<1% ²¹²	Residents who currently reside in a state correctional facility. In some cases, residents who have recently re-entered society are used to estimate the needs of currently incarcerated individuals.	<300

²¹¹ Except where noted, these estimates come from an analysis of the Census ACS 5-year Microdata for Connecticut.

²¹² Estimated number incarcerated <https://www.ctinsider.com/news/article/Connecticut-s-incarcerated-population-back-17304836.php#:~:text=Connecticut%20correctional%20facility%20population,the%20start%20of%20this%20year.> (10,000 total) divided by estimated number of population: <https://www.census.gov/quickfacts/fact/table/CT/PST045222> (3.6 million population).

Sometimes, KPIs in this section are “TBD” (to be determined). While the digital equity team has collected a wealth of research through the census and the resident survey, the research and plan-writing processes have unearthed important additional research questions and metrics. The digital equity team will deploy another survey instrument to establish reliable baseline metrics for the KPIs with TBD baselines during the Plan’s implementation. All KPIs will be re-measured periodically to assess progress in accordance with the evaluation process presented in Section 5.2: Timeline.

Given the magnitude of the need, the journey to digital equity will not be completed in five, or even ten years. However, the Digital Equity Plan will take important steps towards reducing digital inequities. Although federal funding is only available for a five-year period, the work to achieve Digital Equity and the need for support services will not end at that time. The team will work to identify sustainable sources of funding through public and private avenues to continue the work beyond the initial 5 years.

Goal 1: Promote Development of Digital Skills and Technical Support Programs

The needs assessment identified significant shortfalls in residents' digital skills when completing key tasks and staying safe online. While some assets exist to address this need, the observed disparity far exceeds the available capacity of these programs. The Digital Equity Plan's focus on skill development through locally-driven programs will address these shortfalls in a regionally-sensitive way.

To address these needs, the digital equity team will pursue the following objectives:

- Objective 1A: Ensure residents can access digital skills support programs
- Objective 1B: Increase digital skills for residents
- Objective 1C: Ensure statewide access to and use of a common framework for digital skill development

Implementation

To achieve the objectives above, the state will pursue the following implementation strategies and activities.

Table 15: Strategies and Activities for Goal 1

Implementation Strategies	Activities	Measurable Objectives
1.1 Support regional and local partners to deploy digital skills and technical support programs	1.1.1 Through Digital Equity Collaboratives, partner with the RESCs to establish and conduct a sub-grant program that funds local efforts to advance digital literacy, digital skills, and technical support for residents, with special consideration for the needs of covered populations. The Collaboratives will identify and recruit key regional partners for this work, which may include workforce agencies, institutions of higher education, labor organizations, community-based organizations, and others as identified during the regional planning process	1A, 1B
	1.1.2 Offer professional development opportunities and networking for digital navigators and other professionals who receive grant funding	1A, 1B
1.2 Advocate for broader awareness and funding to support digital skill development in education and training programs	1.2.1 Identify state agencies that can deliver digital skills training or technical support as part of other programming, including institutions of higher education and workforce agencies	1A, 1B
	1.2.2 Share information with state agencies about the needs of covered populations, and advocate for consideration of digital skills and technical support during program design	1A, 1B
1.3 Develop, deploy, and maintain a common framework for digital skill development	1.3.1 Convene a team of advisors including the Core Planning Team of advisors, Digital Equity Collaboratives , the state library , and adult education to identify or develop a common framework for digital skill development	1C
	1.3.2 Share the framework with the public, and promote it to key stakeholders and sub-grantees as a resource	1C

Performance Evaluation

The digital equity team will promote development of digital skills by supporting an ecosystem of digital skills supports. These measurable objectives have the following performance indicators.

Objective 1A: Ensure residents can access digital skills support programs

The digital equity team will fund digital navigation and technical support programs that are free to residents through regional partners. The team will also work with other state partners to increase digital literacy programming through other programs and providers. These efforts will ensure that digital skill support programs, including digital navigation or technical support programs, are accessible to residents.

In line with questions that arose during the resident survey process, the digital equity team will obtain a baseline for the number of residents who would like additional digital skills training or technical support but cannot access it. For now, this KPI is listed as "TBD", with aspirational targets of no higher than 10% and 5% at the five and ten year evaluations.

Table 16: Statewide KPIs for Objective 1A

Statewide KPIs	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Number of DE-funded digital navigator programs in the state	0	5	5	3
Number of DE-funded programs offering technical support to residents	0	5	5	3
Number of residents served to date by DE-funded digital navigator programs	0	7,650	12,750	25,500
Number of state agency programs that offer digital literacy or technical support resources	4	5	5	5

Table 17: Covered Population Specific KPIs for Objective 1A

Covered populations as a share of residents served by Digital Equity funded programs	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	0%	30%	35%	40%
Residents with Disabilities	0%	15%	20%	25%
Residents in Covered Households	0%	20%	25%	30%
Residents with Language Barriers	0%	5%	10%	15%
Black/African American Residents	0%	10%	15%	20%
Hispanic/Latino Residents	0%	15%	20%	25%
Rural Residents	0%	10%	10%	10%
Veterans	0%	5%	7%	10%
Residents who say they want Digital Skills Training or technical support but cannot access it	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	TBD	TBD	10%	5%
Residents with Disabilities	TBD	TBD	10%	5%
Residents in Covered Households	TBD	TBD	10%	5%
Residents with Language Barriers	TBD	TBD	10%	5%
Black/African American Residents	TBD	TBD	10%	5%
Hispanic/Latino Residents	TBD	TBD	10%	5%
Rural Residents	TBD	TBD	10%	5%
Veterans	TBD	TBD	10%	5%

Objective 1B: Increase digital skills for residents

Through the implementation strategies, the digital equity team also aims to have a direct positive impact on replicable measures on residents' digital skills. As access to programs increases, so too should baseline indicators of residents' digital skills.

The gap in digital literacy between members of covered populations and the rest of the state is especially troubling given the necessity of digital skills in navigating key healthcare, education, and workforce services, in obtaining essential services, and in promoting civic engagement. While some programs have begun to meet that need, the magnitude of the skill gap far exceeds program capacity.

Digital Navigation models typically provide sustained, repeated 1:1 engagement between a trained digital navigator and a resident with specific digital learning goals. The net cost of providing this service to a single resident over an extended period of time is estimated around \$1,000.

While the net changes in the KPIs listed below may appear small in relative terms, the number of residents aided is in line with expected funding allocations. Even with the most optimistic impact assumptions, a 1% shift in the average of the aging population represents significant skill acquisition for over 8,900 residents, at a cost of \$8.9 million.

The magnitude of the remaining gaps underscore the need for significant ongoing investments in reducing digital inequities.

Table 18: Covered Population Specific KPIs for Objective 1B

Share of residents not meeting the Digital Literacy Benchmark ²¹³	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	42%	42%	41%	40%
Residents with Disabilities	53%	52%	50%	48%
Residents in Covered Households	59%	58%	57%	55%
Residents with Language Barriers	76%	75%	73%	70%
Black/African American Residents	45%	44%	43%	41%
Hispanic/Latino Residents	47%	46%	45%	43%
Rural Residents	34%	34%	33%	32%
Veterans	47%	46%	44%	41%

Share of residents not meeting the Digital Literacy Benchmark ²¹⁴	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	62%	62%	61%	60%
Residents with Disabilities	68%	67%	66%	64%
Residents in Covered Households	71%	70%	69%	67%
Residents with Language Barriers	83%	81%	79%	75%
Black/African American Residents	63%	62%	61%	59%
Hispanic/Latino Residents	67%	66%	65%	63%
Rural Residents	59%	59%	58%	57%
Veterans	62%	61%	60%	58%

213 Baseline Numbers from the DE Team Analysis of Census 5-year ACS 2021 Microdata
 214 Ibid.

Number of re-entering citizens who are referred to DE-funded digital literacy or technical support programs	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Currently Incarcerated Residents	0	3,000	5,000	10,000

Share of re-entering citizens referred to DE-funded digital literacy or technical support programs who say those programs meet their needs	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Currently Incarcerated Residents	0	50%	75%	100%

Objective 1C: Increase use of a common framework for digital skill development

A final gap in Digital Equity programming is the absence of an established and trusted framework for digital skill development. To address this need, the digital equity team will support the identification or development of such a framework. It will be made available for use to all partners and sub-grantees to encourage and measure digital skill development.

In alignment with resident concerns raised in focus groups and during public comment, the common framework will include skills and best practices for mitigating negative side effects of technology use and promoting healthy habits.

Table 19: Statewide KPIs for Objective 1C

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Share of sub-grantees using the common framework	0%	50%	75%	10%

Goal 2: Ensure Public Awareness of Digital Equity Resources

The research also demonstrated that despite a wealth of resources, information was often a key barrier preventing residents from equitably accessing key digital resources. To better utilize the existing assets in the state, the digital equity team will ensure public awareness of new and existing digital connection resources.

In pursuit of this goal, the digital equity team will pursue the following objectives:

- Objective 2A: Increase resident awareness of resources
- Objective 2B: Increase resident use of public resources

Implementation

To achieve these objectives, the digital equity team will implement the following strategies and activities. Efforts will include outreach through Digital Equity Collaboratives, with strong ties to local, trusted organizations, as well as communications to residents directly.

Table 20: Strategies and Activities for Goal 2

Strategies	Activities	Measurable Objectives
2.1 Create a trusted and searchable list of Digital Equity resources	2.1.1 Based on the Asset Map referenced in this Plan, create an interactive, searchable map residents can use to find connectivity, device, training, and support resources	2A, 2B
2.2 Leverage trusted channels to disseminate information to organizations	2.2.1 Develop organization-facing communications about digital equity programming including ongoing work and professional development opportunities that partner organizations — such as community-based organizations, labor organizations, workforce agencies, and other groups — may benefit from	2A, 2B
2.3 Leverage trusted channels to disseminate information to residents	2.3.1 Create communications about digital equity programs funded or otherwise supported by the state digital equity team	2A, 2B
	2.3.2 Develop and share communications about state and federal affordability programs	2A, 2B
	2.3.3 Develop and share communications about available resources for organizations who do digital inclusion work	2A, 2B

Performance Evaluation

The digital equity team’s efforts to increase resident awareness and use of resources will be evaluated through the following performance indicators.

Objective 2A: Increase resident awareness of resources

Awareness is a key prerequisite for residents to access programs that address barriers to digital equity. Given the anecdotal gap in awareness in the existing qualitative research, the digital equity team will collaborate with trusted community partners to raise awareness through multiple channels.

Evaluating the effectiveness of this effort will require directly measuring awareness of different kinds of digital inclusion programs. In line with questions that arose during the focus group process, the digital equity team will obtain baselines for the number of likely eligible residents who are aware of the affordability and digital skill programs that are available to them. For now, these KPIs are both listed as “TBD,” with an aspirational target of 95% for the five and ten-year evaluations.

Table 21: Covered Population Specific KPIs for Objective 2A

Share of respondents who say they know where to get affordable digital navigation or technical support when they need it	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	TBD	TBD	95%	100%
Residents with Disabilities	TBD	TBD	95%	100%
Residents in Covered Households	TBD	TBD	95%	100%
Residents with Language Barriers	TBD	TBD	95%	100%
Black/African American Residents	TBD	TBD	95%	100%
Hispanic/Latino Residents	TBD	TBD	95%	100%
Rural Residents	TBD	TBD	95%	100%
Veterans	TBD	TBD	95%	100%

Share of likely eligible residents who are aware of the affordability programs that are available to them (ACP, BEAD Affordability, Device Loans)	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	TBD	TBD	95%	95%
Residents with Disabilities	TBD	TBD	95%	95%
Residents in Covered Households	TBD	TBD	95%	95%
Residents with Language Barriers	TBD	TBD	95%	95%
Black/African American Residents	TBD	TBD	95%	95%
Hispanic/Latino Residents	TBD	TBD	95%	95%
Rural Residents	TBD	TBD	95%	95%
Veterans	TBD	TBD	95%	95%

Objective 2B: Increase resident use of public resources

Residents are only able to use the public resources that they are aware of. As awareness increases, use of resources among eligible residents should also increase.

As of the time of writing, the future of the ACP remains uncertain. ACP claim targets are listed as “TBD” pending resolution about the future of ACP eligibility and availability. To account for changing numbers of eligible residents, the digital equity team will design a question in the next resident survey that will assess resident eligibility for and awareness of the ACP. For now, this KPI is listed as “TBD.”

The digital equity team will also track enrollment in BEAD low-cost affordability plans. Tracking procedures and targets are pending until the BEAD plan has been finalized. For now, this KPI’s targets are all “TBD.”

Table 22: Statewide KPIs for Objective 2B

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Number of households claiming ACP benefits in CT ²¹⁵	64,700	TBD	TBD	TBD
Share of likely eligible residents who report subscribing to the ACP	0	TBD	TBD	TBD
BEAD low-cost affordability plan enrollment	0	TBD	TBD	TBD
Monthly page views of the Digital Equity Asset Map	0	100	200	500

**Goal 3:
Ensure Residents
Have Affordable
Options for
Getting Online
That Meet Their
Needs**

The research displayed sizable discrepancies in how covered populations adopt internet and own devices compared to the statewide average. Members of covered populations are less likely to have internet-enabled devices, laptop/computers, and broadband internet, and many cite affordability as a key concern. In response to this need, the digital equity team has adopted the following objectives in service of Goal 3:

- Objective 3A: Decrease the number of residents for whom cost is a barrier to a digital connection
- Objective 3B: Increase the number of residents who own devices that meet their needs
- Objective 3C: Increase the number of residents with an internet connection that meets their needs

Implementation

Affordability was a common concern for all residents, including members of covered populations. The Digital Equity Plan will address affordability by connecting residents with existing resources to increase internet affordability, and will create an affordable device refurbishment pipeline. Partnerships, models, and distribution networks will be developed with input from the core planning team and the regional Digital Equity Collaboratives.

²¹⁵ This number is based on the year to date "Claimed ACP Subscribers" figure from April 2023 in the data download provided by the Benton Institute at https://www.benton.org/acp_tool. The baseline measure is subject to change to preserve year-over-year comparability. This number is smaller than the total households enrolled because not all enrolled households are immediately converted into provider-submitted claims.

Table 23: Strategies and Activities for Goal 3

Strategies	Activities	Measurable Objectives
3.1 Increase participation in existing affordability programs	3.1.1 Leverage trusted, local information channels through community-based organizations, workforce agencies, and others to disseminate information about the following programs to covered populations who struggle with affordability: <ul style="list-style-type: none"> - The federal Affordable Connectivity Program (ACP)²¹⁶ - The state BEAD low-cost affordability plan - Leverage network of partners to promote the expansion of safe, high-speed internet access through the Community Wireless program²¹⁷ - Low-cost device programs (state, regional, local) - Device loan programs (local) 	3A, 3B, 3C
	3.1.2 Incorporate information about ACP and other state affordability resources into Connecticut’s 211 system	3A, 3B, 3C
3.2 Develop systems to promote the distribution of affordable devices to residents	3.2.1 Create a pipeline for the collection, preparation, distribution, and support of decommissioned devices from state agencies, companies, and partner organizations that may include community-based organizations and workforce agencies	3A, 3B
	3.2.2 Partner with other institutions such as higher education to create pipelines for quality refurbished devices	3A, 3B
	3.2.3 Develop plans for sustained use and multilingual technical support that will allow residents to make effective use of devices in the long-run	3A, 3B
	3.2.4 Coordinate with assistive technology providers and build partnerships to promote easy and affordable access to software that makes refurbished devices accessible to all residents	3A, 3B

²¹⁶ Note: At the time of this writing, funding to continue the Affordable Connectivity Program (ACP) past the spring of 2024 was not guaranteed and pending federal budget negotiations.

²¹⁷ Administered by the Connecticut Education Network, more information at <https://ctedunet.net/cen-connect/>.

Performance Evaluation

Implementation of these strategies will allow progress on the measurable objectives. Objectives will be evaluated using the following KPIs.

Objective 3A: Decrease the number of residents for whom cost is a barrier to a digital connection

Since the Digital Connection Benchmark is a composite score made up of three answers (whether a resident has a laptop/computer in their home, whether they have a smartphone in their home, and whether they have broadband internet), it can be expected to change more slowly than the individual pieces.

47% of respondents to the CT Digital Equity Resident Survey find it somewhat or very difficult to afford internet service. The Digital Equity Plan is primarily focused on closing the visible gaps between covered populations and the statewide average in affordable internet service and connection. However, as affordability improves, the average may also decline, benefiting all residents.

The digital equity team will collaborate with the Department of Corrections and USD #1 to establish and maintain baseline data about the number of incarcerated residents participating in programs that give them access to devices, such as computer courses through USD #1. While the departments finalize data request and tracking procedures, this KPI is listed as "TBD."

Table 24: Covered Population Specific KPIs for Objective 3A

Percent of residents who do not meet the Digital Connection Benchmark ²¹⁸	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	41%	41%	40%	39%
Residents with Disabilities	49%	48%	47%	45%
Residents in Covered Households	49%	48%	47%	45%
Residents with Language Barriers	51%	50%	48%	46%
Black/African American Residents	37%	36%	35%	33%
Hispanic/Latino Residents	38%	37%	36%	34%
Rural Residents	30%	29%	28%	26%
Veterans	38%	37%	36%	34%
<hr/>				
Percent of residents who say it is somewhat or very difficult to afford service ²¹⁹	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	48%	47%	47%	46%
Residents with Disabilities	60%	59%	58%	56%
Residents in Covered Households	66%	65%	64%	60%
Residents with Language Barriers	63%	62%	60%	58%
Black/African American Residents	53%	52%	50%	48%
Hispanic/Latino Residents	56%	55%	53%	51%
Rural Residents	47%	47%	46%	46%
Veterans	49%	48%	47%	46%
<hr/>				
Number of residents who participate in a free USD #1 Computer Course	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Currently Incarcerated Residents	TBD	TBD	TBD	TBD

218 Baseline numbers from an analysis of the Census ACS 5-year 2021 microdata. Digital Benchmark was put here because it is the most costly device+internet combination of those we look at. (You need an internet subscription, a smartphone, and a computer/laptop).

219 From an analysis of the CT Resident Survey

Objective 3B: Increase the number of residents who own devices that meet their needs

Several existing indicators may provide good estimates of when equity gaps in device ownership exist between covered populations, including the rate of owning any device and the rate of owning a computer. As digital literacy programs are deployed and information about affordability programs becomes more widespread, technology adoption is expected to increase across covered populations.

Residents have individualized needs and desires when using the internet. While some residents may require a computer, others may be able to achieve their goals with only a tablet. In line with questions around individualized need that arose during the resident survey process, the digital equity team will also obtain a baseline for the number of residents who say their device(s) do not meet their needs in one or more of the key Digital Equity outcome areas: healthcare, workforce, education, essential services, and/or civic engagement. For now, this KPI has been listed as "TBD," with aspirational targets of 10% and 5% for the five year and ten year evaluations.

Table 25: Statewide KPIs for Objective 3B

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Number of total residents who obtain affordable devices through digital equity team partnerships	0	3,000	5,000	10,000

Table 26: Covered Population Specific KPIs for Objective 3B

Percent of residents who do not own any Internet-enabled device ²²⁰	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	13%	12%	11%	10%
Residents with Disabilities	17%	16%	15%	14%
Residents in Covered Households	13%	12%	11%	10%
Residents with Language Barriers	12%	11%	10%	9%
Black/African American Residents	7%	6%	5%	5%
Hispanic/Latino Residents	6%	6%	5%	5%
Rural Residents	6%	6%	5%	5%
Veterans	10%	9%	8%	7%
Percent of residents who do not own a computer ²²¹	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	22%	21%	20%	19%
Residents with Disabilities	30%	27%	26%	25%
Residents in Covered Households	32%	31%	29%	27%
Residents with Language Barriers	38%	37%	36%	35%
Black/African American Residents	23%	22%	21%	20%
Hispanic/Latino Residents	26%	25%	24%	23%
Rural Residents	16%	15%	15%	15%
Veterans	18%	17%	16%	15%

220 Baseline data from an analysis of the Census 5-year 2021 ACS Microdata for CT
221 Ibid.

Percent of residents who say their devices do not meet their needs for one or more key outcomes (healthcare, workforce, education, essential services, and civic engagement)	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	TBD%	TBD%	10%	5%
Residents with Disabilities	TBD%	TBD%	10%	5%
Residents in Covered Households	TBD%	TBD%	10%	5%
Residents with Language Barriers	TBD%	TBD%	10%	5%
Black/African American Residents	TBD%	TBD%	10%	5%
Hispanic/Latino Residents	TBD%	TBD%	10%	5%
Rural Residents	TBD%	TBD%	10%	5%
Veterans	TBD%	TBD%	10%	5%
Residents who have access to a 1:1 device in a state correctional facility	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Currently Incarcerated Residents	10,444	10,444	10,444	10,444

Objective 3C: Increase the number of residents with an internet connection that meets their needs

While a wired broadband internet connection may be the gold standard, connection that meets the needs of residents may come in various forms. To monitor this connectivity, the digital equity team will track a collection of KPIs that paint a more accurate picture of whether residents are able to achieve their goals with their current internet speeds.

Table 27: Covered Population Specific KPIs for Objective 3C

Percent of residents with no Internet ²²²	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	13%	12%	11%	10%
Residents with Disabilities	17%	16%	15%	14%
Residents in Covered Households	15%	14%	13%	12%
Residents with Language Barriers	16%	15%	14%	13%
Black/African American Residents	9%	8%	7%	6%
Hispanic/Latino Residents	9%	8%	7%	6%
Rural Residents	7%	6%	6%	6%
Veterans	10%	9%	8%	7%
Percent of residents with no fixed broadband ²²³	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	24%	23%	22%	21%
Residents with Disabilities	30%	29%	27%	25%
Residents in Covered Households	32%	31%	29%	27%
Residents with Language Barriers	37%	36%	34%	32%
Black/African American Residents	24%	23%	22%	21%
Hispanic/Latino Residents	26%	25%	24%	23%
Rural Residents	18%	17%	17%	16%
Veterans	21%	20%	19%	18%

²²² Baseline data from an analysis of the Census 5-year ACS Microdata for CT 2021
²²³ Ibid.

Percent of residents who say their connection is not adequate for the number of people in their household ²²⁴	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Aging Residents	19%	19%	18%	17%
Residents with Disabilities	24%	23%	22%	20%
Residents in Covered Households	29%	28%	26%	24%
Residents with Language Barriers	30%	29%	27%	25%
Black/African American Residents	26%	25%	24%	22%
Hispanic/Latino Residents	24%	23%	22%	20%
Rural Residents	19%	19%	18%	18%
Veterans	24%	23%	22%	20%
<hr/>				
State correctional facilities with local Wi-Fi (no direct Internet access)	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Currently Incarcerated Residents	13 of 13	13 of 13	13 of 13	13 of 13

²²⁴ Baseline data from the CT resident survey

Goal 4: Support Development of Accessible and Inclusive Digital Government at the State and Local Levels

Accessibility of websites and online services was highlighted as an area of particular concern for residents with disabilities, particularly those with vision impairments. To ensure that all residents have equitable access to online public resources, the digital equity team will pursue the following measurable objectives in support of Goal 4:

- Objective 4A: Decrease the number of local and regional web offerings that are not accessible
- Objective 4B: Increase the accessibility of websites and online resources at the state level

The Digital Equity Program will support ongoing efforts across State agencies to ensure resident access to digital services. Municipalities have governance over their own services, and the Plan will include outreach and partnership activities to assist towns to help ensure accessibility of services.

Implementation

The digital equity team can play a key role in advocating for accessible and inclusive digital public resources. At the state level, the Team will collaborate with the Bureau of Information and Technology Services (BITS) within DAS, to continue to improve the accessibility of Ct.gov web pages. At the local level, the team will leverage regional partnerships to promote accessibility of local and regional public resources.

Table 28: Strategies and Activities for Goal 4

Strategies	Activities	Measurable Objective
4.1 Foster development of inclusive local & regional resources	4.1.1 Ensure that all sub-grantees meet accessibility standards with their program offerings ²²⁵	4A
	4.1.2 Work with regional partners to inventory and address accessibility issues with municipal and regional websites	4A
4.2 Ensure accessibility & inclusivity for state digital resources	4.2.1 Partner with BITS (Bureau of Information and Technology Systems) to monitor and promote accessibility efforts for state websites	4B
	4.2.2 Liaise with other State agencies that serve covered populations to advocate for increased attention to accessibility	4B

²²⁵ For example, sub-grantees should meet the Web Content Accessibility Guidelines (WCAG), more information at <https://www.w3.org/WAI/standards-guidelines/wcag/>

Performance Evaluation

The effectiveness of these activities will be monitored using the following key performance indicators.

Objective 4A: Decrease the number of local and regional web offerings that are not accessible

The digital equity team will collaborate with regional partners to develop a baseline for the number of municipal websites without accessibility features. Once the scale of the problem has been quantified, targets may be updated. While connecting municipalities with upgrades may take time, even in the worst case scenarios the digital equity team hopes to ensure that over 95% of municipal websites are accessible by 2033. For now, this KPI is listed as "TBD."

Table 29: Statewide KPIs for Objective 4A

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Share of municipal websites without accessibility features	TBD	TBD	10%	5%

Objective 4B: Increase the accessibility of websites and online resources at the state level

The digital equity team will monitor the progress of the BITS accessibility audit and upgrade, set to be completed in 2024.

Table 30: Statewide KPIs for Objective 4B

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Progress of accessibility audit and upgrade	0%	100%	100%	100%

Goal 5: Support High-Speed Broadband Infrastructure Buildout

Covered Populations reported wired household broadband subscriptions at lower rates than the average. Some members of covered populations expressed frustration with the speed or availability of internet plans in the area around their homes. In addition to the affordability and literacy supports, the Digital Equity Plan will coordinate with other state broadband efforts to promote the buildout of high-speed broadband infrastructure.

The Digital Equity Plan will leverage and help to extend the impact of other broadband programs. Key partners include the Department of Energy and Environmental Protection (DEEP), which administers the BEAD program as well as ARPA-funded broadband initiatives, as well as the Connecticut Education Network (CEN), which stewards the Community Wireless program.

The digital equity team will track progress on these measurable objectives as state broadband work progresses:

- Objective 5A: Increase the number of CAIs with served speeds
- Objective 5B: Ensure all DE partners are aware of potential funding for broadband through the BEAD program

Implementation

The digital equity team will continue to work closely with CT DEEP, administering the Broadband Equity Access and Deployment program, in ensuring equitable broadband buildout per state and program goals. This will include coordinating mailing lists and ensuring a streamlined process of information-sharing and joint communications.

Table 31: Strategies and Activities for Goal 5

Strategies	Activities	Measurable Objectives
5.1 Leverage Digital Equity Collaboratives as information conduits to maximize effective deployment of BEAD funds	5.1.1 Share information with CAIs on Digital Equity mailing lists about BEAD grants, timelines, and eligibility criteria	5A
	5.1.2 Use Digital Equity programming and sub-grants as opportunities to spread awareness to sub-grantees about the potential for supplementary infrastructure funding through the BEAD program	5B

Performance Evaluation

The effectiveness of these activities will be monitored using the following key performance indicators.

Objective 5A: Expand awareness among DE partners of potential funding for broadband through the BEAD program

The digital equity team will coordinate with CT BEAD to ensure that communications are comprehensive without being duplicative. No baseline exists for this KPI because at the time of writing it is too early to identify any funding opportunities through CT BEAD.

Table 32: Statewide KPIs for Objective 5A

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Share of DE Partners who are sent information about BEAD funding opportunities	N/A	100%	100%	N/A

Goal 6: Foster Ongoing Learning About Digital Equity Best Practices

While Digital Navigation programs have collected data during their operation, the digital equity team observed a lack of standardized data collection practices that would make data comparable across sites. Some gaps in data collection also made it difficult to tell whether members of certain covered populations were being reached through services. To support Goal 6, the Digital Equity Team will pursue the following objectives:

- Objective 6A: Gather data about best-practices in digital navigation
- Objective 6B: Evaluate and learn from digital equity programs
- Objective 6C: Bring communities of practice together for continued learning

Implementation

The digital equity team will pursue intentional designs around reporting requirements for all Digital Equity-funded programs. Sub-grantees will be provided with standardized reporting requirements and asked to track the inclusion of covered populations within Digital Equity programs. Learnings will be shared through research partnerships that promote the growth of best practices while preserving individual privacy.

The need for digital inclusion work will continue after the end of the Digital Equity Plan. To lay a strong foundation for future work, the digital equity team will leverage Plan activities as opportunities to collect data about programs and analyze them to identify best practices. These learnings will be shared through research partnerships and convening communities of practice and will support impactful digital inclusion work for years to come.

Table 33: Strategies and Activities for Goal 6

Strategies	Activities	Measurable Objectives
6.1 Ensure all DE-funded activities have measurable outcomes	6.1.1 Develop reporting requirements for feedback loops that are realistic to implement and allow for quality data collection	6A, 6B
	6.1.2 Make reporting requirements uniform across DE-funded activities to ensure data comparability	6A, 6B
6.2 Support ongoing research and analysis of digital inclusion work to identify best practices	6.2.1 Whenever possible, share data with research partners, including institutions of higher learning, to promote learnings about digital equity best practices	6B
	6.2.2 Conduct periodic internal reviews of data to evaluate performance and effectiveness	6B
6.3 Communicate best practices to the wider community	6.3.1 Promote publications of research partners, including those at institutions of higher education, that highlight best practices in Connecticut digital inclusion efforts	6B, 6C
	6.3.2 Develop communications and frameworks that share research findings with program implementers	6B, 6C
	6.3.3 Convene communities of practice to build shared knowledge	6C

Performance Evaluation

The effectiveness of these activities will be monitored based on the following key performance indicators.

Objective 6A: Gather data about best-practices in digital navigation

To ensure that impacts on covered populations can be tracked, the digital equity team will design reporting frameworks that capture demographic data in a standardized and comparable way. Other priorities will include the comfort of respondents, data privacy, and streamlining data collection processes.

Table 34: Statewide KPIs for Objective 6A

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Share of Digital Equity funded programs with data disaggregated by covered population	0	100%	100%	100%

Objective 6B: Evaluate and learn from ongoing DE programming

Through the course of the Digital Equity Program, the digital equity team will conduct evaluations of digital equity programs. The team will also pursue research partnerships to leverage scholarly expertise in learning from ongoing work.

Table 35: Statewide KPIs for Objective 6B

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Share of programs evaluated	0%	25%	100%	N/A
Number of research partnerships	0	1	2	3

Objective 6C: Bring communities of practice together for continued learning

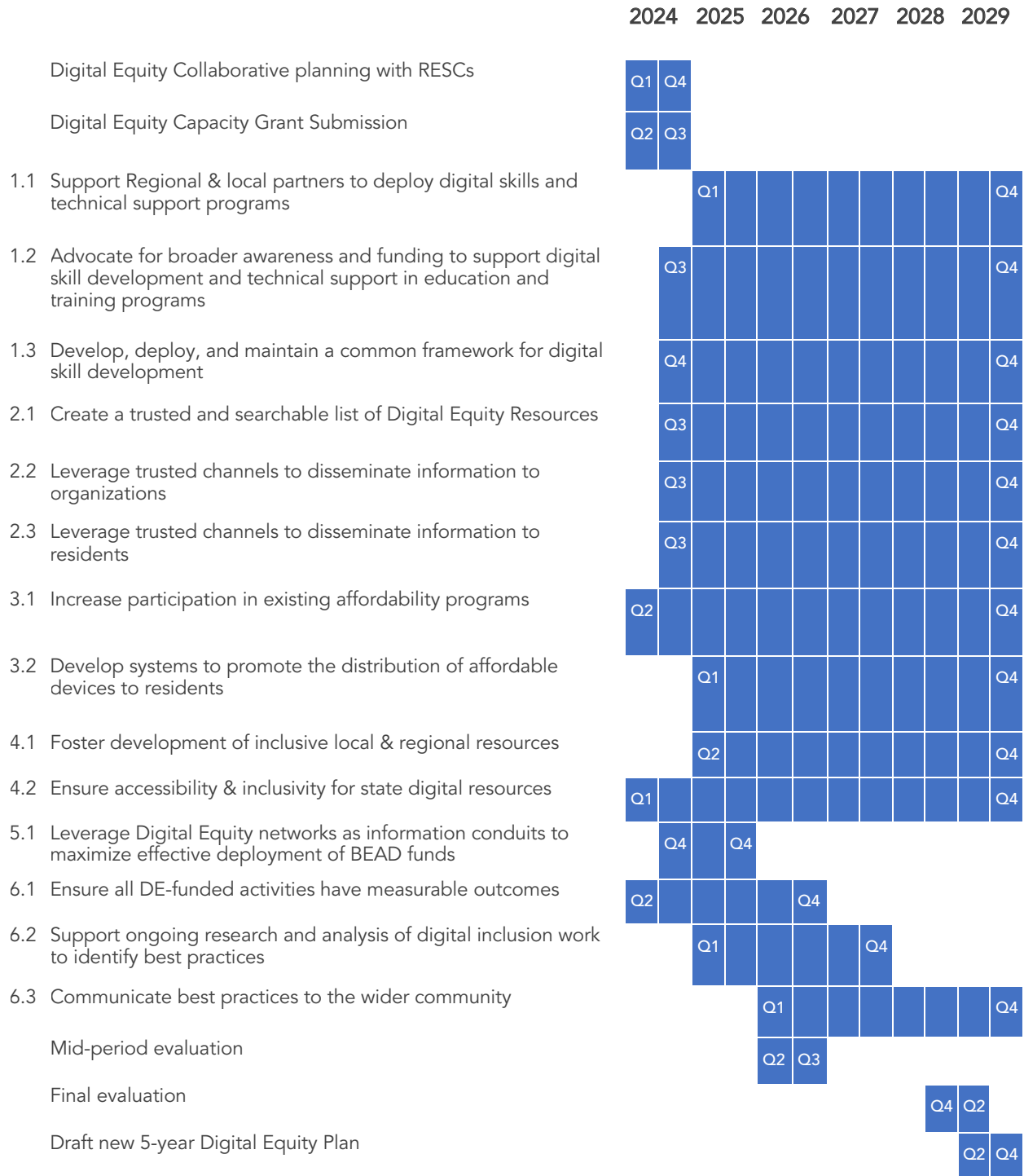
The digital equity team will serve as a convener of communities of practice to promote continued innovation in the digital equity space and the growth of professional networks among practitioners. This will primarily be achieved through hosting events that share learnings and promote connection.

Table 36: Statewide KPIs for Objective 6C

	2023 Yr 0	2026 Yr 3	2028 Yr 5	2033 Yr 10
Number of total DE events convened	2	8	10	20

5.2 Timeline

Figure 15: Timeline



Planning

The planning phase for Digital Equity Implementation will begin in 2024 with close collaboration between the digital equity team and the RESCs.

Implementation

Implementation of the activities in the digital equity team will begin throughout 2024 and 2025. Given the 5-year implementation period, these activities are currently projected to continue through 2029.

Evaluations and Updates

The digital equity team will include a mid-period evaluation in 2023, and a final evaluation of the 5-year plan in 2028 and 2029. During both evaluations, the digital equity team will assess progress towards the stated KPIs and the effectiveness of various Digital Equity programs at achieving targets. With each evaluation, modifications may be made to the plan and activities to better achieve the goals.

In 2029, based on best-practices and the identified ongoing needs, the Digital Equity Plan will be re-written for another 5 years with the activities that are designed to meet the identified targets. Alternate funding sources will be explored to continue this important work.

Plan Sustainability and Effectiveness

Following mid-period evaluations, the digital equity team will update the plan to ensure that implementation strategies remain sustainable and respond to program learnings to pursue effectiveness. Costs to attain complete “digital equity” and to sustain it beyond the Capacity phase will require ongoing investments from within the state. The digital equity team will pursue such investment opportunities from private and public sources.

SECTION 6

CONCLUSION



Section 6: Conclusion

Connecticut remains one of the most technologically advanced and well-educated states in the country. Fewer than 1 percent of our households cannot access internet service. Millions of residents are eligible for subsidies to help pay for that access. Programs abound through State agencies, nonprofits, adult education programs, and libraries — to name just a few sources of tailored training and “digital navigation” services to help people get connected and skilled in the use of online tools.

Despite the depth and breadth of such resources, the digital divide persists in our state. Nearly every household can get internet service, but only about three-quarters subscribe to broadband. The Digital Literacy and Digital Security Benchmark measures shared in this plan — which indicate the deeper value beyond just the “boxes and wires” of technology — point to a deeper problem. Access to devices and connections is one thing, making effective use of them to improve lives is another. Even Connecticut residents who are online report a lack of skills to engage in online learning, professional advancement, health and wellness, civic engagement, and public service activities.

Gaps in digital equity in a state with such a solid technology foundation point to a problem of adoption rather than availability. Why this gap exists serves as the starting point for the research and recommendations that have gone into this plan. The nature of those gaps also guides the key initiatives of the plan:

- 1) Promote Development of Digital Skills and Technical Support Programs
- 2) Increase Public Awareness of Digital Equity Resources
- 3) Ensure Residents Have Affordable Options for Getting Online that Meet Their Needs
- 4) Support Development of Accessible and Inclusive Digital Government at the State and Local Levels
- 5) Support High-Speed Broadband Infrastructure Buildout
- 6) Foster Ongoing Learning About Digital Equity Best Practices

Accomplishing these goals will take place through coordinated, statewide efforts that also tap the insights of other leaders doing related work, serving the same audiences in the 9 other states and territories. Great work is underway already, as the research in this plan reflects. This plan aims to expand, amplify, and enhance those programs and initiatives that are already connecting, training, and providing support to everyone in Connecticut, especially those who can benefit most from engaging in the digital world.

These efforts will continue long after the work in this plan begins and ends. The State will never “finish” the work of digital equity, given the rapidly changing nature of technology and ongoing economic and social challenges that so many residents face. Despite — or perhaps because of — those realities, this plan is important for Connecticut. The State welcomes partners in this important work — everyone with time and skills to offer, every agency committed to advancing the lives of our residents, and every organization with a passion to remove inequities for our residents.

Authors & Acknowledgements

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State Agency Contacts

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- Jeff Corriveau, Digital Services Deputy Director of Engagement
- Max Gigle, Digital Services Program Manager
- Rajpaul Singh, Fiscal Administration Manager
- Brian Saczawa, Fiscal Administration Supervisor
- Prince Guthrie, Accountant
- Arlene Watson-Paulin, Contract Specialist
- Marisol Rivera, Contract Specialist

Department of Consumer Protection

- Catherine Blinder, Director of Outreach

Department of Correction

- Sharonda Carlos, Deputy Commissioner
- William Mulligan, Deputy Commissioner
- Veron Beaulieu, Superintendent, Unified School District 1
- Elisha Chornoby, Director of Programs & Treatment and Reentry Services
- Michael Regan, Chief of Fiscal
- Eulalia Garcia, District Administrator- Central Office
- Kendra Herrick, Deputy Director of Parole and Community Services
- Tomasz Kazmierczak, Customer Success Manager
- David Rentler, Supervising Psychologist
- Carlos Saavedra, Captain, Security Division
- Antonio Santiago, Warden - Director Internal Security

Department of Developmental Services

- Patricia Cymbala, Director of Assistive Technology

Department of Education

- Ajit Gopalakrishnan, Chief Performance Officer
- Sabrina Mancini, State Director of Adult Education

Department of Energy and Environmental Protection

- Hank Williams, Deputy Commissioner
- Vicki Hackett, Bureau Chief of Energy and Technology Policy
- Nadya Hoolahan, Research Analyst, Office of Telecommunications and Broadband

Department of Housing

- Michael Santoro, Director, Office of Policy, Research, and Housing Support
- Laura Watson, ECD Agent

Department of Labor

- Danté Bartolomeo, Commissioner
- Jeri Beckford, Affirmative Action Officer
- Heriberto Cajigas, Manager of Community Advocacy
- Mike Bartley, Jobs First Unit Director
- Robert Bongiolatti, Operations Coordinator
- Michelle Caffè, Program and Services Coordinator
- Frances Hardy, Program and Services Coordinator
- Brendan McCann, Career Development Specialist
- Erica Tew, Director of Workforce Innovation and Opportunity Act (WIOA) Administration

Department of Public Health

- Miriam Miller, Policy Director

Department of Social Services

- Andrea Reeves, Commissioner
- Easha Canada, Deputy Commissioner & Chief Strategy Officer
- Peter Hadler, Deputy Commissioner
- Laurie Ann Wagner, Chief Customer Experience Officer
- Sharon Condel, Director of Business Systems
- Astread Ferron-Poole, Director of Administration
- Dan Giacomi, Director of Program Oversight And Grants Administration
- Elizabeth Thomas, Director of Field Operations

Department of Veterans Affairs

- Thomas Saadi, Past Commissioner
- Joseph Danao, Deputy Commissioner
- Shirin Khan, Planning Analyst

Office of Policy and Management

- Kevin Meakam, Procurement Policy Development Coordinator

Office of Workforce Strategy

- Kelli-Marie Vallieres, Chief Workforce Officer
- Grace Suh, Chief of Staff

Secretary of the State

- Stephanie Thomas, Secretary of the State
- Tara Chozet, Director of Communications
- Arienne Orozco, Director of Outreach and Engagement

University of Connecticut School of Public Policy

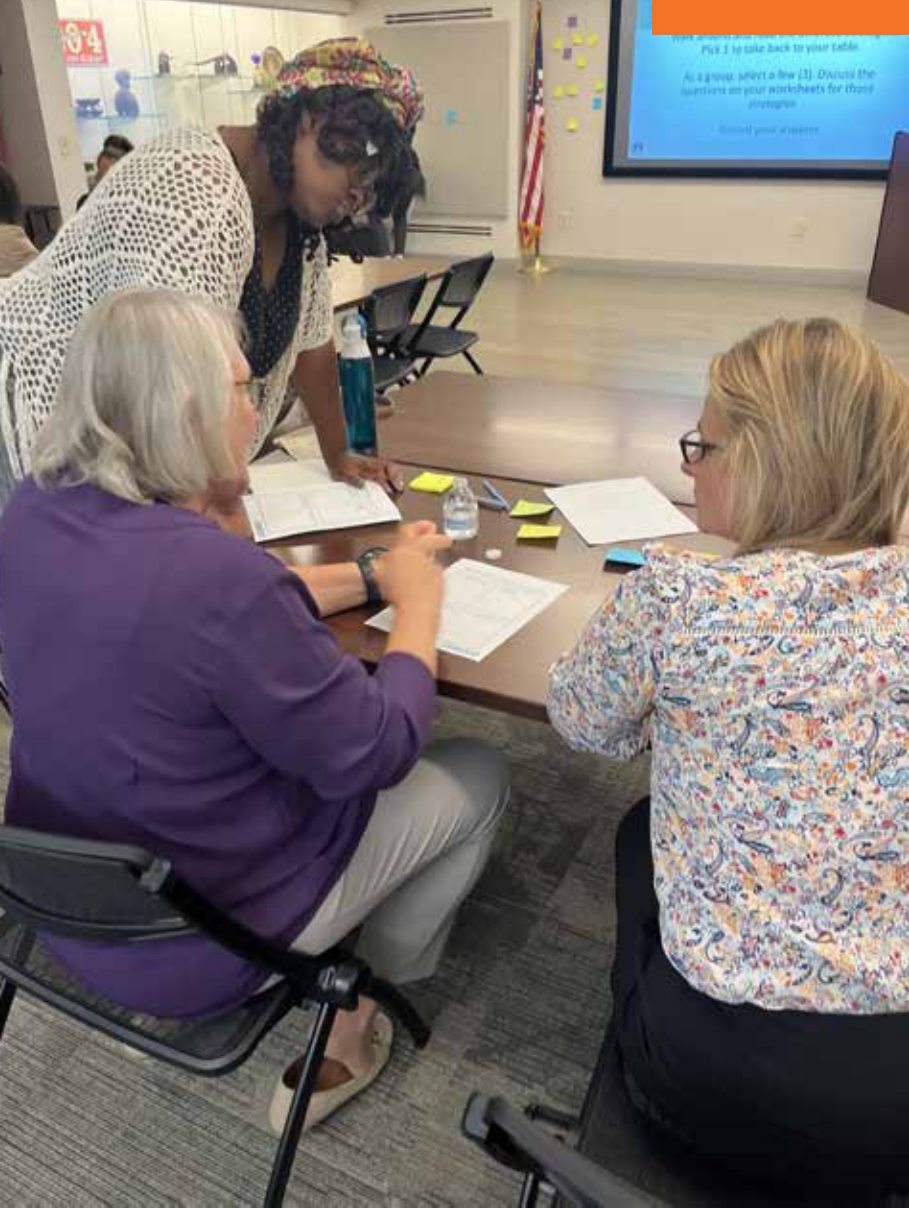
For their partnership in designing the resident survey and conducting the focus group sessions.

- Mohamad Alkadry, Director and Professor of Public Policy
- Vaughn Crichlow, Director of Research, Institute for Municipal and Regional Policy, and Associate Research Professor
- Robert Wilson, Distinguished Visiting Professor
- Renzo de la Riva Agüero, Assistant Professor
- Ruodan Zhang, Assistant Professor

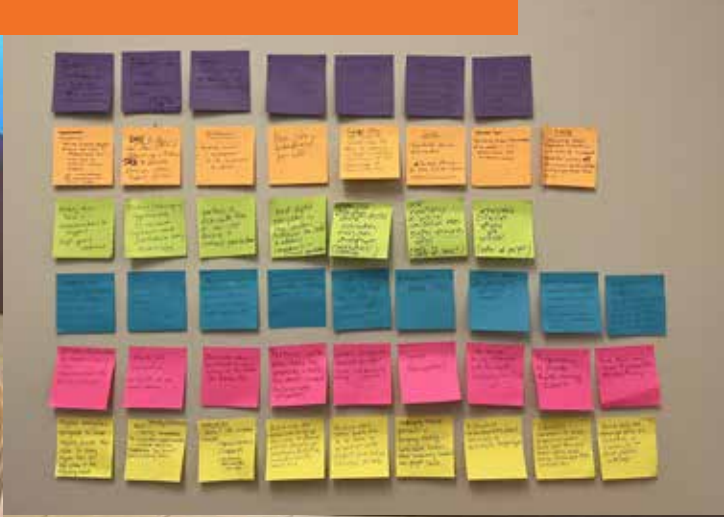
Yale Public Impact Fellows Program

For their research support in the creation of the municipal digital equity plans inventory and KPIs.

- Nat McLaughlin, Senior Research and Policy Manager
- Niall Dammando, Program Manager
- Aman Jindal, Public Impact Fellow
- Chloe Kidder, Public Impact Fellow



Plus 1 to take back to your table
As a group, select a few (3). Discuss the questions on your worksheets for those strategies.
Revised your strategy



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Appendix A. State Agency Descriptions

- a. **Department of Economic and Community Development¹**: Workforce: Career and Education Building; Equity and Access; Data and Accountability (Economic Plan², pg. 8)
- b. **Office of Early Childhood³**: The Connecticut Office of Early Childhood (OEC) oversees a network of early childhood care, education, and development programs. They focus on the first years of children’s lives, from birth to age five. The earliest years of a child’s life have a huge impact. They shape who that child will grow up to be, affecting their future health, education, and success. Helping young children learn, develop, and overcome barriers will have benefits that last a lifetime.
- c. **Office of Workforce Strategy⁴**: (OWS) is an executive branch that serves as the administrative staff to the Governor’s Workforce Council (GWC).
- d. **Secretary of the State⁵**: The Secretary of State’s office in Connecticut holds a crucial and multifaceted role in state government. Their primary responsibilities include Elections and Voting, Business Services, Public Records, Notary Public, State Seal and Authentication, Civic and Education programs, Lobbying and Campaign Finance, and official records and publications.
- e. **Commission on Human Rights and Opportunities⁶**: Agency Mission: The mission of the Connecticut Commission on Human Rights and Opportunities (CHRO) is to eliminate discrimination through civil and human rights law enforcement and to establish equal opportunity and justice for all persons within the state through advocacy and education. (Strategic Plan⁷, 2022)
- f. **Connecticut State Colleges and Universities⁸**: Connecticut State Colleges and Universities (CSCU) is a system of 6 public colleges and universities, 4 CT state universities, CT State Community College, and Charter Oak State College. The Connecticut State Colleges and Universities (ConnSCU) contribute to the creation of knowledge and the economic growth of the state of Connecticut by providing affordable, innovative, and rigorous programs. Our learning

1 Connecticut Department of Economic and Community Development (DECD)

Connecticut Department of Economic and Community Development, accessed November 29, 2023, <https://portal.ct.gov/DECD>.

2 Connecticut Department of Economic and Community Development (DECD) - Economic Plan

Connecticut Department of Economic and Community Development, "Economic Plan" (September 30, 2021), accessed November 29, 2023, Economic Plan.

3 Connecticut Office of Early Childhood (OEC)

Connecticut Office of Early Childhood, "About OEC," accessed November 29, 2023, About OEC.

4 Connecticut Department of Economic and Community Development (GWC)

Connecticut Department of Economic and Community Development, accessed November 29, 2023, <https://portal.ct.gov/GWC>.

5 Connecticut Secretary of the State (SOTS)

Secretary of the State, accessed November 29, 2023, <https://portal.ct.gov/SOTS>.

6 Connecticut Commission on Human Rights and Opportunities (CHRO) - Our Purpose

Connecticut Commission on Human Rights and Opportunities, "Our Purpose," accessed November 29, 2023, Our Purpose.

7 Connecticut Commission on Human Rights and Opportunities (CHRO) IT Strategic Plan 2022

Connecticut Commission on Human Rights and Opportunities, "CHRO IT Strategic Plan 2022" (2022), accessed November 29, 2023, IT Strategic Plan 2022.

8 Connecticut State Colleges and Universities

Connecticut State Colleges and Universities, accessed November 29, 2023, <http://www.ct.edu/>.

environments transform students and facilitate an ever-increasing number of individuals to achieve their personal and career goals. ([Slide 1 \(ct.edu\)](#), pg. 5)

- g. **Connecticut Technical High School System**⁹: The mission of the Connecticut Technical Education and Career System (CTECS) is to provide a world-class, unique, and rigorous learning environment for high school students and adult learners that:
- Ensures both student academic success and trade/technology mastery and instills a zest for lifelong learning.
 - Prepares students for postsecondary education, including apprenticeships and immediate productive employment; and
 - Engages regional, state, national and international employers, and industries in a vibrant collaboration to respond to current, emerging and changing global workforce needs and expectations through business/school partnerships; and
 - Pursues and participates in global partnerships that provide CTECS students with international exposure and experience.
- h. **Department of Aging and Disability Services**¹⁰: Maximizing opportunities for the independence and well-being of people with disabilities and older adults in Connecticut. Programs, policies, and practices are designed to:
- Deliver aging and disability services responsive to the needs of Connecticut citizens.
 - Provide leadership on aging and disability issues statewide.
 - Provide and coordinate aging and disability programs and services in the areas of employment, education, independent living, accessibility, and advocacy.
 - Advocate for the rights of Connecticut residents with disabilities and older adults; and
 - Serve as a resource on aging and disability issues at the state level.
- i. **Department of Correction**¹¹: Charged with the duty to serve and protect the citizens of the state of Connecticut through working daily to ensure the safety, security, and order of 14 correctional facilities and 4 Reentry Welcome Centers. The Department endeavors to provide the programming, education, and treatment which willing inmates may utilize to improve themselves.
- j. **Department of Education**¹²: The Connecticut State Department of Education is the administrative arm of the Connecticut State Board of Education. Through leadership, curriculum, research, planning, evaluation, assessment, data analyses and other assistance, the Department helps to ensure equal opportunity and excellence in education for all Connecticut students. The Department is responsible for distributing funds to all Connecticut public school districts.

9 Connecticut Technical Education and Career System (CTECS)

Connecticut Technical Education and Career System, accessed November 29, 2023, [CTECS](#).

10 Connecticut Department of Aging and Disability Services, accessed November 29, 2023, <https://portal.ct.gov/AgingandDisability>.

11 Connecticut Department of Correction, accessed November 29, 2023, <https://portal.ct.gov/DOC>.

12 Connecticut State Department of Education, "About," accessed November 29, 2023, <https://portal.ct.gov/SDE/About>.

- k. **Department of Housing**¹³: The Department of Housing (DOH) strengthens and revitalizes communities by promoting affordable housing opportunities. DOH seeks to eliminate homelessness and to catalyze the creation and preservation of quality, affordable housing to meet the needs of all individuals and families statewide to ensure that Connecticut continues to be a great place to live and work.
- l. **Department of Labor**¹⁴: The Department is committed to protecting and promoting the interests of Connecticut workers. The mission of the Connecticut Department of Labor (CTDOL)¹⁵ is to protect Connecticut's workers from labor law violations and promote global economic competitiveness through strengthening the state's workforce. CTDOL collaborates with business and industry leaders on Registered Apprenticeship programs and other workforce pipeline initiatives, and conducts U.S. Bureau of Labor Statistics research including collecting, analyzing, and disseminating workforce data.
- m. **Department of Public Health**¹⁶: The Department of Public Health aims to protect and improve the health and safety of the people of Connecticut¹⁷ by assuring the conditions in which people can be healthy; preventing disease, injury, and disability; and promoting the equal enjoyment of the highest attainable standard of health, which is a human right and a priority of the state. (Annual Report, 2023¹⁸)
- n. **Department of Social Services**¹⁹: The Department of Social Services (DSS) delivers and funds a wide range of programs and services as Connecticut's multifaceted health and human services agency. DSS serves about 1 million residents of all ages in all 169 Connecticut cities and towns. They support the basic needs of children, families, older and other adults, including persons with disabilities. Services are delivered through 12 field offices, central administration, and online and phone access options.
- o. **Department of Veterans Affairs**²⁰: Veterans Affairs (VA) in Connecticut is responsible for providing a wide range of services and support to veterans living in the state. The VA in Connecticut operates several facilities and clinics throughout the state to serve veterans. These include VA medical centers, outpatient clinics, and community-based outpatient clinics. They provide the following services: Healthcare Services, Benefits and Compensation (Veterans in Connecticut can access information and assistance regarding VA benefits and compensation. This includes disability compensation, education and training benefits, home loans, and more); Mental Health Services; Community-Based Programs that assist homeless veterans, and job training and support; Advocacy and Support: advocates for veterans' rights and provides

13 Connecticut Department of Housing Connecticut Department of Housing, "About Us," accessed November 29, 2023, <https://portal.ct.gov/DOH/DOH/Main/About-Us>.

14 Connecticut Department of Labor, accessed November 29, 2023, https://portal.ct.gov/dol/?language=en_US.

15 Connecticut Department of Labor, "Regional Workforce Development Boards Strategic and Operations Plan," accessed November 29, 2023, <https://www.ctdol.state.ct.us/rwdb/finalplan.pdf>.

16 Connecticut Department of Public Health, accessed November 29, 2023, <https://portal.ct.gov/DPH>.

17 Connecticut Department of Public Health, "Strategic Plan 2019-23 Annual Reports," accessed November 29, 2023, https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/State-Health-Planning/Strategic-Planning/Strategic-Plan-2019-23_Annual-Reports_032023.pdf.

18 Connecticut Department of Public Health, "Strategic Plan 2019-23 Annual Reports," accessed November 29, 2023, https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/State-Health-Planning/Strategic-Planning/Strategic-Plan-2019-23_Annual-Reports_032023.pdf.

19 Connecticut Department of Social Services, "About the Department of Social Services," accessed November 29, 2023, <https://portal.ct.gov/DSS/About-the-Department-of-Social-Services>.

20 Connecticut Department of Veterans Affairs, "About Us," accessed November 29, 2023, <https://portal.ct.gov/DVA/About-Us>.

support in navigating the VA system, filing claims, and accessing the services and benefits they are entitled to.

- p. **Connecticut State Library** ²¹: The Connecticut State Library is an Executive Branch agency of the State of Connecticut. The State Library provides a variety of library, information, archival, public records, museum, and administrative services for citizens of Connecticut, as well as for the employees and officials of all three branches of State government. The State Library also serves students, researchers, public libraries, and town governments throughout the state. In addition, the State Library directs a program of statewide library development and administers the Library Services and Technology Act state grant.

Appendix B. State Agency Programs to Support Covered Populations

This is a detailed catalog of resources available to residents from state programs organized by the covered population it serves.

Covered Population

State Programs

²¹Connecticut State Library, "About," accessed November 29, 2023, <https://ctstatelibrary.org/about/>

Aging

1. [Aging and Disability: Resource Centers](#): Provides information and a seamless connection to services and supports for community living as part of the state's No Wrong Door system. Services include benefit screening, information and assistance, decision support, follow up and person-centered options counseling.
2. [Aging and Disability: Benefits Counseling](#): Individuals who receive disability cash or medical benefits (such as Social Security Disability Insurance, Supplemental Security Income, State Supplement, Medicare and/or Medicaid) may be able to work and still receive benefits. Benefits counseling ensures that accurate information is received so that informed decisions are made regarding vocational goals, potential earnings, and health insurance needs.
3. [Aging and Disability: CHOICES](#): CHOICES (Connecticut's program for Health insurance assistance, Outreach, Information and referral, Counseling, Eligibility Screening) helps Connecticut's older adults and persons with disabilities with Medicare understand their Medicare coverage and healthcare options and offers enrollment assistance.
4. [Aging and Disability Congregate Housing Services Program](#): Congregate Housing Services Program is designed to prevent the premature and unnecessary institutionalization of adults aged 62 years+ and adults of any age with permanent or temporary disabilities living in designated rural housing sites. CHSP provides housing combined with professional service coordination and supportive services to allow residents to remain safe and independent at home.
5. [Aging and Disability Connect to Work Project](#): allows individuals who receive Social Security Disability benefits to better understand the impact returning to work will have on their disability benefits.
6. [Aging and Disability Connecticut Partnership for Long-Term Care](#): This alliance is between the state of Connecticut, Office of Policy and Management and the private insurance industry through which Connecticut residents can purchase quality, affordable long-term care insurance designed to help older adults pay for long-term care without depleting their assets. The partnership provides one-

on-one counseling; distributed education materials and conducts outreach through community forums.

7. [Aging and Disability LGBTQ+ Resources for Older Adults](#): We are proud to announce that our staff have received training from the National Resource Center on LGBTQ+ Aging and our department is now a Safe Space for our friends in the LGBTQ+ community.
8. [Aging and Disability Live Well - a Chronic Disease Self-Management Program](#): This nationwide evidence-based health promotion program developed by Stanford University is geared towards older adults (and their caregivers) to provide information and teach practical skills on managing and living with chronic health conditions. Workshops are available in English or Spanish, and are not meant to replace your physician's care.
9. [Aging and Disability No Wrong Door Initiatives](#): This program is geared to produce short- and long-term goals related to the mental health needs of the older adult population.
10. [Aging and Disability Older Worker Program](#): participants are placed in temporary training assignments where they gain valuable on-the-job work experience and training needed to gain meaningful employment.
11. [Aging and Disability Senior Community Service Employment Program](#): The program serves low-income adults aged 55 and older to re-enter today's workforce. Participants are placed in temporary subsidized training assignments where they gain valuable on-the-job work experience and training needed to gain meaningful employment.
12. [Aging and Disability Senior Medicare Patrol](#): Informs and empowers Medicare beneficiaries, family members and caregivers to prevent, detect, and report health care fraud. Trained volunteers educate seniors how to detect and handle fraud, errors, and abuse and other deceptive healthcare practices through outreach and public awareness campaigns.

Residents with Disabilities

1. **(Digital Equity Specific) [Aging and Disability Connecticut Tech Act Project](#)**: increases independence and improves the lives of people with disabilities by making assistive technology more accessible for work, school, and community living.
2. **[Aging and Disability: Adult Services - Bureau of Education and Services for the Blind](#)**: serves as the central intake for clients and provides independent living training to adults to assist them with maintaining independence within the home and the community.
3. **[Aging and Disability: Resource Centers](#)**: Provides information and a seamless connection to services and supports for community living as part of the state's No Wrong Door system. Services include benefit screening, information and assistance, decision support, follow up and person-centered options counseling.
4. **[Aging and Disability: Benefits Counseling](#)**: Individuals who receive disability cash or medical benefits (such as Social Security Disability Insurance, Supplemental Security Income, State Supplement, Medicare and/or Medicaid) may be able to work and still receive benefits. Benefits counseling ensures that accurate information is received so that informed decisions are made regarding vocational goals, potential earnings, and health insurance needs.
5. **[Aging and Disability Business Enterprise Program](#)**: Offers entrepreneurial opportunities to people who are blind to manage their own food service and gift store businesses at public facilities. *(Workforce development)*
6. **[Aging and Disability Children's Services Program - Bureau of Education and Services for the Blind](#)**: Provides braille instruction, mobility instruction, adaptive technology devices and training, braille and large print textbooks, and independent living training to children, as well as professional development training and technical assistance to school districts.
7. **[Office of Early Childhood: Birth to Three](#)**: The CT Birth to Three System is designed to support families to enhance their child's development and connect to their communities. This program is a part of the Individuals with Disabilities Education Act (IDEA) Part C "Early Intervention." In Connecticut, these services are provided through community-based programs that OEC funds and supports.

8. [**CHOICES**](#) (Connecticut's program for Health insurance assistance, Outreach, Information and referral, Counseling, Eligibility Screening): Helps Connecticut's older adults and persons with disabilities with Medicare understand their Medicare coverage and healthcare options and offers enrollment assistance.
9. [**Aging and Disability Deaf and Hard of Hearing Counseling**](#): Provides counseling related to special language, communication, and socioeconomic problems unique to individuals who are deaf or hard of hearing and their families.
10. [**Aging and Disability Independent Living Program**](#): The Independent Living Program provides comprehensive independent living services to persons with significant disabilities through contracts with Connecticut's five community-based Centers for Independent Living.
11. [**Aging and Disability Level Up**](#): Provides students aged 16-21 with the tools, training, and resources to work competitively and forge a path to independence. Working together we are building relationships with schools, families and the community and have created a collaborative partnership that introduces students who have an IEP, 504 plan or related challenges to new possibilities. Our goal is to help students be prepared to go out and find their place in the world.

Ethnic and Racial Minorities

1. **Department of Education: (Digital Equity specific) [21st Century Community Learning Centers](#):** Supporting community learning centers through professional development, training and networking opportunities for schools, community-based organizations and after school programs, these programs provide academic enrichment opportunities during non-school hours for children, as well as literacy and other educational services to the families of participating children.
2. **Department of Education: [Interagency Council for Ending the Achievement Gap](#):** The Interagency Council for Ending the Achievement Gap is chaired by the Lieutenant Governor and convenes state agency heads in order to coordinate cross-agency efforts to eliminate the academic gaps in Connecticut.

Residents in Covered Households

1. [Office of Early Childhood: Care 4 Kids](#): The Care 4 Kids program makes childcare affordable for low- to moderate-income families in Connecticut. With Care 4 Kids, parents get financial help for the childcare they choose.
2. [Office of Early Childhood: State-funded early care and education programs](#): Funds a number of early care and education programs across the state. These funds — which come from several different grants and contracts — support childcare programs, Head Starts, and public-school preschools to provide affordable, high-quality early care and education services. (211)
3. **Department of Education: (Digital Equity specific) [21st Century Community Learning Centers](#)**: Supporting community learning centers through professional development, training and networking opportunities for schools, community-based organizations and after school programs, these programs provide academic enrichment opportunities during non-school hours for children, as well as literacy and other educational services to the families of participating children.
4. **Department of Education: [Homeless Education](#)**: The federal McKinney-Vento Homeless Assistance Act requires all school districts to ensure access to public education for children and youth experiencing homelessness and ensure success in school once enrolled.
5. **Department of Education: [Interagency Council for Ending the Achievement Gap](#)**: The Interagency Council for Ending the Achievement Gap is chaired by the Lieutenant Governor and convenes state agency heads in order to coordinate cross-agency efforts to eliminate the academic gaps in Connecticut.
6. [Department of Housing: UniteCT Workforce Rental Assistance Program](#): UniteCT Workforce Rental Assistance Program provides rental assistance stipends for qualifying participants of CareerConneCT, the state's signature workforce training program, as well as individuals participating in other federal-funded training programs. Participants in CareerConneCT also receive free supportive services while in training, including transportation, childcare, and housing. The rental assistance stipends will augment these supports, providing qualifying participants with between three to nine months of assistance, with a maximum of \$15,000 per household.

Language Barriers

1. **Department of Education: (Digital Equity specific) [21st Century Community Learning Centers](#):** Supporting community learning centers through professional development, training and networking opportunities for schools, community-based organizations and after school programs, these programs provide academic enrichment opportunities during non-school hours for children, as well as literacy and other educational services to the families of participating children.
2. **Department of Education: [Interagency Council for Ending the Achievement Gap](#):** The Interagency Council for Ending the Achievement Gap is chaired by the Lieutenant Governor and convenes state agency heads to coordinate cross-agency efforts to eliminate the academic gaps in Connecticut.

Rural

There are no rural population specific state agencies.

Veterans

Department of Veterans Affairs: The [Office of Advocacy and Assistance](#) is responsible for gathering and organizing data on benefits and services for veterans and their families, including canvassing nursing homes to identify eligible individuals. Aiding in preparing and presenting claims for veterans' rights and benefits, collaborating with service organizations to share crucial information. Support extends to providing advice on education, health, rehabilitation, housing, and employment services for veterans. Additionally, representing veterans in dealings with the U.S. Department of Veterans Affairs to ensure they receive their entitled claims and benefits.

Department of Veterans Affairs: [Residential Programs:](#) The Residential Facility provides veterans with a continuum of wrap-around rehabilitation services and programs, within a community living environment. Residential Staff, consisting of social workers, residential workers, a vocational rehabilitation coordinator, a therapeutic recreation therapist and case managers assist each veteran resident in developing an individualized plan, which outlines their goals and objectives to successfully return to independent living.

Department of Veterans Affairs: Facility: [Sgt. John L. Levitow Veterans Healthcare Center](#)

Department of Veterans Affairs: [Long Term Care - Skilled Nursing:](#) The Sgt. John L. Levitow Healthcare Center at the Connecticut Department of Veterans Affairs is a Skilled Nursing Facility licensed by the Connecticut Department of Public Health and certified by the Federal Department of Health and Human Services Centers for Medicare and Medicaid Services. The Healthcare Center provides both short-term and long-term care for patients with medical conditions requiring daily medical management.

Department of Veterans Affairs: [Cemetery and Memorial Services](#)

Department of Veterans Affairs: [Mental Health Resources for Veterans, their Families and Employers:](#) These resources are geared to assist employee-veterans who exhibit such signs and symptoms of mental health illness in the workplace and in the home. There is a broad range of resources available to help private and public

employers, family, and friends to identify mental health conditions common to veterans, including post-traumatic stress disorder, risk of suicide, depression, and grief.

Department of Veterans Affairs: Annual [Stand Down Program](#): Stand Down is a one-day event that offers veterans assistance in applying for benefits and entitlements with local, state and federal government organizations, private agencies, veteran organizations, and medical screenings.

[Aging and Disability Veterans Directed Home- and Community-Based Services Program](#)

Residents Currently Incarcerated in State Facilities

[Department of Corrections Unified School District #1²²](#): The Connecticut Department of Correction, Unified School District #1, is dedicated to providing quality educational programs for incarcerated individuals so that they can make a successful transition to society. Academic knowledge, vocational competencies, use of technology and life skills integrated with technology are offered to students in a positive environment to foster life-long learning and multicultural awareness. Legally vested school district with 13 facilities and over 128 staff members. Serves approx. 2,800 students annually. The district provides multiple pathways to earn high school diploma/equivalent a USD#1 High School Diploma, Credit Diploma Program, or GED. The district also provides adult basic education that includes English as a Second Language programs, Career and Technology Education programing; career and technical Education Micro-Credentials; as well as re-entry and transition services.

²² Connecticut Department of Correction, "USD1 District Overview," accessed November 29, 2023. <https://portal.ct.gov/-/media/DOC/Pdf/USD1/USD1-District-Overview-04-23.pdf>.

Appendix C. Nonprofits that support covered populations

Key:

Computer Skills 

Health and Safety 

Affordable Devices 

Note: If a box is empty, no assets were identified in this area.

Aging

Available & affordable
broadband access

Access to devices

Access to technical support [Senior Planet from AARP's free hotline](#) is run by patient technology trainers who can help answer your tech questions.

Digital Skills [AARP Senior Planet](#): Free programs every week to keep learning and exploring together.



[The AARP Skills Builder](#) for Work helps you gain in-demand skills that could give you an edge in today's competitive job market.



Other

Covered Households

Available & affordable
broadband access [Connecticut Education Network](#):

Access to devices

[CfAL For Digital Inclusion](#)²³: Provides refurbished computers and tablets to those in need.



Access to technical support

CfAL For Digital Inclusion: Hands-On Live Assistance (HOLA) HOLA support can help address basic technical support from networking and display issues to formatting documents and creating PDFs.

Digital Skills

SkillUp CT²⁴: Connecticut’s unemployed residents get free access to more than 5,000 online courses offered by Metrix, primarily in information technology, and to 180 Skills, an online learning platform offering over 700 courses focused on manufacturing and professional skills. To date, more than 20,000 people in the state have signed up for SkillUp CT services.



Other

Connecticut’s nine [Community Action Agencies](#)²⁵ (CAAs) continually strive to address the causes and conditions of poverty. Through the identification and removal of social and economic barriers, the mobilization of community resources, advocacy, and the provision of direct services at the community level, CAAs use cost-effective and community-based processes to help limited income people and communities in all 169 cities and towns across the state. ([Table of locations](#)) [2020-Profile-of-Services-Chart-final.pdf](#) (cafca.org)



Rural Residents:

No assets were identified that specifically serve rural residents

Available & affordable broadband access

Access to devices

Access to technical support

²³ Connecticut Foundation for Aging (CFA), accessed November 29, 2023, <https://www.cfalct.org/>.

²⁴ Northwest Regional Workforce Investment Board (NRWIB), "Skill up CT," accessed November 29, 2023, <https://www.nrwib.org/programs/employment-training/skillupmetrix-learning>.

²⁵ Connecticut Association for Community Action (CAFCA), "Agencies," accessed November 29, 2023, <https://www.cafca.org/agencies/>.

Digital Skills

Other

Individuals with a Language Barrier & Racial/Ethnic Minorities

The information is being presented as a single table because all identified assets serve both groups.

Available & affordable
broadband access

Access to devices

Access to technical support

Digital Skills

Building One Community Corp.²⁶: Support in the job search process with interviewing skills and resume building. Employability Skills: Basic soft skills, including conflict resolution, cultural awareness, goal setting, computer skills and financial literacy



San Juan Center, Inc.²⁷: Employment, Education and Computer training. Basic introduction to computers and individual training are offered in: Computer management; Microsoft Word; Microsoft Excel; Internet Access; Keyboard skills; Microsoft Office



²⁶ Building One Community, "Employment," accessed November 29, 2023, <https://building1community.org/employ/>.

²⁷ San Juan Center, accessed November 29, 2023, <https://www.sanjuancenter.org/>.

Other

Connecticut Institute for Refugees and Immigrants²⁸: Economic Empowerment: Building the economic independence and security of refugee clients through workforce readiness and job placement services, as well as financial literacy education.



Integrated Refugee & Immigrant Services²⁹ (IRIS): Employment Services: Through career counseling, job skills training, and outreach to employers, IRIS helps clients prepare for, start, and succeed in jobs.

Spanish Community of Wallingford³⁰(SCOW): Assistance in information and references and scheduling appointments for education; work; and health.



Individuals with Disabilities

Available & affordable broadband access

Access to devices

UCP of Eastern CT ³¹ Assistive Technology Programs: UCP's AT services and programs help people with disabilities in CT to be more productive and independent in everyday activities. Assistive technology provides a creative way to reduce barriers and increase skills and capabilities in school, at work and at home. At UCP, our programs are staffed by certified Assistive Technology Specialists (ATS). Assistive technology is any item or piece of equipment that is used to increase, maintain, or improve the functional capabilities of people with disabilities in all aspects of life.



²⁸ Connecticut Institute for Refugees and Immigrants (CIRI), "What We Do," accessed November 29, 2023, <https://cirict.org/what-we-do/>.

²⁹ Integrated Refugee & Immigrant Services (IRIS), accessed November 29, 2023, <https://irist.org/>.

³⁰ Spanish Community of Wallingford: Services, accessed November 29, 2023, <https://www.scowinc.org/services/>.

³¹ United Community and Family Services (UCFS), accessed November 29, 2023, <https://ucpect.org/>.


Access to technical support


Independence Unlimited³²: Training & Technical Assistance:

Independence Unlimited works with the community to build communities and relationships where every-one is able to reach their full potential. They offer support in the form of training for employers and individuals to create inclusive environments for individuals with disabilities. Independence unlimited also offers Pre-employment skills training and a public access computer with adaptive software.



Digital Skills

NEAT Center³³: Digital Accessibility: The NEAT Center at Oak Hill can support your digital accessibility needs. Our goal is to guide you through the process of making important changes to your documents and websites to give better access to people with disabilities. This guidance includes accessibility for screen readers, alternative access, color blindness, and more. 

Disabilities Network of Eastern CT³⁴(DNEC): Bridging the Digital Divide for people with disabilities within Eastern CT. Tech Coach Program to assist with accessing Wi-Fi; setup smart devices; Troubleshoot; Teach individuals how to order groceries online; Teach employment search activities; Support with telehealth appointments. 

Other

Veterans

The Department of Veterans Affairs serves this population exclusively.

Available & affordable
broadband access

Access to devices

Meriden ATech³⁵: Assistive Technology for Veterans & Injured Service Members. "Smart home" technologies are taking assistive technology to new levels. At the same time, these smart home technologies provide the information that loved ones and caregivers may need to remotely support and provide safety and security.

³² Independence Unlimited, "Training & Technical Assistance," accessed November 29, 2023, <https://www.independenceunlimited.org/index.php/our-programs/training-technical-assistance>.

³³ Oak Hill, "Who We Are," accessed November 29, 2023, <https://assistivetechology.oakhillct.org/who-we-are/>.

³⁴ Department of Nutrition and Exercise Sciences, "Services," accessed November 29, 2023, <https://www.dnec.org/services/>.

³⁵ Assistive Technology Training Online, "ATech for Veterans," accessed November 29, 2023, <https://www.assistivetechtraining.org/atech-for-veterans/>.

Services include Adapted computer access; Augmentative & Alternative communication (AAC)



Access to technical support

Digital Skills

Other

Residents Currently Incarcerated in State Facilities

Available & affordable broadband access

Internet Access is provided by the facilities.

Access to devices and technical support

- Available 1-1 Access of Tablets.
- Unified School District # 1: All schools have a GED computer testing lab (Except Bridgeport) that is only used for GED.



- Aries Labs: MsDougal Walker and York Facilities.
- Inmates with disabilities: There are separate computers for accessing services for hearing impaired via the Purple system.

Digital Skills

Unified School District # 1: The mission of USD #1 is to provide quality education programs for Residents Currently Incarcerated in State Facilities individuals so that they can make a successful transition to society. Academic knowledge, vocational competencies, use of technology and life skills integrated with technology are offered to students in a positive environment to foster life-long learning, multicultural awareness³⁶. All schools have a GED computer testing lab (Except Bridgeport) that is only used for GED.



Other

CT Reentry Collaborative³⁷ This collaborative builds relationships with organizations and agencies across Connecticut to foster

³⁶ Connecticut Department of Correction, "Education Services," accessed November 29, 2023, <https://portal.ct.gov/DOC/Org/Education-Services>.

³⁷ Connecticut Reentry Collaborative, accessed November 29, 2023, <https://ctreentry.org/reentry-collaborative>.

successful reentry, eliminate barriers, reduce recidivism and increase public safety.

Appendix D: Municipal and Regional Strategic Plans

Town	Plan Name	Available internet	Affordable Internet	Affordable devices	Digital Skills/ Digital Literacy	Digital security	Accessibility /Inclusivity of Digital Government
Ansonia	2018 POCD	Ansonia aims to provide high speed internet to all local businesses & residents.	Ansonia aims to provide high speed internet to all local businesses & residents.	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Barkhamstead	2017-2027 POCD	Barkhamstead will pursue the NWCONNect initiative and others that could bring fiber optic broadband to every home.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Berlin	2023-2033 POCD	Berlin will encourage the expansion of high-speed internet broadband and gigabit internet access	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Bolton	2015 POCD	The POCD tasks several parties with advocating for high-speed internet service in Bolton.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Bridgeport	Plan Bridgeport (POCD)	Bridgeport's POCD prioritizes fiber in high need and	The POCD seeks to examine the feasibility of low-cost fiber.	Not mentioned	Not mentioned	Not mentioned	The POCD has a goal of improving municipal

		underdeveloped areas.					digital content.
Burlington	2020 POCD	The town and EDC will promote the provision of high-speed internet access in Burlington.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Cornwall	2020 POCD	The POCD sets a goal of improving high-speed internet and cell signal coverage.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Coventry	2020 POCD	The town will continue current strategies to enhance communications infrastructure.	Not mentioned	The town will expand the library to enhance capacity for device access.	The town will take steps to address the needs of library staff to ensure continued provisions of support for mobile devices and other digital skills offerings.	Not mentioned	Not mentioned
Danbury	2023 POCD	The POCD mentions the internet gap and a desire to encourage expansion of broadband access.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Darien	2016 POCD	Darien's POCD seeks to "encourage expansion of internet capacity for residents and businesses".	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned

Easton	2018-2028 POCD	<p>Easton plans on encouraging upgraded telecommunications infrastructure to better support residents and businesses, and preserve scenic views and community character.</p> <p>Fourteen acres of land at Samuel Staples Elementary school has been reserved for a wireless telecommunication site.</p>	Not Mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
East Haddam	2019 POCD	<p>The town will pursue technological infrastructure such as Wi-Fi and 5G to support home-based business and creative technology sectors.</p>	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
East Lyme	2020 POCD	Not mentioned	<p>The town POCD recognizes the growing space needs of local resources like the library and community center that offer affordable internet access to residents.</p>	Not mentioned	Not mentioned	Not mentioned	Not mentioned

Greenwich	2019 POCD	Greenwich's POCD states enhancing broadband capacity as a goal.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Hamden	2019 POCD	The town will promote the provision of high-speed internet access	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Ledyard	2020 POCD	The town will continue to advocate for expanded service of high- speed broadband and lower costs.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Mansfield	Mansfield Digital Inclusion Initiative ¹	The plan seeks to ensure that anchor institutions have free broadband access amongst other services like charging stations and a Digital Literacy van.	Mansfield is partnering with internet providers to provide low- cost internet.	Partner with device vendors for free/low-cost devices	The plan proposes the creation of the role of Digital Access Specialist, a librarian who will oversee the digital inclusion process.	Not mentioned	Mansfield wants to ensure that public sites can host hybrid meetings with virtual and in- person participation and aims to create a directory/data base to facilitate access to public services.
Middletown	2030 POCD	Middletown plans to encourage the expansion of broadband network such that every home and business has access to affordable, fast, reliable service.	Middletown plans to ensure that every home and business has access to affordable, fast, reliable service.	Not mentioned	Not mentioned	Not mentioned	Not mentioned

New Britain	2021 POCD	New Britain plans to continue expanding public Wi-Fi at City-owned facilities. Also, New Britain plans on providing 21st century internet and telecommunications infrastructure throughout the city, thereby providing equitable access to digital opportunities.	New Britain plans to continue expanding public Wi-Fi at City-owned facilities.is it	Not mentioned	Not mentioned	Not mentioned	New Britain plans on providing 21st century internet and telecommunications infrastructure throughout the city, thereby providing equitable access to digital opportunities.
New Haven	City of New Haven Digital Inclusion Plan ²	In addition to working to expand free public Wi-Fi, the city is issuing an RFQ to partner in building fiber to the Premise (FTTP) and is also considering a "Dig Once" program that would require installation of communication infrastructure where feasible in excavation projects.	The plan's focus is on ensuring anchor institutions have open, affordable, high-capacity broadband connections.	New Haven seeks to leverage existing business relationships to provide devices to schools.	The plan emphasizes coordinating with small businesses and libraries to provide digital business trainings as well as improving school curriculum and BOE IT systems. New Haven also wants to leverage their Digital Alliance Agreement with Microsoft.	Not mentioned	The plan notes that increased will increase civic engagement.
New London	2017 POCD	The strategic plan will support the development of a city-wide high-speed	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned

		broadband internet system.					
New Milford	2021 POCD	New Milford plans on investigating ways to bring high-speed and high-capacity broadband service to all parts of the community for the benefit of businesses and residents. It also plans to map broadband coverage for small/ independent businesses throughout the town.	New Milford plans on investigating ways to bring high-speed and high-capacity broadband service to all parts of the community for the benefit of businesses and residents.	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Newington	2020 POCD	The POCD will promote the provision of high-speed internet access and enhanced broadband capacity with cooperation between the EDC and the Town.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Norfolk	2019 POCD	The EDC will encourage upgraded internet speed and capacity.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
North Branford	2019 POCD	The town will pursue technological infrastructure like Wi-Fi and 5G to support home-	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned

		based businesses and creative technology sectors.					
Plainville	2019 POCD	A key objective of the POCD is to promote high speed / high capacity broadband service for all parts of the community.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Redding	2018 POCD	The town identified ongoing projects to make sure the entire town of Redding would be served by high-speed fiber-optic broadband.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Ridgefield	2020 POCD	Ridgefield's POCD states as a goal the desire to expand fiber-optic network to the entire town.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Rocky Hill	2015 POCD	The town will seek to expand and improve high-speed internet capability for residents and businesses.	The town will offer wi-fi on a more global basis.	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Roxbury	2020 POCD	The town will improve the telecommunications infrastructure in collaboration with NWCONNECT	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Seymour	2016 POCD	Seymour will direct the major wired utility enhancements towards the	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned

		expansion of high speed internet.					
Sherman	2023 POCD	The plan supports expanding broadband / fiber optic capacity in Sherman (and cell phone service) in order to better serve the remote work opportunities which could thrive in Sherman. However, the plan mentions that providing full wireless coverage in Sherman is difficult due to topography, as there are dead spots which impact communications.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Southington	2016 POCD	Southington will seek to expand digital communication services including internet and cable.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Stonington	2015 POCD	Stonington plans on building internet hotspots in public places.	Stonington plans on building internet hotspots in public places.	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Stratford	Plan Stratford 2023-	The plan seeks to expand broadband coverage to	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned

	2033 (POCD)	attract businesses that will in turn bring more broadband infrastructure.					
Thompson	2022 POCD	Thompson seeks to provide internet to the disadvantaged and the elderly.	Thompson seeks to provide internet to the disadvantaged and the elderly.	Not mentioned	Not mentioned	Thompson Public Library offers public wireless internet	Not mentioned
Vernon	2021 POCD	The town will encourage expansion of high-speed internet service, prioritizing low-income and underserved neighborhoods.	The focus on low-income and underserved neighborhoods also touches on improving affordability.	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Warren	2019 POCD	The town will support regional efforts to create and expand fiber-optic broadband networks.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Waterbury	2015 POCD	The plan will encourage the establishment of ultra-high-speed gigabit internet service in the city.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Watertown	2018 POCD	The town will work with utility providers to bolster WiFi and High-Speed internet access in commercial and industrial districts.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
West Haven	2017 POCD	Not mentioned	Not mentioned	The town will expand public library	Not mentioned	Not mentioned	Not mentioned

				computer offerings in partnership with UNH.			
Weston	2020 POCD	Weston's POCD states as an objective upgrading communication infrastructure for better speeds and connectivity.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Willington	2018 POCD	The town will upgrade internet speed and capacity.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Wilton	2019 POCD	Wilton seeks to improve high speed internet at town buildings to facilitate remote workers and wants to work with telecommunications providers and property owners to improve internet in Town.	The city is interested in public Wi-Fi and improving internet at the library.	Not mentioned	Not mentioned	Not mentioned	Not mentioned
Windsor Locks	2021 POCD	Windsor Locks is considering conducting a corridor study (Route 20 Corridor and Ella Gasso Turnpike) to explore possible development scenarios including broadband services.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned

Windsor	2015 POCD	Windsor plans on connecting public facilities to a high-speed network called the Nutmeg Network, with an initial focus on connecting public safety departments and schools. Windsor also envisages working with service providers to expand its high-speed, high-capacity infrastructure throughout the town.	Not mentioned	Not mentioned	Not mentioned	Not mentioned	Not mentioned
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Appendix E. CT Tech Act: Partners & Programs

Partner	Program	Information	Who is Supported
BERKSHIRE BANK	Assistive Technology Loan Program (ATLP)	The Program is a low-interest financial loan to help individuals with disabilities or their family members purchase Assistive Technology devices and services needed to enhance independence and/or functioning in the community, education and/or employment.	<p>Who can apply for a loan? An individual with a disability / older adult, parent, guardian, family member or legal representative of the person with the disability who:</p> <ul style="list-style-type: none"> * Has been a resident of Connecticut for at least 1 year * And has a disability that permanently affects a major life activity
CREC	CREC's Assistive Technology (AT) Consortium	CREC's Assistive Technology (AT) Consortium provides districts and programs with customized and flexible support for AT to meet each district's unique AT needs. The focus of the AT consortium is to build capacity within districts to further AT services and supports. CREC provides the following services on behalf of the CT Tech Act Project: AT device loans, AT demonstrations, public awareness and trainings for students and adults with disabilities.	<p>Services Offered By CREC:</p> <p>Assistive Technology Services: CREC's assistive technology team provides a variety of assistive technology (AT) services for students with disabilities.</p> <p>Sound bridge: a regional program for children with hearing loss who are using spoken language to communicate and to learn. Providing a variety of educational programs to help students gain access to sound, learn to listen, learn social skills and learn self-advocacy skills, including attending regular classes with hearing peers.</p>
EASTCONN	EASTCONN Assistive Technology (AT) Team:	The EASTCONN Assistive Technology (AT) Team offers a wide variety of services designed to provide districts with the expertise and support needed to not only match students with disabilities with the appropriate AT tools and services to meet their needs but also to ensure that they are able to effectively use the AT so that they are able to increase, maintain and improve functional capabilities as well as access, participate and	<p>Assistive Technology Services</p> <p>The EASTCONN Assistive Technology (AT) Team offers a wide variety of services designed to provide districts with the expertise and support needed to not only match students with disabilities with the appropriate AT tools and services to meet their needs but also to ensure that they are able to effectively use the AT so that they are able to increase, maintain and improve functional capabilities as well as access, participate and progress in the</p>

		<p>progress in the general education curriculum. provides the following services on behalf of the CT Tech Act Project: AT device loans, AT demonstrations, trainings, public awareness activities and more for students and adults with disabilities.</p>	<p>general education curriculum.</p> <p>Through a continuum of services including consultation, coaching, training, and assessment, we will work with you to meet the needs of an individual student, group of students, program, school or district. Our areas of specialization include alternative access methods, writing, reading, note-taking, organization, executive functioning, Augmentative and Alternative Communication (AAC), transition (to employment, postsecondary education and independent living and community participation), and AAC insurance funding requests. We can also assist with the development and revision of district-wide policies and practices related to the AT consideration process, AT Team development, AT program review, and document accessibility. We will assist you in determining the service or combination of services that would best meet your AT needs.</p>
Meriden Atech	ATECH Training Center- CT	<p>Navigating the Journey to Independence For People With Disabilities</p> <p>ATECH works with member agencies serving individuals with disabilities to deliver integrated AT services. Agency members receive ongoing training, live and online courses. They also receive updates on the best practices in the use of technologies and emerging of AT solutions. Membership. ATECH provides the following services on behalf of the CT Tech Act Project: AT device loans, AT demonstrations, trainings, public awareness activities and more to CT residents with disabilities of all ages.</p>	<p>MODEL FOR SUCCESS</p> <p>Assessment We begin by learning about the aspirations and hopes of the people we serve. Then, we identify the assistive technologies that overcome challenges to their independence.</p> <p>Training & Transition Training and ongoing support enable each person to best use their assistive technology solution at home, in school, at work, and in the community.</p> <p>Monitoring With privacy respected and honored, we offer twenty-four hour per day monitoring services for safety and security.</p> <p>ASSISTIVE TECHNOLOGY LENDING LIBRARY</p>

			Success with assistive technology for each unique individual demands that the technology is tested in the natural living environment. The Assistive Technology Library lends a wide variety of devices to determine which works best to help individuals overcome their obstacles to greater independence.
Neat Center At Oak Hill	Neat center at oak hill: Bridging the digital divide program	<p>Neat Center provides a wide variety of Assistive Technology services, including device demonstrations, device lending, assessments and more. They offer the Bridging the Digital Divide program through a collaboration between the Department of Aging & Disability Services (ADS) State Unit on Aging & the CT Tech Act Project (CTTAP). A collaboration between the Department of Aging & Disability Services (ADS) State Unit on Aging & the CT Tech Act Project (CTTAP). This 2 year pilot program allows us to have a Full Time Digital Divide Coordinators (DDC) at two of our community AT Partner agencies: the NEAT Center at Oak Hill & UCP of Eastern CT.</p> <p>Our goal is to help bridge the digital divide by providing one on one or group services to adults with disabilities (18 and older) and aging adults (60 and older).</p>	<p>Services to individuals include: Increase access to technology & technology use Provide tech support, troubleshooting, & teach built in device accessibility features Increase access to the community, virtual programming & telehealth to reduce social isolation Connect Individuals to community resources for ongoing supports Provide tablet technology (with or without hotspot) to individuals 60 & older, if eligible</p>
SCSU	SCSU Center for Educational and Assistive Technology	Promotes the benefits of Universal Design for Learning by providing technology and support to all members of the Southern community, as well as to the community at large. SCSU CEAT provides the following services on behalf of the CT Tech Act Project: AT device loans of computers and tablets to their students with disabilities as well as schools / Educators in CT. (CEAT)	Center for Educational and Assistive Technology Services For Students The Center for Educational and Assistive Technology (CEAT) staff evaluates students' computer access needs, trains them to use adaptive technology, and provides a supportive, accessible working environment for students with disabilities.

SERC	State Education Resource Center:	<p>AT Corner: SERC's AT Corner is a place to see and interact with Assistive Technology devices for school, learning, and independence for Educators, family members, students and community members. The low-, mid-, and high-tech AT devices are designed to meet the needs of a broad range of abilities. SERC provides the following services on behalf of the CT Tech Act Project: AT device loans, AT demonstrations, trainings, public awareness activities.</p>	<p>Library</p>
United Cerebral Palsy of Eastern Connecticut	United Cerebral Palsy Of Eastern Connecticut: Bridging The Digital Divide Program	<p>UCP provides a wide variety of Assistive Technology services, including device demonstrations, device lending, assessments and more. A collaboration between the Department of Aging & Disability Services (ADS) State Unit on Aging & the CT Tech Act Project (CTTAP). This 2 year pilot program allows us to have a full time Digital Divide Coordinators (DDC) at two of our community AT Partner agencies: the NEAT Center at Oak Hill & UCP of Eastern CT.</p> <p>Our goal is to help bridge the digital divide by providing one on one or group services to adults with disabilities (18 and older) and aging adults (60 and older).</p>	<p>Services to individuals include:</p> <ul style="list-style-type: none"> Increase access to technology & technology use Provide tech support, troubleshooting, & teach built in device accessibility features Increase access to the community, virtual programming & telehealth to reduce social isolation Connect Individuals to community resources for ongoing supports Provide tablet technology (with or without hotspot) to individuals 60 & older, if eligible

Appendix F: Data Source Methodology

Four sources of primary research were used to inform Connecticut’s Digital Equity Plan.

The Connecticut Digital Equity Resident Survey

The Connecticut Digital Equity Resident Survey is a convenience sample of residents that was distributed through several channels, and was available on paper and online in both English and Spanish.

1. A paid convenience sample online through Qualtrics customers, which yielded 1,966 responses.
2. A convenience sample distributed through various partners in Digital Equity Work that yielded the remaining 4,309 responses.
 1. The State Library, who coordinated with local libraries. Local libraries received both online links and paper copies. The public libraries of Norwalk, Hamden, Derby, Blackstone, Vernon, and New Haven shared the survey link on their websites.
 2. The AARP distributed the survey with an email blast to members over 60 years old.
 3. United Way shared the resident survey on LinkedIn.
 4. Several press releases and news stories advertised the resident survey, including on the UConn School of Public Policy Website, through Montville Public Schools, CT.gov, and the Office of the Governor.
 5. The Department of Veterans Affairs distributed paper surveys in English and Spanish.
 6. The Department of Social Services distributed paper surveys in English and Spanish.
 7. The City of Norwalk also agreed to distribute paper surveys in English and Spanish.
 8. CT Foodshare mobile food banks also distributed paper surveys in English and Spanish.
 9. Connecticut State Colleges and Universities distributed the resident survey through email outreach.
 10. Digital Equity partners on the Digital Equity Mailing List were also sent email outreach about the Resident Survey and encouraged to spread the word.

In total, the resident survey consists of 6,275 responses. Of those responses, 264 were completed on paper surveys, and 252 responses were completed in Spanish. Many survey responses were missing data on one or more questions. Survey responses were included in every question for which they had a valid survey response.

Covered Population	Share of total CT population belonging to the covered population based on Census ACS estimates	Share of all respondents to resident survey belonging to each covered population	Total number of resident survey respondents belonging to each population
Aging Residents	31%	46%	2611
Residents with Disabilities	14%	36%	2259

Residents in Covered Households	21%	19%	1082
Residents with Language Barriers	5%	5%	276
Black/African American Residents	10%	10%	546
Hispanic/Latino Residents	15%	15%	841
Rural Residents	11%	38%	2103
Veterans	5%	8%	450
Residents Currently Incarcerated in State Facilities	Not calculated	Surveys could not be sent	Surveys could not be sent

The relatively larger representation of aging residents and residents with disabilities is likely due to the non-random nature of the convenience sample. They are also likely to be correlated, since older residents report difficulties at higher rates than younger residents.

The only case in which we expect the resident survey to better approximate the share of a covered population in the state is for rural residents. Since rural residents are defined by town, but the census uses sampling areas that encompass multiple towns, rural areas could often not be cleanly identified in census data. Only residents who lived in a sampling area that was entirely rural were counted.

Because the survey was distributed through a convenience sample, rather than a statistically-controlled random sample, the resulting estimates are not expected to follow a normal sampling distribution. Standard errors are not presented for this data.

While paper versions of the survey were made available when possible, a majority of responses came through digital channels. This inevitably biased the survey responses towards those who are more digitally literate.

Since digital literacy generally correlates with device ownership and internet connection, the observed parallels between the Resident Survey data and the Census ACS data corroborate the general takeaways from the Resident Survey about the needs of several specific covered populations.

For some, particularly aging residents, the Resident Survey likely overestimates digital skills and digital privacy awareness. Given the incongruity between the ACS rates of device ownership and reported digital literacy, as well as the national data that indicates that aging adults who own devices are more digitally

literate than those who do not, we expect that this data has skewed towards a more digitally literate subset of aging residents who responded to the Resident Survey.

Census ACS 2021 5-year Microdata

The Digital Equity team also created estimates for key indicators for covered populations using the Census 2021 5-year Microdata. Estimates were created using the statewide data for adults only, to mirror the methodology in the Digital Equity Resident Survey. The estimates use the census weights, and include margins of error at the 95% confidence level.

Similar to the resident survey, cases with missing data were eliminated pairwise, so the overall count of responses could shift depending on the question and the covered population being measured.

The State of Connecticut Digital Assets and Needs Survey

The Digital Assets and Needs Survey was created in ArcGIS by staff at the Office of Policy and Management, and designed to meet the research needs of both the DE and BEAD programs. It was distributed through BEAD and DE mailing lists.

Focus Groups and Community Conversations

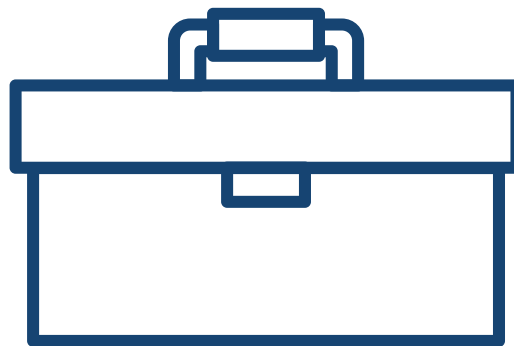
The Digital Equity team partnered with the UConn School of Public Policy, who oversaw the administration of the focus groups and transcription of the results. The school provided a full report on the focus group methodology and results. This report is included as the next appendix to the plan.

Appendix G: Survey Outreach Toolkit



DIGITAL EQUITY PLAN

RESIDENT SURVEY OUTREACH TOOLKIT



Department of Administrative Services
Commission for Educational Technology
DigitalEquity@CT.gov
55 Farmington Avenue
Hartford, CT 06105

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CONNECTICUT DIGITAL EQUITY PLAN RESIDENT SURVEY OUTREACH TOOLKIT

Connecticut residents need access to the Internet, devices, and skills to engage in today's digital society. With these tools and know-how, they can take advantage of the countless work, training, education, healthcare, civic, and social benefits of being online.

For those reasons, and with funding from the federal Infrastructure Investment and Jobs Act, Connecticut is developing a five-year Digital Equity Plan to address the barriers to technology access, adoption, and use in our state.

This toolkit enables partner agencies and organizations like yours to enlist input directly from the residents you serve about the barriers they may experience in accessing and using technology. Their feedback will strengthen the State's Digital Equity Plan and, ultimately, support your work in reaching and serving Connecticut's residents.

The Connecticut Department of Administrative Services (DAS) thanks the following for their partnership in this important work:

Connecticut State Library

Department of Energy and Environmental Protection (DEEP)

Office of Consumer Counsel

Office of Policy and Management (OPM)

University of Connecticut School of Public Policy

WAYS TO SHARE THE RESIDENT SURVEY

Here are just a few of the ways that you can share the resident survey — available in print and online, in English and Spanish.

Email: Include a link to the survey as a separate campaign or as part of regularly scheduled newsletters and information sharing.

Social Media: Use the images and text in the pages that follow to encourage your followers to complete the survey.

Physical Mail: Send the print survey as a separate campaign or as an insert into other regularly scheduled communications, statements, etc.

In Person: Print from your own office or request copies of the survey to hand out at your front desk or events. You can also post the flyer on page 7 at front desks for easy visibility.



SAMPLE EMAIL

Thank you for taking a few minutes to respond to this survey:

www.bit.ly/CTDigEqSurvey

We ask for your input to help the State of Connecticut develop a multi-year plan to help residents connect to and use the internet. The survey should take **5 – 10 minutes** to complete.

Please know that participation in this survey is **completely voluntary and anonymous**. We will not ask you any questions that identify you or your family members, and your decision to participate will not impact any services you receive from the State.

If you have any questions about this research study, please contact Mohamad Alkadry by phone at (959) 200-3918 or email at malkadry@uconn.edu.



SAMPLE SOCIAL MEDIA POSTS

HELP CLOSE THE DIGITAL DIVIDE IN CONNECTICUT!

The State of Connecticut wants to help CT residents get connected with the skills and devices they need in the digital age. Take 5 minutes to tell us about your technology needs:
www.bit.ly/CTDigEqSurvey

WE WANT TO HEAR FROM YOU!

What gets in your way of accessing technology? Take just a few minutes to share your ideas with the State of Connecticut as we develop a digital equity plan designed with all residents in mind:
www.bit.ly/CTDigEqSurvey



SAMPLE SOCIAL MEDIA POSTS EN ESPAÑOL

¡AYUDA A CERRAR LA BRECHA DIGITAL EN CONNECTICUT!

El estado de Connecticut quiere ayudar a sus residentes crecer sus habilidades digitales y conectarse con los dispositivos que necesitan en la era digital. Tómese 5 minutos para contarnos sobre sus necesidades tecnológicas:bit.ly/CTDigitalEquityEspanol

¡QUEREMOS SABER DE USTED!

¿Qué se interpone en su camino para tener acceso a la tecnología? Tómese unos minutos para compartir sus ideas con el Estado de Connecticut mientras desarrollamos un plan de equidad digital diseñado pensando en todos los residentes:
bit.ly/CTDigitalEquityEspanol

DIGITAL EQUITY SURVEY FOR CT RESIDENTS

Take a few minutes to share your experience with technology access in Connecticut. We want to hear about your access to the internet, devices, and technical support, as well as your comfort when using technology.



If you live in Connecticut and are 18 years of age or older, we want to hear from you! This research will help the State of Connecticut better understand barriers to internet and technology access faced by residents.

ENCUESTA DE EQUIDAD DIGITAL PARA RESIDENTES DE CT

Tómese unos minutos para compartir su experiencia con el acceso a la tecnología en Connecticut. Queremos saber sobre su acceso a Internet, uso de dispositivos electrónicos y cómo recibe apoyo tecnológico.



Si vive en Connecticut y tiene 18 años o más, ¡queremos saber su opinión! Esta información ayudará al estado de Connecticut a comprender mejor las barreras que enfrentan los residentes para el acceso a Internet y la tecnología.



**Department of Administrative Services
Commission for Educational Technology
DigitalEquity@CT.gov
55 Farmington Avenue
Hartford, CT 06105**

Appendix H: Connecticut Resident Survey Questionnaire – English

Dear Connecticut Resident:

The State of Connecticut has asked UConn to conduct a survey to help develop a multi-year plan to help residents improve their access to and experience using the internet. Thank you for taking 5 – 10 minutes to respond to this survey.

Participation in this survey is completely voluntary and anonymous. We will not ask you any questions that identify you or your family members, and your decision to participate will not impact any services you receive from the State. There is no foreseeable or anticipated risks for completing this study.

If you have any questions about this research study, please contact me at my phone number below or at malkadry@uconn.edu.

Dr. Mohamad Alkadry
Professor of Public Policy
University of Connecticut

Connecticut Survey of Digital Barriers

You are: Male Female Other _____

How many people live in your household? _____ people (including yourself)

What is your approximate household income? \$ _____

What is your age? _____ Years Old

How do you Identify: White Black/African American American Indian or Alaskan Asian
 Native Hawaiian or Pacific Islander Other _____

Are you of Hispanic Origin? No Yes

Are you a member of a religious minority? No Yes I'd rather not say

Do you identify as an LGBTQI person? No Yes I'd rather not say

Are you a U.S. veteran? No Yes

Which town do you live in? _____

How well do you read and write English? Not at all Not well Well

Do you receive any government-sponsored assistance (including social security benefits) related to a disability?

No Yes

Which of the following difficulties do you have? (Check all that apply)

- Difficulty seeing even if wearing glasses
- Difficulty hearing even if using a hearing aid
- Difficulty walking or climbing steps
- Difficulty remembering or concentrating
- Difficulty communicating
- Other Difficulties in taking care of myself

Which of the following types of internet access do you have in your household (Check all that apply)

- Cable (ex: Breezeline, Charter, Cox, Optimum, Xfinity)
- Fiber (ex: Frontier Fiber, GoNetSpeed, Verizon Fios)
- DSL (ex. Frontier, Verizon)
- Satellite internet service (ex. Hughes Net, StarLink, Dish Network, ViaSat)
- Cellular data plan for a smartphone or other mobile device (ex. Verizon, AT&T, T-Mobile)
- Dial-up internet service (ex. Earthnet, NetZero)
- Some other service? (specify) _____
- I do not have any access to the internet at home

Where do you access the internet (Check all that apply)

- Public wireless (library, school, town/city, etc.)
- School
- WiFi Hotspot (Dunkin Donuts, Starbucks, mall, etc..)
- Work
- Family's, neighbor's, or friend's house
- Home
- Other (Please Specify) _____

Do you feel your internet connection is adequate for the number of people living in your home?

- No Yes

What do you, or members of your household, use the internet for? (Check all that apply)

- Work or business
- Search for jobs
- Agriculture or Farming
- Education
- Telehealth appointments
- Access government websites services (DMV, Social Security, Medicaid, etc..)
- Entertainment (movies, games, etc..)
- Connect with family and friends
- Shopping for products and services
- Household finance (pay bills, online banking)
- Find out about events in my community
- Other (Please specify) _____

Have you ever been incarcerated (served time in a prison)? No Yes I'd rather not say

How difficult is it for you to afford (pay for) your monthly internet bill?
 Not difficult at all Somewhat difficult Very difficult

How satisfied are you with the quality of your home internet connection for doing the online activities that are important to you?
 Not satisfied at all Not too satisfied Somewhat satisfied Very satisfied

Which of the following do you use at home? (Check all that apply)
 Desktop or laptop
 Smartphone
 Tablet or other portable wireless computer
 Smart TV
 Some other type of device (Please specify) _____

Does everyone in your household get access to a computer whenever they need it? No Yes

What gets in your way of accessing the internet? (Check all that apply)
 Service is not available at my residence
 I need help finding an Internet Service Provider
 Setting up service with a provider takes too long or is too complicated
 I cannot afford service or a device
 I don't have a device/computer to access the internet
 I need help using my phone, computer or tablet
 I have a disability that makes it hard to get online
 I cannot find sites and apps in the language I speak
 I am concerned about my privacy
 I am not interested in using technology
 Nothing gets in my way of accessing the internet
 Other (Please Specify) _____

What type of housing do you live in?
 Single family home Townhome or attached home Apartment or condo
 Mobile Home Group living facility or nursing home
 Other (please specify) _____

What is your highest level of education
 Less than High School High school graduate Some college 2-year degree
 4-year degree Professional/Master's degree Doctorate
 Other (please specify) _____

Who do you contact if your computer/tablet or other computer equipment is not working correctly?

- Family member
 Library
 School
 Manufacturer
 Friend
 Repair Shop
 Other (please specify) _____

Which of the following tasks can you complete without any help? (Check all that apply)

- Set up an online account
 Make video calls
 Access and use social media
 Compare prices for products or services online
 Write documents or use spreadsheets
 Fix my computer or phone when they are not working

What is your degree of comfort or familiarity with these concepts regarding internet security and privacy?

	Not at all	Limited Familiarity	Fairly Familiar	Very Familiar
Computer privacy settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A strong password (hard to guess)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Protecting data on a computer or device	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Updating software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-factor authentication for logging into website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Avoiding computer scams or phishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing cookie settings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Web privacy policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Security breaches	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for completing this survey. Please fold and place in the postage-paid pre-addressed envelope and place in any United States Postal Service mail drop near you.

Appendix I: Connecticut Resident Survey Questionnaire – Spanish

Estimada/Estimado residente de Connecticut:

El Estado de Connecticut ha pedido a UConn que realice una encuesta para ayudar a desarrollar un plan plurianual para ayudar a los residentes a mejorar su acceso a Internet y su experiencia con el mismo. Gracias por tomarte de 5 a 10 minutos para responder esta encuesta.

La participación en esta encuesta es completamente voluntaria y anónima. No te haremos ninguna pregunta que te identifique a ti o a tus familiares, y tu decisión de participar no afectará ningún servicio que recibas del Estado. No hay riesgos previsibles o anticipados por completar este estudio.

Si tienes alguna pregunta sobre este estudio de investigación, comunícate conmigo en mi número de teléfono a continuación o en malkadry@uconn.edu.

Dr. Mohamad Alkadry
University of Connecticut

Encuesta de Connecticut sobre barreras digitales

Sexo: Masculino Femenino Otra opción _____

¿cuántas personas viven en tu hogar? _____ personas (Incluyéndote a ti mismo(a))

¿Cuáles son los ingresos anuales brutos de tu hogar? \$ _____

¿Qué edad tienes? _____

¿Cómo te identificas?: Blanco(a) Negro(a) o afroamericano(a) Indígena americano(a) o nativo(a) de Alaska
 Asiático(a) Nativo(a) de Hawái o Isleño(a) del Pacífico
 Otra opción (especifica) _____

¿Eres de origen hispano? No Si

¿Eres miembro de un grupo religioso minoritario? No Si Prefiero no responder

¿Te identificas como una persona LGBTQI+? No Si Prefiero no responder

¿Eres un veterano de los Estados Unidos? No Si

¿En qué pueblo/ciudad vives? _____

¿Qué tan bien lees y escribes en inglés? No leo ni escribo inglés No muy bien Bien

¿Recibes alguna ayuda patrocinada por el gobierno (incluidos los beneficios del Seguro Social) relacionada con una discapacidad? No Si

¿Cuáles de las siguientes dificultades tienes? (Marca todas las opciones que correspondan)?

- Dificultad para ver incluso con anteojos
- Dificultad para escuchar incluso con ayuda
- Dificultad para caminar o subir escalones
- Dificultad para recordar o concentrarme
- Dificultad para comunicarme
- Otras dificultades relacionadas con el cuidado personal

¿Cuáles de los siguientes tipos de acceso a Internet tienes en tu hogar? (Marca todas las opciones que correspondan)

- Cable (p. ej., Breezeline, Charter, Cox, Optimum, Xfinity)
- Fibra (p. ej., Frontier Fiber, GoNetSpeed, Verizon Fios)
- DSL (p. ej., Frontier, Verizon)
- Servicio de Internet por satélite (p. ej., Hughes Net, StarLink, Dish Network, ViaSat)
- Plan de datos móviles para un teléfono inteligente u otro dispositivo móvil (p. ej., Verizon, AT&T, T-Mobile)
- Servicio de Internet de marcación (p. ej., Earthnet, NetZero)
- ¿Algún otro servicio? (Por favor, especifica) _____

¿Dónde accedes a Internet? (Marca todas las opciones que correspondan).

- Servicio inalámbrico público (biblioteca, escuela, pueblo/ciudad, etc.)
- Escuela
- Punto de acceso WiFi (Dunkin Donuts, Starbucks, centro comercial, etc.)
- Trabajo
- Casa de familiares, vecinos o amigos
- En casa
- Otra opción (especifica) _____

¿Consideras que tu conexión a Internet es adecuada para la cantidad de personas que viven en tu hogar?

- No Sí

¿Para qué utilizas Internet? (Marca todas las opciones que correspondan)

- Trabajo o negocio
- Buscar empleo
- Agricultura o ganadería
- Educación
- Citas de telesalud
- Acceso a servicios gubernamentales (DMV, Seguro Social, Medicaid, etc.)
- Entretenimiento (películas, juegos, etc.)
- Relaciones sociales con familia y amigos
- Compra de productos y servicios
- Finanzas del hogar (pagar facturas, banca en línea)
- Enterarme de eventos en mi comunidad
- Otra opción (especifica) _____

¿Alguna vez has estado encarcelado(a) (cumplido condena en una prisión)? No. Si Prefiero no decir

¿Qué tan difícil es para ti pagar tu factura mensual de Internet? Nada difícil Algo difícil Muy difícil

¿Qué tan satisfecho(a) estás con la calidad de tu conexión a Internet en tu casa para realizar las actividades en línea que son importantes para ti?

Nada satisfecho(a) No muy satisfecho(a) Algo satisfecho(a) Muy satisfecho(a)

¿Cuál de las siguientes opciones utilizas en casa? (Marca todas las opciones que correspondan).

- Computadora de escritorio o portátil
- Teléfono inteligente
- Tableta u otra computadora inalámbrica portátil
- Smart TV
- Algún otro tipo de dispositivo (especifica) _____

¿Todos los miembros de tu hogar tienen acceso a una computadora cuando la necesitan? No Si

¿Qué te dificulta tener acceso a Internet? (Marca todas las opciones que correspondan).

- El servicio no está disponible en mi residencia
- Necesito ayuda para encontrar un proveedor de servicios de Internet
- Configurar el servicio con un proveedor lleva demasiado tiempo o es demasiado complicado
- No me puedo permitir el servicio o un dispositivo
- No tengo un dispositivo/computadora para acceder a Internet
- Necesito ayuda usando mi teléfono, computadora o tableta
- Tengo una discapacidad que me dificulta conectarme
- No puedo encontrar sitios y aplicaciones en el idioma que hablo
- Me preocupa mi privacidad
- No me interesa usar tecnología
- Nada
- Otra opción (especifica) _____

¿En qué tipo de vivienda vives?

- Vivienda unifamiliar Casa adosada Apartamento o condominio
- Casa rodante Centro de convivencia en grupo o residencia de ancianos
- Otra opción (especifica) _____

¿Cuál es tu nivel de escolaridad más alto?

- Menos de secundaria Graduado(a) de secundaria Cierta educación universitaria
- Título de educación superior de 2 años Título de educación superior de 4 años
- Título profesional o maestría Doctorado. Otra opción (especifica) _____

¿Con quién te comunicas si tu computadora/tableta u otro equipo informático no funciona correctamente?

- Miembro de la familia Biblioteca Escuela Fabricante
 Amigo Repair Shop Otra opción (especifica) _____

¿Cuáles de las siguientes tareas puedes realizar sin ayuda alguna? (Marca todas las opciones que correspondan).

- Configurar una cuenta en línea
 Hacer videollamadas
 Acceder y usar las redes sociales
 Comparar precios de productos o servicios en línea
 Escribir documentos o usar hojas de cálculo
 Arreglar mi computadora o teléfono cuando no estén funcionando

¿Cuál es tu grado de comodidad o familiaridad con estos conceptos con respecto a la seguridad y privacidad de Internet?

	Nada familiarizado(a)	Familiaridad limitada	Bastante familiarizado(a)	Muy familiarizado(a)
Configuración de privacidad de la computadora	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Una contraseña fuerte (difícil de adivinar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proteger datos en una computadora o dispositivo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Actualización de software	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Autenticación multifactor para iniciar sesión en el sitio web	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Evitar estafas o fraudes informáticos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gestionar la configuración de las cookies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Políticas de privacidad en la web	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Violaciones de seguridad	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Gracias por completar esta encuesta.

Appendix J: Partner (Community Anchor) Survey Responses

Partner (Community Anchor) Survey Responses

The following organizations responded to the Partner (Community Anchor) survey in support of the Connecticut Digital Equity and BEAD program outreach and asset inventory efforts. Organizations indicated a wide range of digital inclusion programs and resources. The order is by category, then by organization name.

Name	Category
Allie Blair Bookkeeping & Business Consulting LLC	Business or Other For-Profit
Comcast	Business or Other For-Profit
Cox Communications	Business or Other For-Profit
FHRC Management Corporation	Business or Other For-Profit
GetSetUp	Business or Other For-Profit
InformedK12	Business or Other For-Profit
Related Management Company	Business or Other For-Profit
Achievement First	Educational Institution
Albertus Magnus College	Educational Institution
Allied Health Sciences, UConn	Educational Institution
American School for the Deaf	Educational Institution
Area Cooperative Educational Services	Educational Institution
Avon Public schools	Educational Institution
Barkhamsted and Hartland School	Educational Institution
Berlin Public Schools	Educational Institution
Bethel Public Library	Educational Institution
Bethel Public Schools	Educational Institution
Bloomfield Adult and Continuing Education	Educational Institution
Bridgeport Public Schools	Educational Institution
Bristol Adult Education Center	Educational Institution
Brookfield Public Schools	Educational Institution
Brookfield Public Schools	Educational Institution
Case Memorial Library	Educational Institution
Cheshire Public Schools	Educational Institution
Choate Rosemary Hall School	Educational Institution
CIFC Danbury Early Learning Programs	Educational Institution
Clinton Public Schools	Educational Institution
Colchester Public Schools	Educational Institution
Connecticut College Child Development Lab School	Educational Institution
Connecticut State Colleges & Universities Library Consortium	Educational Institution
CT State Community College, Asnuntuck campus	Educational Institution
David M. Hunt Library	Educational Institution
Derby Public Schools (CT)	Educational Institution
Dixwell community house New Haven	Educational Institution
Douglas Library	Educational Institution

Partner (Community Anchor) Survey Responses

Name	Category
East Granby Public Schools	Educational Institution
East Haven Public Schools	Educational Institution
EASTCONN	Educational Institution
Easton School District	Educational Institution
EdAdvance	Educational Institution
EdAdvance Adult Education	Educational Institution
Farmington Continuing Education	Educational Institution
Farmington Libraries	Educational Institution
Farmington public schools	Educational Institution
Hamden Adult Education	Educational Institution
Killingly Public Schools	Educational Institution
LEARN	Educational Institution
Manchester Adult & Continuing Education	Educational Institution
Manchester Community College	Educational Institution
Manchester Public Schools	Educational Institution
Middletown adult education	Educational Institution
Middletown Public Schools	Educational Institution
Middletown Public schools	Educational Institution
Milford Public Library	Educational Institution
Mitchell College	Educational Institution
Montville Public Schools	Educational Institution
Naugatuck Adult Education	Educational Institution
New Canaan Public Schools	Educational Institution
New Fairfield Public Schools	Educational Institution
New Fairfield Town/BoE	Educational Institution
New Hartford Public Schools	Educational Institution
New Haven Adult & Continuing Education	Educational Institution
New London Adult & Continuing Education	Educational Institution
New London School of Adult Education	Educational Institution
New Milford Public Schools	Educational Institution
Newington Public Schools	Educational Institution
Newtown Public Schools	Educational Institution
Norwalk Community College	Educational Institution
Norwalk Public Schools	Educational Institution
Norwich Public Schools	Educational Institution
Oliver Wolcott Library	Educational Institution
Oxford Public Schools	Educational Institution
Plymouth Public Schools	Educational Institution
Public Library of New London	Educational Institution
Putnam Public Library	Educational Institution
Putnam Public Schools	Educational Institution

Partner (Community Anchor) Survey Responses

Name	Category
Quinnipiac University	Educational Institution
Quinnipiac University	Educational Institution
Raymond Library	Educational Institution
Rd11	Educational Institution
Redding School District	Educational Institution
Region 9 School District	Educational Institution
Regional School District #16	Educational Institution
Regional School District 10	Educational Institution
Regional School District 13	Educational Institution
S. Connecticut State Univ.	Educational Institution
Sacred Heart University	Educational Institution
Scotland Elementary School	Educational Institution
Shoreline Adult Education	Educational Institution
Simsbury Public Schools	Educational Institution
Somers Public Schools	Educational Institution
South Windsor Public Schools	Educational Institution
South Windsor Public Schools	Educational Institution
Southern Connecticut State University	Educational Institution
Southern CT State University	Educational Institution
Southington Public Schools	Educational Institution
Sprague Board of Education	Educational Institution
Stafford Public Schools	Educational Institution
Stamford	Educational Institution
Sterling Community School	Educational Institution
Stonington Public Schools	Educational Institution
Stratford Continuing Education	Educational Institution
The Ferguson Library	Educational Institution
The Gilbert School	Educational Institution
The University of Connecticut	Educational Institution
The Williams School	Educational Institution
Thomaston Public Schools	Educational Institution
Trinity College	Educational Institution
Trumbull Public Schools	Educational Institution
UConn School of Business	Educational Institution
University of Hartford	Educational Institution
Valley Regional Adult Education	Educational Institution
Voluntown Elementary School	Educational Institution
Wallingford Adult Education	Educational Institution
Wallingford Public Schools	Educational Institution
Waterbury Public Schools	Educational Institution
Waterford Public Library	Educational Institution

Partner (Community Anchor) Survey Responses

Name	Category
Waterford Public Schools	Educational Institution
Watertown, CT Public Schools	Educational Institution
Windham Public Schools	Educational Institution
Ashford social services	Governmental Entity
Babcock Library	Governmental Entity
BESB	Governmental Entity
Bloomfield Public Library	Governmental Entity
Capitol Region Council of Governments	Governmental Entity
City of Middletown	Governmental Entity
City of New Haven - Economic Development Administration	Governmental Entity
City of New London	Governmental Entity
City of Norwalk	Governmental Entity
City of West Haven	Governmental Entity
Colchester Senior Center	Governmental Entity
Connecticut Council on Developmental Disabilities	Governmental Entity
Connecticut Department of Veterans Affairs	Governmental Entity
CT Dept of Veterans Affairs-Office of Advocacy & Assistance	Governmental Entity
CT Dept. of Veterans Affairs	Governmental Entity
CT DVA	Governmental Entity
Darien Senior Center	Governmental Entity
Department of Labor	Governmental Entity
Department of Social Services	Governmental Entity
Department of Veterans Affairs	Governmental Entity
DSS	Governmental Entity
East Lyme Youth Services Bureau	Governmental Entity
Easton Public Library	Governmental Entity
Granby Public Library	Governmental Entity
Groton Public Library	Governmental Entity
Hamden Library	Governmental Entity
Hamden Town Council	Governmental Entity
Lucy Robbins Welles Library	Governmental Entity
New Fairfield Free Public Library	Governmental Entity
Newington Senior & Disabled Center	Governmental Entity
Northeastern Connecticut Council of Governments	Governmental Entity
Northeastern Connecticut Council of Governments	Governmental Entity
Norwalk Housing Authority	Governmental Entity
Norwich Public Utilities	Governmental Entity
Norwich Youth, Family, & Recreation Services	Governmental Entity
Simsbury Public Library	Governmental Entity

Partner (Community Anchor) Survey Responses

Name	Category
South Central Regional Council of Governments	Governmental Entity
State of CT, Dept of VA	Governmental Entity
Terryville Public Library	Governmental Entity
The Housing Authority of the City of Bridgeport	Governmental Entity
Town of Deep River	Governmental Entity
Town of East Hartford, East Hartford Works Department	Governmental Entity
Town of Granby, Connecticut	Governmental Entity
Town of Hebron	Governmental Entity
Town of Kent	Governmental Entity
Town of Newington, CT	Governmental Entity
Town of North Branford/North Branford Fire Dept.	Governmental Entity
Town of Roxbury, CT	Governmental Entity
Town of Southington	Governmental Entity
Town of Vernon	Governmental Entity
Town of Washington	Governmental Entity
Town of Westbrook, CT	Governmental Entity
Town of Windham	Governmental Entity
Welles-Turner Memorial Library	Governmental Entity
CT Department of Veterans Affairs	Healthcare Provider
CT Dept of Veterans Affairs	Healthcare Provider
Generations Family Health Center	Healthcare Provider
Inspire ME, LLC	Healthcare Provider
Norwalk Community Health Center, Inc.	Healthcare Provider
Southwest Community Health Center, Inc	Healthcare Provider
Yale New Haven Health	Healthcare Provider
Killingly Housing Authority	Housing Authority
Brainerd Memorial Library	Library
Bridgeport Public Library	Library
C.H. Booth Library	Library
East Hartford Public Library	Library
Hagaman Memorial Library	Library
Hamden Public Library	Library
Hartford Public Library	Library
Henry Carter Hull Library	Library
Hotchkiss Library of Sharon	Library
New Haven Free Public Library	Library
NEWFIELD BRANCH LIBR	Library
North Haven Memorial Library	Library
Ridgefield Library	Library
Russell Library	Library

Partner (Community Anchor) Survey Responses

Name	Category
Russell Library	Library
Scotland Public Library	Library
Windsor Public Library	Library
Woodbridge Town Library	Library
Stony Hill Volunteer Fire Company	Municipality
Aknew.org	Non-Profit
Asylum Hill Neighborhood Association	Non-Profit
Bernhardt Meadow	Non-Profit
Better Together CT Inc	Non-Profit
Bill Memorial Library	Non-Profit
CAANH	Non-Profit
Capital Workforce Partners	Non-Profit
Center for Disability Rights	Non-Profit
CfAL for Digital Inclusion	Non-Profit
CfAL for Digital Inclusion	Non-Profit
Child Works Preschool	Non-Profit
Community of Hope	Non-Profit
Comunidad Hispana de Wallingford, Inc.	Non-Profit
Connecticut Association for Adult and Continuing Education	Non-Profit
Connecticut Fair Housing Center	Non-Profit
Connecticut Institute for Communities-Greater Norwalk Head Start Program	Non-Profit
Connecticut Institute of Refugees and Immigrants	Non-Profit
Connecticut Oral Health Initiative	Non-Profit
CPEN-Community Placemaking Engagement Network	Non-Profit
CT Association for Community Action (CAFCA)	Non-Profit
CT Family Support Network	Non-Profit
CT Foodshare	Non-Profit
CT Humanities	Non-Profit
DAE	Non-Profit
Davenport Dunbar Residence	Non-Profit
Disabilities Network of Eastern CT	Non-Profit
E.H.M.	Non-Profit
East Litchfield Fire Department	Non-Profit
Eastern CT Veterans Community Center	Non-Profit
EHM/CHM Ogden House	Non-Profit
Elderly Housing Management	Non-Profit
Elderly Housing Management	Non-Profit
Elderly Housing Management Corp	Non-Profit
Elderly Housing Management Inc	Non-Profit

Partner (Community Anchor) Survey Responses

Name	Category
Elderly Housing Mng't.	Non-Profit
Emerson Theater Collaborative	Non-Profit
Enfield United Church of Christ	Non-Profit
Eugene O'Neill Memorial Theater Center	Non-Profit
Founders Hall	Non-Profit
Full Citizens Coalition	Non-Profit
Garde Arts Center	Non-Profit
Glen Ayre Apartments	Non-Profit
Hale YMCA Youth and Family Center Prevention	Non-Profit
Hallock's Landing	Non-Profit
Hartland Public Librery	Non-Profit
High Hopes Therapeutic Riding, Inc.	Non-Profit
Higher Edge	Non-Profit
Hill Top Homes	Non-Profit
Hispanic Health Council	Non-Profit
Hispanic Health Council	Non-Profit
Howard Whittemore Memorial Library	Non-Profit
Human Resources Agency of New Britain, Inc.	Non-Profit
Immanuel Lutheran Church and School	Non-Profit
Independence Northwest	Non-Profit
Integrated Refugee and Immigrant Services	Non-Profit
Interfaith Volunteer Care Givers of GNH	Non-Profit
IRIS Hartford Office	Non-Profit
Kent Memorial Library	Non-Profit
Literacy Volunteers of Greater Waterbury, Inc.	Non-Profit
Mansfield Retirement Community d.b.a. Juniper Hill Village	Non-Profit
MidState Arc, Inc. & ATECH (Assistive Technology Training Center)	Non-Profit
Milestone Behavioral Service	Non-Profit
Minority Business Association, Inc.	Non-Profit
Mystic & Noank Library	Non-Profit
Mystic Aquarium	Non-Profit
Mystic River Homes	Non-Profit
NEAT	Non-Profit
New Haven Pride Center	Non-Profit
New Horizons Village	Non-Profit
Next In Line Youth Ministries	Non-Profit
Norfolk Library	Non-Profit
Ogden House	Non-Profit
PATH CT	Non-Profit

Partner (Community Anchor) Survey Responses

Name	Category
Pathways, Inc.	Non-Profit
Preservation of Affordable Housing (POAH)	Non-Profit
Preston Public Library	Non-Profit
Reality Outreach Inc.	Non-Profit
RealityOutreach Inc.	Non-Profit
Reliance Health	Non-Profit
RIBA Aspira Career Academy	Non-Profit
Riverfront Children's Center	Non-Profit
Riverpark apartment	Non-Profit
Safe Futures, Inc.	Non-Profit
Scoville Memorial Library	Non-Profit
Shiloh Baptist Church	Non-Profit
South East CT Community Center of the Blind	Non-Profit
Stamford Cross Road Res.	Non-Profit
Stamford Public Education Foundation	Non-Profit
Stonington Free Library	Non-Profit
Stratford Library	Non-Profit
Taghannuck Grange #100	Non-Profit
TEEG	Non-Profit
Thames River Community Service, Inc.	Non-Profit
The Access Community Action Agency	Non-Profit
The Agape Homeless Outreach	Non-Profit
The Community Builders Inc, - Victory Gardens Inc.	Non-Profit
The Community Builders Inc. - Mountain Valley Place inc.	Non-Profit
The Community Builders Inc. - Ormont Court	Non-Profit
The Community Builders, inc	Non-Profit
the Friends of Beckley Furnace, Inc.	Non-Profit
The Underground NE	Non-Profit
UCP	Non-Profit
UCP of Eastern CT	Non-Profit
Unashamed Inc	Non-Profit
United Way of Connecticut	Non-Profit
Urban Alliance	Non-Profit
Valley St Intergenerational Organization	Non-Profit
Victory Church	Non-Profit
Wallingford Committee on Aging, Inc/Wallingford Senior Center	Non-Profit
Wallingford Public Library	Non-Profit
Warren Public library	Non-Profit
Westbrook Youth & Family Services, Inc.	Non-Profit

Partner (Community Anchor) Survey Responses

Name	Category
Woods Edge Housing, Inc.	Non-Profit
World Wide Youth Networks	Non-Profit
Partnerships Adult Day Center	other
Splunk	Software Manufacturer

Appendix K: UCONN Focus Group Report

Connecticut Digital Equity Project

Barriers to Digital Equity Study

Focus Group Report: Covered Populations and Frontline Workers

Prepared by

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September 23, 2023

I. INTRODUCTION

Focus group sessions were held with the covered populations previously identified by the Digital Equity Program team at the Department of Administrative Services, according to socioeconomic vulnerability and likelihood of experiencing access and usage issues of the internet and technology. Focus groups were also held with frontline workers who interact with the covered populations. In addition to collecting information from these groups through quantitative surveys, the Digital Equity Program team and the researchers from the University of Connecticut's School of Public Policy (UConn research team) agreed to gather qualitative evidence via focus groups to better understand the digital equity barriers the covered populations are experiencing.

Focus groups are useful for uncovering dynamics and processes explaining observed issues, to complement data collected through other techniques, or to provide insights on their own (Cyr 2019; Kapiszewski et al. 2015). Therefore, this technique was used to achieve the following goals:

- *Identify* the key barriers to internet adoption/usage by the covered populations.
- *Recognize the existing efforts* to remove the barriers (and possibly the efficacy of these efforts).
- *Understand why* the identified barriers are impediments to internet adoption/usage for the covered populations specifically, and for digital equity more broadly.
- *Uncover the mechanisms* through which these barriers prevent internet adoption/usage by the covered populations.
- *Obtain insights* from service-providing organizations and the covered populations themselves for a complete picture of the barriers to digital equity.
- *Obtain insights* about what unconnected clients and individuals are missing by not having an adequate connection.

The following lines explain the methods used to conduct the focus groups. They also summarize the main findings across all vulnerable groups studied (*Common Patterns across Groups* section) and also from each focus group, focusing on additional patterns that emerged in each group (*Group-Specific Patterns* section). The latter two sections examine specific barriers pertaining their economic condition affecting their access, knowledge and familiarity with internet and technology, perceptions that may influence their use of the internet and technology, and infrastructural limitations, and additional barriers not previously identified by the research team. Solutions proposed by participants are also presented.

Therefore, the summary focuses on presenting the findings of patterns of barriers and solutions identified by participants from seven specific vulnerable groups: minorities, aging populations, people with disabilities, veterans, people with language barriers (English not their primary language), rural area residents, and formerly incarcerated individuals. Finally, it is important to note that these findings of patterns of barriers and solutions are derived from the focus group sessions implemented during this study, and thus may not represent the complete range of issues surrounding internet services as experienced by these groups.

II. METHODOLOGY

The focus groups concentrated on the vulnerable populations (they are also referred to as “covered populations” in the context of this work) for the State of Connecticut’s research on digital equity barriers. *Barriers* are understood as systematic impediments experienced by groups that are differentially affected when accessing goods or services, in this case the vulnerable populations in the context of digital equity. To further clarify the analysis, it is important to note that the words “barriers” and “issues” are generally used interchangeably in this report, depending on the context of the discussion. However, the word “barriers” is used in this study to refer to four main themes identified as primary constraints to the access of digital equity that are analyzed throughout this report.

Seven vulnerable groups were identified as priority populations for this study by the Digital Equity Program team at the Department of Administrative Services: minorities, aging populations, people with disabilities, veterans, people with language barriers (English not their primary language), rural area residents, and formerly incarcerated individuals.

To understand the digital equity barriers faced by these groups, and the potential solutions, the research conducted through focus groups used an inductive–deductive approach. This approach was used to develop the methodology of this work, which included the design of the questionnaire, case selection and planning that involved focus group site identification, participant recruitment, and focus group formation. The focus group questions were informed by the empirical standards of qualitative research and developed deductively based on the overarching goals of the Digital Equity Program as well as prior literature on digital access and literacy. An inductive approach was used in the identification and assessment of barriers emerging from perspectives shared at the Connecticut Digital Equity Summit (Which also informed the focus group questionnaire development), and ultimately across the focus groups during the study. Therefore, to inform the identification of the barriers and methodological design, inputs from practitioners were used along with an examination of the relevant literature on digital equity (Cyr 2016, 2019; Greenbaum 1999; MacLean et al. 2019; Short 2006).

As a result, seven focus groups with 60 participants from the identified vulnerable populations were conducted to obtain information on the barriers to accessing and using the internet and technology in Connecticut, experienced by these groups. Four focus groups were held with frontline workers, which included 18 participants from public and academic libraries, the Department of Labor, and the Digital Navigator Program.

Focus groups are facilitated discussions where questions are presented to participants to ignite the conversation of particular topics rather than a strict list to follow. The sequence of the questions follows the structure suggested by Krueger and Casey (2015). Facilitators used questions on digital equity barriers as a guide, with the expectation that the initial questions of each section generated open discussions on all other key topics to understand their issues of using and accessing the internet and technology. The main objective was to listen to the thoughts and experiences of members of vulnerable groups. The focus groups were carried out with participants’ full verbal consent, after reading the informed consent sheet provided in print by the UConn research team.

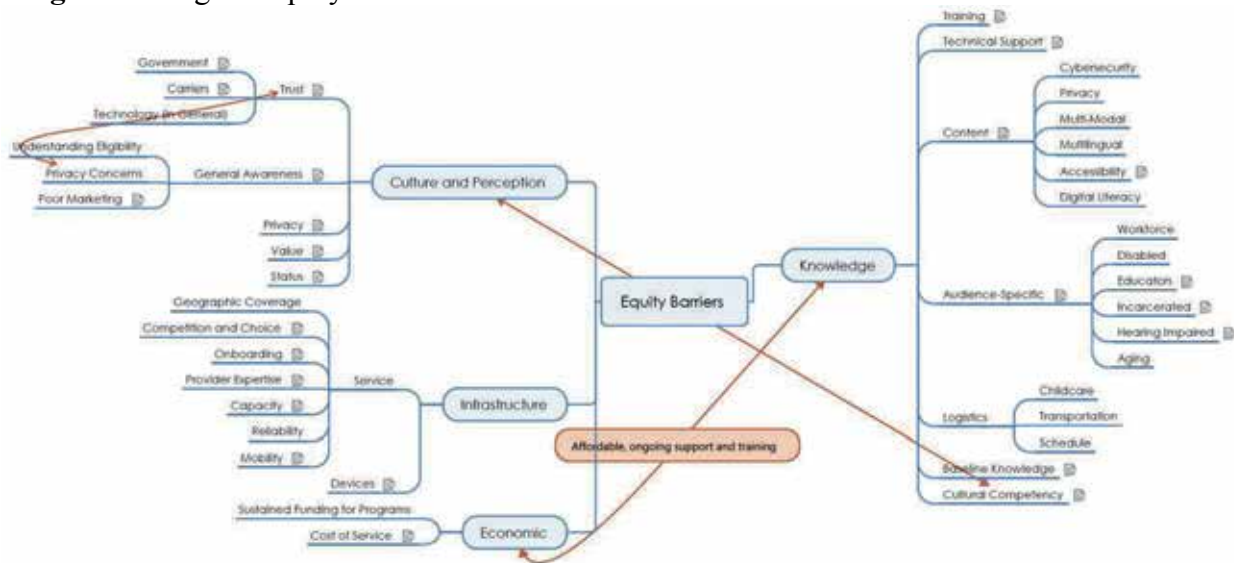
Focus groups with the covered populations lasted about 90 to 100 minutes each, and those with frontline workers lasted about 100 to 120 minutes each.

Methodological Approach, Identification of Main Themes of Barriers, and Questionnaire Development

Inductive Approach. Two sources of inductive evidence were critical for the identification of the thematic barriers used to develop the focus groups’ questionnaires and the structuring of the analysis of findings: one, a mind map summarizing the discussion with experts on digital equity, and two, an excel table prepared by the Digital Equity Program team describing further details on the barriers identified by digital equity experts.

Regarding the first source of inductive evidence, on October 26, 2022, the Commission for Educational Technology organized the Connecticut Digital Equity Summit from 9am to 12pm. An array of state leaders considered experts in digital equity participated in this event. This allowed the Digital Equity Program team to collect detailed inputs from the experience on this matter of highly knowledgeable participants. This information served as a solid departure point for the identification of digital equity barriers, leading to the categorization of core thematic barriers that were used to conduct a further examination of why state residents do not have access to the internet, face issues with its usage, and do not engage in digital skills building. The main themes of digital equity barriers identified were: economic, knowledge, culture and perception, and infrastructure (see Diagram 1 below).

Diagram 1. Digital Equity Barriers: Main Themes



Source: Prepared by the Digital Equity Program team, based on the inputs from the Connecticut Digital Equity Summit held on October 26, 2022.

The second source of inductive evidence, which was another piece of critical expert information for this research, was developed and provided by the Digital Equity Program team that was sent on January 5, 2023 and discussed in the January 11, 2023 meeting. It consisted of an Excel table

with a list of barriers, built upon the inputs provided by the experts during the Connecticut Digital Equity Summit from October 26, 2022, outlining detailed factors leading to those barriers and associated data sets, indicators, and questions for further exploration. This means that it took a more granular examination of barriers to adoption and use by covered populations (see Table 1).

Table 1. Digital Equity Barriers: Granular Examination

	Barriers	Existing Data	Key Indicators	Questions/Themes for Further Exploration	Primary Tools	Additional Questions
Essential Barriers	Cost of plans	ACA, CCM, CHIP data	Many cost but not much, low high-need/low-cost plan, indications on "higher" pricing, reliability of enrollment rates (costs to low subscription rates) (costs)	Comparison of cost per capita by provider by census tract. Address to individual "cost" (e.g. \$/day per individual age/sex). What are and per household? - would require interpretation of census data to be used to ask data.	Statistical analysis, National Survey data on affordable cost pricing (enrollment rates). This should be used to perspective of value to be per person receiving services.	
	Availability of low-cost plans and percent of low-cost plans covered by ACA/CHIP benefits	Availability of low-cost plans and percent of low-cost plans covered by ACA/CHIP benefits	ACA enrollment, underlying enrollment	USAC data availability, specific, consistent with providers to identify low-cost ACA beneficiaries and identify a pilot study to examine the impact of enrollment changes among low-income households.	1) Statistical analysis of ACA data and its relationship to subscription rates. 2) Analysis of low-cost plans and its relationship to enrollment rates. 3) Analysis of ACA data and its relationship to enrollment rates. 4) Analysis of ACA data and its relationship to enrollment rates.	How and when do non-standard costs affect MCOs?
	Cost of installation	No significant data	Frequency, cost, geographic distribution of non-standard installations	Provider information on non-standard installation costs and reasons for non-standard installation costs.	Geographic analysis of low-cost factors and how they relate to 1) enrollment rates, 2) subscription rates, 3) general equity goals.	
	Inefficient/Disproportionate income	Insufficient/Disproportionate income	Priority rates, average & median plan cost vs. average & median monthly income	Provider information on non-standard installation costs and reasons for non-standard installation costs.	Geographic analysis followed by survey data on acceptable cost pricing (enrollment rates) - this should be used to perspective of value to be per person receiving services.	
How to integrate set up	Over/under-enrollment data	Over/under-enrollment, ???	Rate of subscription cost to disposable income estimates (US income-based) as a proxy for insufficient time to use or set-up broadband service.	Geographic analysis followed by survey data on acceptable cost pricing (enrollment rates) - this should be used to perspective of value to be per person receiving services.		
Accessibility to standardized training			Include "set up" barriers in focus of survey/questionnaire questions.			
Perception	Quality	CCM surveys, in-house	Perceived value of having internet services across some "underserved" versus of service, economic, and other impacts.	How do incidents (in general) value internet services and why? How does this perception vary across socio-economic populations and the covered population?		
	Policy	Some literature available but not well developed. No clear evidence base.	Analysis of other security threats (phishing, etc.), importance of best practices, value of such concerns in determining the perceived value of individual internet services.	How do incidents view the relationship between internet services and security? Where do they get this information? How do they view the relationship between security and internet services? (Being to capabilities based)	Research specific to CT to develop a baseline and may require a more general CT survey to determine understanding of internet services and how they relate to internet services. This should be used to perspective of value to be per person receiving services.	
	Trust	Some literature available but not well developed. No clear evidence base.	Analysis of "trustworthy" access internet access - "Borrowing", "Government", "Schools", etc.	What are the most (or least) barriers to providing or receiving internet services? What actions are most/least trusted and why?		
	Internet	CCM surveys, in-house	Do users know how to perform basic tasks that allow them to search, connect with family, etc.	Targeted digital literacy needs (Needs for individuals?)		
Knowledge Barriers	User capabilities (digital literacy)		Do users know how to perform basic tasks that allow them to search, connect with family, etc.	Targeted digital literacy needs (Needs for individuals?)		
	Cognitive - how to do		Do users know how to perform basic tasks that allow them to search, connect with family, etc.	Targeted digital literacy needs (Needs for individuals?)		
	Content-		Do users know how to perform basic tasks that allow them to search, connect with family, etc.	Targeted digital literacy needs (Needs for individuals?)		
	Click - how to participate		Data specific to CT's medical and public, CT-specific, state that allows for the greater analysis, appears to be less available, so we will have to be creative with some of these	Clicks and user navigation? (Value of public meetings?)	Optimally, these factors can be analyzed through a mix of the survey instruments and focus groups used for perceptions above and the creation of unique indicators. A single digital literacy test will lead to the development (download and install from NOAA, etc.) as a means for being more targeted survey, but you are working to be more precise for the survey. The survey should be able to allow for a longitudinal measurement and analysis. The key here will be how we can get you with other SES indicators or an provider's level as possible (NO) resources that we are able to use for the dissemination activity (enrollment rates).	
Administrative	Cost of available service	CCM Survey, CHIP data	How does an increase in digital adoption of other programs relate to subscription rates (ACA, CHIP) and vice versa?	Can users with geographic proximity have if not individual data is available and helpfully build that as we go?		
	Access to group quarters	CCM Survey, CHIP data	How does an increase in digital adoption of other programs relate to subscription rates (ACA, CHIP) and vice versa?	Can users with geographic proximity have if not individual data is available and helpfully build that as we go?		
	Availability, education, and use of group quarters - prisons, etc.	Availability, education, and use of group quarters - prisons, etc.	How does an increase in digital adoption of other programs relate to subscription rates (ACA, CHIP) and vice versa?	Can users with geographic proximity have if not individual data is available and helpfully build that as we go?		
	How many of any good resources	How many of any good resources	How does an increase in digital adoption of other programs relate to subscription rates (ACA, CHIP) and vice versa?	Can users with geographic proximity have if not individual data is available and helpfully build that as we go?		

Source: Prepared by the Digital Equity Program team.

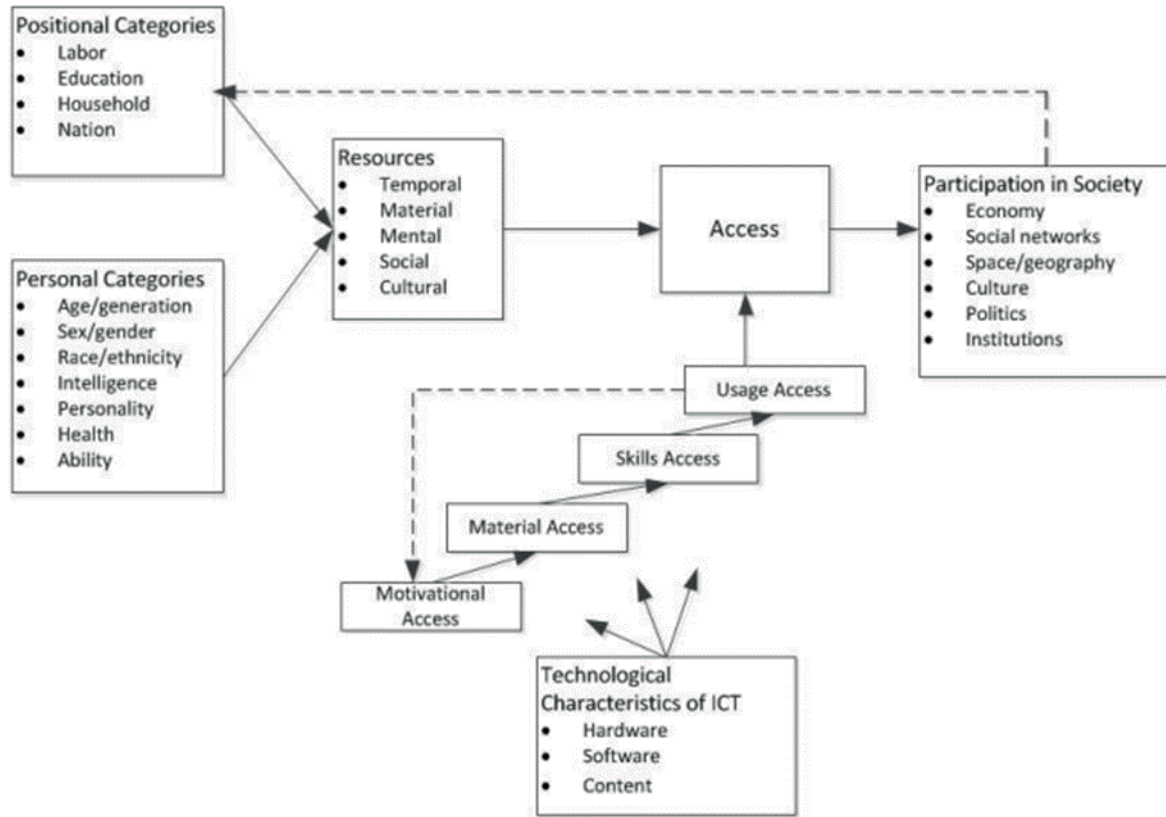
Deductive Approach. Literature on digital divide has provided multiple theoretical frameworks and models to explain the causes and the impact of inequalities in Internet access and use. Van Dijk's (2020) theory pointed out that the barriers exist in both personal resources, largely determined by socio-economic and demographic characteristics, and the access process (see Diagram 2). There are four phases in the access process leading to disparities in digital access: motivation, material access, digital skills, and usage. The theory also suggests a vicious feedback loop where the existing resource and process inequalities can be exacerbated by the reduced participation in society in various aspects ranging from economy, social networks, to culture and politics.

The unified theory of acceptance and use of technology (UTAUT) is another widely cited model that identifies the determinants on individual behavioral intention (see Diagram 3) (Venkatesh, et al. 2003). According to the UTAUT model, performance expectancy, effort expectancy, and social influence¹ directly affect the intention to use the Internet. In addition, Venkatesh, et al. (2003) found that these relations are moderated age, gender, experience, and voluntariness of use (i.e., whether usage is mandatory). The UTAUT model provides important insights into individual psychological factors in the technology adoption phase but is limited in terms of integrating social and material factors to explain the post-adoption access and usage. In a later development of the framework (see Diagram 4), the authors further incorporated both individual level and social-level contextual factors (Venkatesh et al. 2016). Factors causing variation at the individual and community-level are most relevant to the present project, including demographic characteristics and location attributes (such as economic development and market competition).

Other conceptualization models have identified a similar set of variables (e.g., Pick and Sarkar 2016): individual demographic and socio-economic characteristics, education, infrastructure, cost of access, and government support.

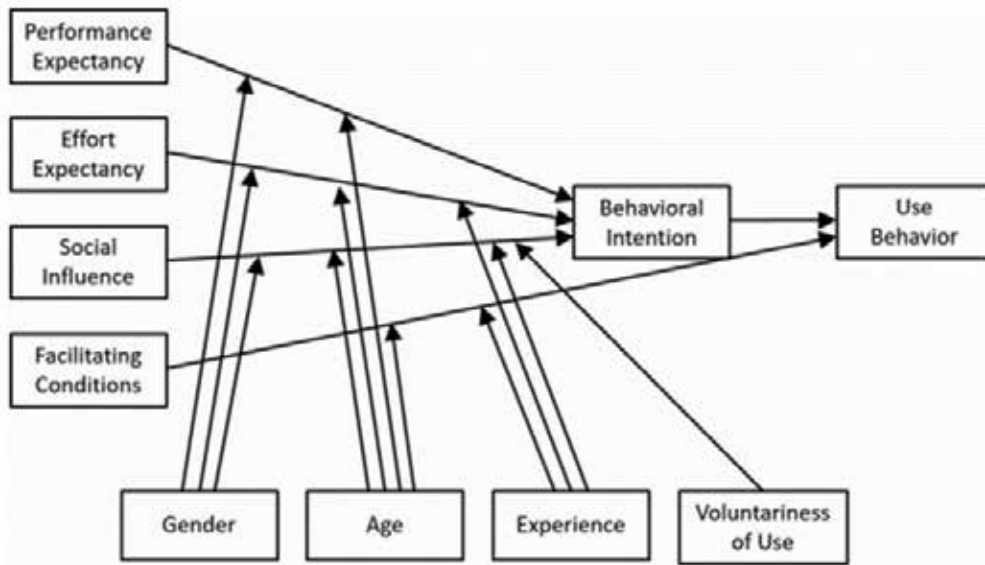
¹ Performance expectancy refers to the expected capacity of the technology to providing performance-related benefits. Effort expectancy refers to the expected effort or level of difficulty of using the technology. Social influence refers to whether and to what extent the user is expected to use the technology (Venkatesh, et al. 2003, 447-451).

Diagram 2. Van Dijk's Theory of Digital Divide

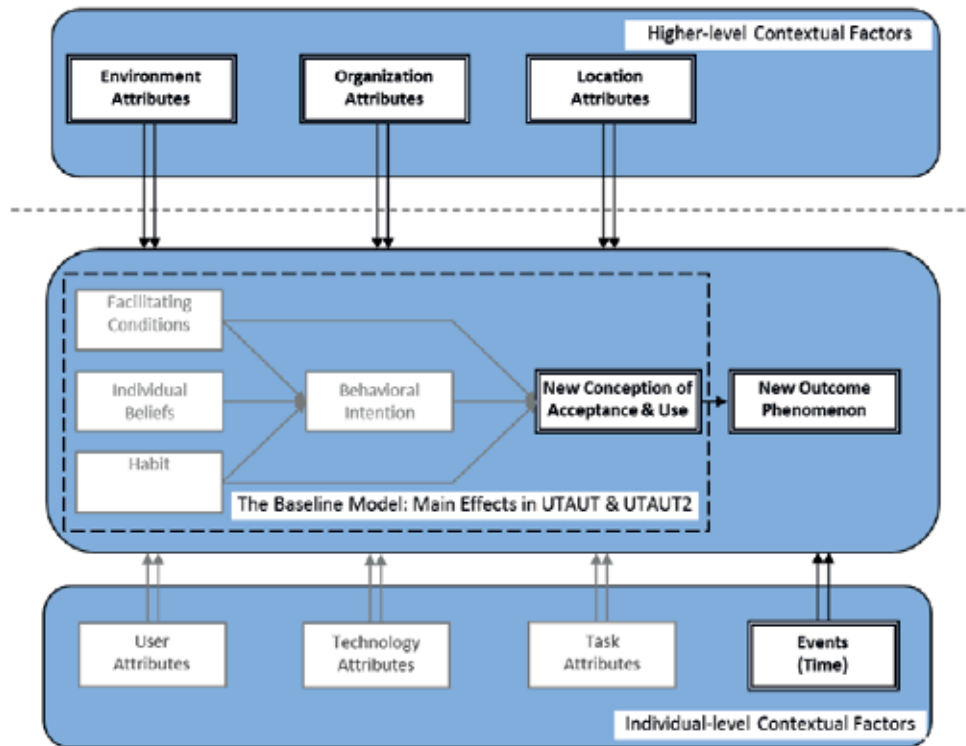


Source: Pick, James. and Sarkar, Avijit., 2016, January. Theories of the digital divide: Critical comparison. In *2016 49th Hawaii International Conference on System Sciences (HICSS)* (pp. 3888-3897). IEEE.

Diagram 3. The UTAUT Model.



Source: Venkatesh, Viswanath, Morris, Michael G., Davis, Gordon B., and Davis, Fred D., 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly*, pp.425-478.

Diagram 4. The Multi-level Framework of Technology Acceptance and Use.**Notes:**

1. Single arrows represent the main effects.
2. Double arrows represent the main effects or moderation effects of contextual factors.
3. Double-line boxes represent the important areas for future UTAUT extensions.

Source: Venkatesh, Viswanath, Thong, James Y. and Xu, Xin, 2016. Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the association for Information Systems*, 17(5), pp.328-376.

Therefore, the common dimensions emerged from these frameworks are consistent with the four main themes identified in the inductive analysis process. The *economic* theme captures both the socio-economic conditions of the individual, the cost and material of access, and other material or social resources. The *knowledge* dimension captures users' digital skills; it directly informs users' expected performance and expected ease of access. The *perception* dimension relates to the important psychological, belief, and motivational factors. And finally, the *infrastructural* dimension covers higher-level locational variation.

Main Themes of Barriers. The analysis of this data —inductively and deductively— supported the prioritization of four major themes of barriers to accessing the internet and technology as experienced by state residents who are part of the identified vulnerable groups. The following four themes, and subthemes (which were identified from the same data sources, using the deductive–inductive approach), aim to understand how each one influences their use of internet services:

1. Economic, regarding the role of their financial situation
 - Access to electronic devices (i.e. modem, laptop, smartphone)
 - Access to financial support (i.e. voucher, subsidy)
 - Access to free or subsidized training programs (i.e. on digital literacy)

2. Knowledge, on the role of their knowledge about computers and/or the internet
 - Access to training (i.e. on digital literacy, baseline knowledge)
 - Access to technical support (i.e. to solve hardware or software issues)
 - Access to advice on digital content (i.e. privacy protection, cybersecurity, accessibility)
 - Access to logistical support (i.e. childcare, elderly care, transportation, scheduling accommodations)
 - Access to language assistance
 - Access to accessibility assistance
3. Perceptions, about the role of their individual views
 - Trust
 - General awareness of the digital world
 - General awareness of their eligibility for internet access benefits
 - Cyber security concerns
 - Values regarding the internet and/or technology
4. Infrastructure, concerning the role of living in urban areas compared to living in other locations (i.e. less urban or more rural ones)
 - Service availability
 - Services reliability
 - Remoteness
 - Provider competition/choices

Methodology and Questionnaire Design. The analysis of this evidence led to the inductive–deductive approach that informed the development of methodology and questionnaire design. This is the basis of the overall focus group design, implementation, and analysis carried out by the UConn research team. Particularly, the questionnaire was structured around three main stages: first, to allow participants to freely and openly discuss any barriers they identified themselves without being directed by the UConn research team; second, after that stage, to guide participants toward a more specific and in-depth discussion of barriers if they did not already appear in the prior stage or if more details were needed of specific barriers, and; third, final thoughts about the barriers discussed or new ones, and solutions they would propose to address them (see Appendices A and B for sample focus group questionnaires with covered populations and frontline workers). This is in line with the literature on conducting focus groups (Cyr 2019).

Case Selection

The case selection process was critical to ensure that focus groups were held in locations that accurately represented larger community issues of the vulnerable populations identified for this study. This required an analysis of existing datasets, at the town level, to narrow down representative locations.

Dataset and Selection Criteria. For focus groups with the covered populations, material vulnerability is a cross-cutting characteristic used to select participants from most groups, since most barriers tend to be associated with this factor. Thus, a key selection criterion for participants was household income below 200% of the poverty threshold for the State of

Connecticut for a family of four, which is all households at or under \$60,000 annually taking into consideration that households still struggle to make ends meet at that income level.²

In that sense, using data from the CT Data Collaborative and the CT Broadband Mapping Hub, the UConn research team prepared a dataset with income, racial, and subscription rates by town. After arranging in order of median household income level, minority population, and subscription service issues, the UConn research team obtained a total of 14 towns below \$60,000 median annual household income. This approach allowed for capturing multiple material vulnerabilities, assuming households of three to four people (see Table 2). Rurality is not included in the dataset, but it can be obtained by selecting a town with the least number of households from this.

² US Department of Health and Human Services. 2023. HHS Poverty Guidelines for 2023. Obtained through: <https://aspe.hhs.gov/topics/poverty-economic-mobility/poverty-guidelines>.

Table 2. Case Selection Data to Identify Towns for Focus Groups

Town	Total Households	Median Household Income (2016-2020)	Race/Ethnicity						Broadband Availability and Adoption			
			Asian Alone	Black or African American Alone	Hispanic or Latino (of any race)	Some Other Race Alone	Two or More Races	White Alone	Minorities	No. of Households unserved, or no subscription	Total Households (Served, unserved, or no subscription)	Poor or no service (% of total households)
Hartford	47,722	36,154	2.50%	34.80%	44.70%	0.50%	2.50%	14.90%	82.00%	53,643	59,832	90%
Bridgeport	51,638	47,484	3.70%	31.80%	42%	0.80%	2.20%	19.30%	77.50%	23,617	64,171	37%
New Haven	49,051	44,507	5.10%	31.80%	30.80%	0.40%	2.50%	29.10%	67.70%	55,527	62,293	89%
East Hartford	18,874	59,954	3.70%	22.40%	38.20%	0.20%	2.60%	32.60%	64.30%	19,116	22,607	85%
Waterbury	42,135	46,329	1.70%	18.90%	36.60%	0.50%	3.30%	38.90%	57.20%	45,130	52,519	86%
New Britain	27,683	47,393	2.80%	11.70%	42.70%	0.20%	3.70%	38.80%	57.20%	29,826	33,560	89%
New London	10,991	47,424	2.40%	12.70%	33.50%	0.30%	4.80%	46.20%	48.60%	9,517	13,277	72%
Windham	8,939	42,909	1.50%	4.80%	41.50%	0.20%	1.50%	50.40%	47.80%	10,267	11,479	89%
Meriden	25,222	58,472	2.10%	8.20%	33.40%	0.10%	2.40%	53.50%	43.70%	21,821	27,885	78%
Ansonia	8,191	53,709	1.40%	12.20%	21.60%	0%	3.10%	61.70%	35.20%	6,682	8,723	77%
Norwich	16,382	57,565	7.20%	10%	15.80%	0.40%	4.50%	61.20%	33.00%	17,879	20,224	88%
Derby	5,740	58,534	1.60%	6.20%	21.20%	2%	1.70%	67.30%	29.00%	5,181	6,390	81%
Mansfield	5,798	50,492	11.60%	3.40%	5.20%	0.20%	1.10%	78.50%	20.20%	6,161	7,391	83%
Torrington	14,377	60,662	2.50%	3.10%	9.30%	0.20%	1.50%	83.30%	14.90%	5,963	18,835	32%

Sources: Prepared by the UConn research team. Data from the CT Data Collaborative and the CT Broadband Mapping Hub. List arranged by household income.

To recruit frontliner workers, email sign-up invitations were sent to library directors, case workers in CT Department of Developmental Services, Department of Social Services, and Department of Labor, by the Digital Equity Program team. The UConn research team then invited all of the respondents to participate in the focus groups, except for the public librarians. Since over ten public librarians initially signed up, the team prioritized and selected ten respondents from different locations.

Locations and Logistical Support. On the ground logistics are key for the implementation of focus groups (Kapiszewski et al. 2015). Therefore, an additional criterion was added once the dataset was prepared and the 14 potential towns were identified for focus groups with the covered populations. This involved the logistical support available to arrange the focus groups. It was critical to have local support with the registration and invitation of participants meeting the corresponding covered population characteristics as well as an available venue to hold a focus group session. This process required partners willing and able to collaborate with the research. Therefore, using the above-indicated dataset and case selection criteria, including logistical considerations as a criterion, the table below was prepared to identify the towns where focus group participants could be recruited from. The only exception was the focus groups with veterans, where the main criterion was the proximity to a military base or Veterans Affairs office.

Table 3. Focus Group Locations with Covered Populations

No.	Covered Population	Focus Group Location	Venue	Date	Time	Responsible for Logistics*
1	Racial or ethnic minority groups	Hartford	Public Library - Albany	05/20/2023	3-4:45pm	Digital Equity Program team
2	Aging populations (65+)	Meriden	Senior Center	05/22/2023	10:30am-12:15pm	Digital Equity Program team
3	People with disabilities	New London	Public Library	05/25/2023	2-3:45pm	Digital Equity Program team
4	Veterans	Old Lyme	Public Library	05/30/2023	11am-1pm	Digital Equity Program team
5	Individuals with language barriers	Hartford	Public Library – Park St.	05/31/2023	11:20-1:20pm	Digital Equity Program team
6	Rural area residents	Litchfield	EdAdvance	06/07/2023	11:10-1:10pm	Digital Equity Program team
7	Formerly Incarcerated People	Hartford	UConn Hartford	06/16/2023	12:30-2pm	UConn research team

Notes:

* Logistical aspects include: Identification of partner in location, venue, day and time of the event, and food catering.

Focus groups with the covered populations were held in the towns that were finally selected. Logistical aspects were coordinated by the Digital Equity Program team, with the exception of

the session with formerly incarcerated people, which was coordinated by the UConn research team.

Focus groups with frontline workers were all held virtually via WebEx. Cameras were not allowed to be turned on and participants were asked to display only their first names or pseudonyms. All options in WebEx for recording or saving information from the focus group sessions in this software were deactivated. All these measures were implemented to protect the privacy and confidentiality of all participants.

Table 4. Focus Group Locations with Frontline Workers

No.	Organization	Focus Group Location	Venue	Date	Time	Responsible for Logistics*
1	Academic librarians	Virtual	WebEx	05/30/2023	10am-11:30am	Digital Equity Program team UConn research team
2	Case workers	Virtual	WebEx	05/31/2023	10am-11:45am	Digital Equity Program team UConn research team
3	Digital Navigators	Virtual	WebEx	06/01/2023	10am-11:55am	Digital Equity Program team UConn research team
4	Public librarians	Virtual	WebEx	06/09/2023	10am-11:45am	Digital Equity Program team UConn research team

Participant Recruitment and Invitation Process

Registration. The Digital Equity Program team identified organizational partners in each location. These partners' support was critical to invite focus group participants who met the covered population characteristics. This included public libraries, state agencies, or nongovernmental organizations working with these groups. To have people register in the selected locations for the focus groups with the covered populations, flyers were posted in these organizations' buildings to invite participants to register. A sign-up list was provided to our partners, and potential participants wrote down their contact information. The UConn research team prepared sign-up documents for each focus group with a brief summary of the study. No other documentation will be provided at this stage. Participants were asked to sign up in the correct list, depending on which covered population they identified with. They also needed to live in the town where the focus group was held (except for those with aging populations, veterans, and people with disabilities).

For each focus group with frontline workers, the UConn research team prepared Qualtrics surveys for online sign-up. The surveys include a brief summary of the study and respondents were asked to provide the location or the department where they were working at.

Invitation and Focus Group Formation. The local partners directly sent the sign-up list of interested individuals to the UConn research team managing the focus groups. Partners on the ground were instructed to immediately discard any other copies held by other actors, following the IRB protocol approved by the University of Connecticut. No one else, including the Digital Equity Program team, was allowed access to the sign-up list to protect the privacy and confidentiality of participants. Thus, participants were invited directly by the UConn research team via phone calls to ensure privacy and confidentiality, per the approved IRB protocol. This means that the UConn research team was the only one handling personal information about invited participants. For the above reason, per UConn’s “IRB Responsibilities of Research Investigators” document, only the UConn research team participated in the focus group meetings.

Therefore, the UConn research team directly called participants from the sign-up lists. During each call, the team first reconfirmed whether participants belonged to the covered population they identified with. Then, a UConn research team member read the recruitment letter and consent form approved by the University of Connecticut’s IRB and provided an overview of the study. The team provided copies of these three documents to each participant agreeing to be part of a focus group in person, before any research-related activity was initiated. Between seven and ten participants were invited per focus group from the sign-up lists. Each individual was allowed to sign up for only one focus group during the study.

The UConn research team followed the same protocol to manage and to invite participants for the focus groups with frontline workers. The sign-up responses with personal information were only accessible by the UConn research team and the participants were invited directly by the UConn research team via email. In the invitation email, the team provided the recruitment letter, the consent form, and an overview of the study. Between four to ten participants were invited per focus group, depending on the number of responses.

Data Analysis

Coding. The data collected from the focus groups was analyzed using the four main themes of barriers as major coding categories. The coding used for the data analysis was further specified with the sub-themes of barriers indicated earlier, which were also identified from the same data sources using the deductive–inductive approach.

Analysis. The analysis was based on identifying patterns of barriers using the main themes across focus groups. It was separated in two parts: one, centered on general patterns across groups, and, another, concentrating on group-specific patterns. This allowed the separation of general trends common to all vulnerable populations studied from those that were more particular to a given group.

The analysis of *patterns across groups* looked at common threads of barriers that came up in most or all focus groups. This involved examining the depth, substance, and recurrence of these themes, and others brought up by participants, upon examination of the transcriptions. While the frequency of data is appropriate for quantitative methods, focus group data analysis entails analyzing the substance of the comments and dynamics within each session. Thus, while

recurrence or frequency was considered to analyze barrier patterns, especially across focus groups, the depth of the discussion was equally relevant for the analysis. Moreover, given the small number of focus groups, it was decided that to produce a richer analysis it was necessary to focus on how substantive the comments and discussion were, across focus groups, to properly reflect the importance of a barrier.

The analysis of *group-specific patterns* examined themes of barriers that were discussed only or mostly within a particular focus group.

III. REPORT #1: *COVERED POPULATIONS*

A. COMMON PATTERNS ACROSS GROUPS

Barriers: Patterns across Covered Populations

The barriers identified were strongly suggested across the following vulnerable groups: minorities, the elderly, people with language barriers, people with disabilities, the formerly incarcerated, and rural area residents. However, intersectionality is critical, and the combination of these characteristics in individuals further exacerbates their vulnerabilities and barriers to accessing the internet and technology. Thus, while focus groups were carried out separately based on these traits, members had intersecting or multiple such features that shaped their individual experiences with digital literacy and digital barriers. To further clarify this analysis, it is important to note that the words “barriers” and “issues” are generally used interchangeably in this section, depending on the context of the analysis. However, the word “barriers” is used in this study to refer to the four main themes of barriers, and their subthemes.

1. Cost as a Barrier:

The primary focus of the discussions centers around the significant challenges posed by the cost of internet services, which acts as a formidable barrier to widespread usage. The high expenses associated with both internet services and bundled packages are highlighted, particularly impacting individuals with limited income. The issue of affordability is a major concern, with participants from these groups emphasizing the need for more accessible options, government initiatives based on income and age, and free or subsidized programs to ensure equitable access to internet services for all demographics. Moreover, the participants from these groups underscore the intricate interplay between economic circumstances and internet accessibility, noting that the cost of services, especially when coupled with cable packages, significantly restricts access. “The cost of service keeps spiraling because they know that people want it,” indicated a participant (FG1-Covered Populations, 16:02).

This context prompts a call for affordable alternatives and comprehensive governmental measures to ensure that individuals with limited financial resources and other vulnerabilities can enjoy internet connectivity. Related to this problem, a participant explained: “when you have to balance buying food things with that, you know, that's, that's not comparable, you know. Also have— being able to afford to buy a computer” (FG1-Covered Populations, 16:57). Another one argued: “Because if you can't pay your rent and other more important things, the internet goes to a third level. Yes, of course, you can't cut basic expenses, [which means] you won't be able to have internet” (FG5-Covered Populations, 58:40). This especially includes vulnerable groups such as minorities, the elderly, people with language barriers, people with disabilities, the formerly incarcerated, and rural area residents. For people with disabilities, the added cost of specialized software is a barrier:

“With fixed incomes and all these expenses that you have to incur. So there is also a financial aspect of connecting to the Internet itself, not only acquiring the software, but, you know, getting access to it” (FG3-Covered Populations, 26:21).

“And that's another thing that's very costly, which is software. And then you gotta sign up for it, update it every year” (FG3-Covered Populations, 22:36).

Unequal access and distribution of internet services based on geographic location and income level emerge as another pivotal concern. Disparities are evident in certain regions, where limited options or blocked access to specific internet providers further entrench inequalities. “You know, right now, if you live in certain areas because the price, the privatization of the Internet, in these companies. If you live in the South end of Hartford, you can't get certain Internet ... because, they cut it up into pieces ... And the price is sky high,” a participant argued (FG1-Covered Populations, 37:02-37:43).

Participants from these groups advocate for universal access and competitive pricing regardless of income or location, challenging the perception that particular neighborhoods receive preferential treatment in terms of affordability and access. This exacerbation of existing inequalities reinforces participants' conviction that addressing these disparities is essential for promoting equal opportunities and bridging the digital divide affecting the indicated vulnerable groups.

Additionally, income-based disparities are noted as influential factors, with a recognition that middle-income individuals from these groups often struggle to access assistance despite programs and discounts that do exist for low-income households. Some comments from participants exemplify this issue:

“These federal programs reach too low on income. And myself, like a lot of people, collect Social Security, it's living wage, I mean, with Social Security, you collect money aside, but the fact is, the Social Security, the amount you get from Social Security, actually puts you above the line to qualify for these programs” (FG2-Covered Populations, 31:12).

“... I think a lot of us get stuck in this particular scenario. We're not rich enough and we're not poor, you know? ... So the people are in the middle, middle class qualified for nothing. Nothing, nothing ... So because we are not poor enough, we don't get any of those services, it's always like, oh, you're \$10 over. ... But it's always income-driven... Your needs are the same, but because you decide that you're going to, you know, you're making a little bit too much, but you still struggle. You know what I mean? You still need these services, but you're not qualified for those services ... We are always left behind” (FG1-Covered Populations, 30:03-30:32).

These economic factors underscore the complexity of internet accessibility, reflecting the multifaceted challenges faced by different socioeconomic groups in their pursuit of reliable connectivity.

2. Limited Options and Service Quality:

Another central issue discussed is the limitations in available options for internet service providers and the dissatisfaction stemming from the quality of service provided, as suggested by participants from vulnerable groups such as minorities, the elderly, people with language

barriers, people with disabilities, the formerly incarcerated, and rural area residents. Participants from these groups emphasize that the scarcity of choices and subpar service quality act as significant barriers. The frustration voiced by participants from these groups stems from the incongruence between the high costs of internet services and the comparatively slower speeds they experience. A participant explained:

“... it's just ridiculous. So I got rid of cable companies years ago, and I just get Internet and the Internet, I'll just call their name out, Xfinity. They want 76, to, 80 something dollars a month just for Internet ... And it's supposed to be — it's the slowest Internet service that they got. For 76 to 80 something dollar Internet” (FG1-Covered Populations, 26:49).

They stress the importance of having more affordable and dependable options that would enable them to access the internet efficiently. The challenges related to internet speed and connectivity further compound these concerns, as participants recount difficulties in loading websites, streaming videos, and accessing online content due to buffering problems and intermittent connectivity issues. The implication here is that suboptimal internet performance hampers their ability to effectively utilize online resources. A frustrated participant said:

“This is why I'm here today. And please, somebody do something about the internet here. Not just for my students, my own family, for my own children. Something has to change ... With five people on it, you're correct. You just. You can't get on it ... we're so dependent on it ... my children to go to public school and [will] not be able to pass their grades or not be able to pass if we do not have internet” (FG6-Covered Populations, 1:05:04-1:06:45).

The ACP's quality is very poor and does not help vulnerable groups' adequate use of the internet for jobs and school, as indicated by several participants from the aging population, people with disabilities, rural area residents, minorities and people with language barriers. Transitional centers for the formerly incarcerated also struggle with internet speed and connectivity problems and high costs to provide services to participants of their programs.

The overarching theme of affordability resurfaces as participants from these groups express apprehensions regarding the cost of internet services. The perceived misleading nature of price plans offered by internet service providers, with higher-speed options turning out to be more expensive than expected, adds to their frustration. Changing plan prices without proper notice is also indicated as a barrier and source of distrust toward internet service providers. This financial strain becomes a significant obstacle to accessing reliable and high-speed internet connections, limiting their overall internet usage and potentially hindering their ability to stay connected and informed.

Another dimension of this affordability concern is the geographical access disparity between urban and less urban or rural areas. Participants from the indicated vulnerable groups highlight that living in urban regions generally affords easier access to the internet due to the presence of cell phone towers and better connectivity infrastructure. However, many parts of Hartford with significant numbers racial/ethnic low-income minority residents, in addition to those with

language barriers, do not have enough providers (only one or two), affordable plans, and high-quality access — likely due to a lack of competition or disregard for these communities. One participant’s comment illustrates this problem:

“Where do you think they’re putting the cheaper prices in, what area you think they put in the prices? Not our area. The area where people got money to pay. That’s where they put in the cheaper prices. But in the area that people cannot afford to pay, the price is sky high because of Cox, because we live on the south end. And so we’re very close to Wethersfield. And so we, I called, because I shop around to see what you’d like me to and Cox is so cheap. But I can’t get it. I’m only offered like say \$100 something or \$100 for basic cable. 100 for Internet” (FG1-Covered Populations, 38:10).

Moreover, concerns arise about the restricted availability and slower internet speeds in rural areas, indicating a disparity in access opportunities based on location. Service provision by internet companies to solve customers’ connectivity problems in rural areas is a constant, having them wait for several days until rural households can get back online, only to receive poor-quality internet again. A participant argued:

“So although I was going to add, I forgot to mention that our Internet providers, they don’t really have competition. So it’s funny, I mentioned when our IT guy came for his three-hour drive, he couldn’t complete the job because he was new. And he told me that the way their company worked is new guys would get the night shift and all the pros, they have years of experience, they get the day shifts. So we got someone with almost no experience to know what to do. So it’s also the thing, you know, the fact that these Internet providers see that there’s no competition, they feel like they don’t have to give you the best, most care, you know” (FG6-Covered Populations, 37:01).

This spatial discrepancy further underlines the complexities of ensuring equitable internet accessibility for all individuals, regardless of their geographic circumstances.

3. Lack of Knowledge and Skills:

The discussions highlight several critical barriers revolving around the lack of knowledge and skills, ultimately hindering effective internet usage for vulnerable segments of the population, such as minorities, the elderly, people with language barriers, people with disabilities, the formerly incarcerated, and rural area residents. Participants from these groups express challenges in navigating the online landscape, understanding processes, and finding necessary information. The generational gap surfaces as a factor, with younger individuals exhibiting greater comfort due to their exposure to technology from an early age, compared to older generations who grapple with unfamiliarity (many times including those above 40 years old, so relatively not old enough). The following statements illustrate this situation:

“So if you don’t really have the knowledge, and I’m talking about, some people that are older, they just press that thing that says get your messages. They use their phone only to talk” (FG1-Covered Populations, 55:30).

“... Too bad it wasn't just like television of old, you know, you just go in and turn it on. Like, why couldn't it be? Because it's so complicated. If a television came into my house, I wouldn't know how to hook it up. Then you gotta do this and that. Now somebody else has to do it. A professional has, a technician has to do it. You can't do it” (FG2-Covered Populations, 35:03).

“Technology is difficult for older people. They do not know, for it is more difficult. And I... And I understand why it's like you're learning something new and all new learning is difficult and takes time. Now with you you acquire the skill. You say no, I do this job in one hour, the one who doesn't know it does it in five hours, he wants to tell me. That there is an efficiency. When you have knowledge of something, you don't ... it makes it more effective. And in our case it is the computer, plus the language” (FG5-Covered Populations, 1:05:24-1:06:01).

Recognizing the importance of building digital literacy, participants from these groups stress the need for educational programs that cover internet navigation, basic computer skills, and smartphone usage, with libraries and community centers seen as valuable hubs for such training.

Poor instruction or guidance emerges as a critical issue, emphasizing the need for skilled and empathetic instructors who can cater to diverse knowledge levels and disabilities. A participant's observation exemplifies this problem:

“[T]echnology is so advanced that you talk to anyone and anyone pretends or assumes that you are going at the same level or at the same [fast] pace that there is in life, and not all of us are going at the same pace ... [They speak] to me like I'm speaking in another language ... But I think that what happens [is that] sometimes it's like people believe that the whole world keeps pace with technology, with technological knowledge, and it's not like that” (FG5-Covered Populations, 25:27-26:48).

The importance of patient and knowledgeable support personnel is emphasized to offer assistance for technical challenges and ensure step-by-step guidance. A central concern is access to appropriate assistance and support when encountering technical difficulties, where the presence of patient and knowledgeable individuals is crucial. They need someone that “can guide [us] with a little patience ... and in the language ...” (FG5-Covered Populations, 1:06:48). The following comment further illustrates participants' experiences:

“... since we're at level zero, we need ... once a week, of course, until we have a level one or two, or create a program like ... in the English classes that are given in the other places in the libraries, which are two or three times a week during the week. The same should be something like that for that type of computing, for people who ... don't know anything, the truth because we have knowledge, but it's very little for specific topics” (FG5-Covered Populations, 31:28-31:57).

Despite the value of training programs to enhance digital literacy and internet usage, their limited availability and inadequate advertisement, coupled with scheduling conflicts, can thwart

participation and learning opportunities. Participants emphasize the significance of accessibility and accommodations, particularly for individuals with disabilities, highlighting the need to address logistical barriers and ensure equal access to training and internet-related services. The lack of transportation to libraries or community centers for training programs is also a barrier to the aging population and people with disabilities, more so if living in rural areas. “Definitely would need transportation, transportation [to get to training],” said a participant (FG2-Covered Populations, 44:26). Another statement further clarifies additional issues for training:

“Transportation, right, if you stop driving because you can't see, and then you need a ride ... Yeah. You know. It's a whole nother hour. Two hours ... We have a, we have volunteer drivers. We have public transportation, seat bus that drops them off about a block away or so. And then we have ADA paratransit that will pick you up at your door and bring you right to the center. But you have to be within their range of driving” (FG3-Covered Populations, 28:41-28:55).

Frustration arises due to a lack of awareness about programs and resources that could alleviate the affordability of internet services. Concerns are raised regarding the lack of information dissemination about programs and resources that could alleviate affordability issues associated with internet services, such as for receiving information or applying to subsidized programs for internet access or training. The reliance on word of mouth is deemed unreliable and limited, only benefiting those most connected or in community leadership positions. Participants thus highlight the need for better information dissemination through various channels, including schools, libraries, advertisements, and public transportation, to ensure that individuals are aware of available support. Door-to-door visits could also help improve the dissemination of these programs.

Moreover, the generational gap is identified as a barrier to internet usage, necessitating tailored training programs to bridge the technological divide between different age groups. The need for training sessions to teach internet navigation, device handling, and technical troubleshooting is stressed, with an emphasis on accessible and convenient training opportunities. Older individuals, especially those with disabilities, are highlighted as facing significant challenges due to a lack of familiarity with technology, and the discussions emphasize the need for technical training and education programs to empower them. Patient, adequately trained instructors that can work at the pace of these groups—and understand the specific challenges of the aging population, people with disabilities or language barriers—are critical. Various barriers such as language limitations, childcare, fear of seeking help, and varied learning styles further contribute to the challenges faced by individuals aiming to overcome the barriers posed by limited knowledge and skills in utilizing the internet effectively.

The levels of anxiety, feelings of exclusion, and diminished self-confidence of the indicated vulnerable groups from the lack of digital literacy are very high, further exacerbating their socioeconomic vulnerabilities. One comment from a participant exemplifies the role of fear:

“[I have] [f]ear of damaging the equipment. I think that was it ... Something that one had and well, and I still believe that I still have [is] that fear and I get in front of the computer and when I click on something, oh, my God, what did I do here? Oops, I did

this. No, no, no, it had to be fear ... Afraid of technology? Yes ...” (FG5-Covered Populations, 50:26-50:42).

Minorities, the elderly, people with language barriers, people with disabilities, the formerly incarcerated, and rural area residents placed significant emphasis on this issue.

4. Fear of Privacy and Personal Information:

The discussions highlight a pervasive fear of privacy and personal information as a significant barrier to effective internet usage. Participants express apprehensions regarding the amount of personal data available online and the potential risks associated with its misuse. These concerns extend to online security, with worries about devices being hacked, IP addresses being tracked, and personal information being collected and misused. “The greatest problem is security. You can get devices and people can pick up your signal through IP addresses. You know, that's a big problem,” stated a participant (FG2-Covered Populations, 16:58). The lack of trust in the security of internet services emerges as a critical issue, prompting the need for guidance on security measures to protect personal information.

The complexities of the digital world, including the fear of making mistakes or not knowing how to navigate it effectively, hinder individuals from fully engaging with online services. Moreover, difficulties with software updates, technical challenges, and concerns about the authenticity and security of websites contribute to the overall fear and apprehension experienced by users. Issues of distrust and fear were particularly expressed by vulnerable groups such as minorities, the elderly, people with language barriers, people with disabilities, the formerly incarcerated, and rural area residents. A participant stated: “But what the vast majority here are saying, and I also include myself, is the fear that we are [being hacked] a lot for access, how they have it” (FG5-Covered Populations, 50:42).

The conversations underscore the importance of privacy and cybersecurity in the digital landscape. Participants express a prevailing sentiment that privacy is scarce online, leading to heightened concerns about the handling of personal information. This lack of trust in the security of internet services has significant implications for users’ confidence and engagement in utilizing online platforms and resources. Limited knowledge and awareness about internet usage and security compound these fears, highlighting the need for comprehensive education and guidance on safe online practices. “A lot of people, too, you know, with the fear of technology or the lack of knowing technology dissuades them from using it ... You know, so there's not only knowledge but also service distrust to word what's going on online,” explain a participant (FG6-Covered Populations, 1:10:26-1:11:03).

The discussions emphasize the critical role of trust and confidence in fostering a positive online experience, prompting a call for more reliable and trustworthy platforms and services that can alleviate these fears and encourage greater participation in the digital realm.

Solutions: Proposed by Covered Populations

1. Addressing economic barriers:

The solutions proposed by participants center around addressing the economic barriers to internet access and affordability. The expansion of government programs targeting low-income individuals is a recurring suggestion. Participants advocate for raising income thresholds to include more people, thereby widening the scope of those who can benefit from free or subsidized internet services. Middle-income households also struggle financially, participants strongly indicated. "... I think a lot of us get stuck in this particular scenario. We're not we're not rich enough and we're not poor, you know? ... It's still necessary to be able to get some help," explained some participants (FG1-Covered Populations, 30:03-30:26). This expansion would ensure that a wider range of people can benefit from government assistance, enabling them to afford internet services and bridge the digital divide.

Another important solution proposed is the provision of financial relief and subsidies. Participants stress the importance of measures that alleviate the financial burden of internet access. They believe that offering financial support, in the form of subsidies, discounts, or training programs, would significantly contribute to making internet services more affordable and accessible to everyone. This approach aligns with the idea that high-quality internet should be treated as a basic public service, akin to education and healthcare, highlighting the essential role of internet connectivity in modern life. Some participants indicated:

"I think free quality Internet, right? Everything else will sort itself out, right? Right. Why buy it? Why even attempt to find a way to get a laptop or a Chromebook or anything if now you can't afford the extra bill at home. So that's never going to happen. But if there is free quality internet for everybody. And it's like my dream to have healthcare. Yeah, right. I think that would change everything ... I think that students are not going to bother to buy something that they are not going to be able to connect to at home anyhow. And so not only do you have the affordability of the item, you're going to have this additional bill each month that is cosmetic" (FG6-Covered Populations, 1:04:06).

"[H]aving free internet, [or] at least to have a phone, you know, something less expensive than the one that we have now. And we know that we have that situation because we don't have competition. But maybe working with this company and making them be reasonable about their prices and knowing, and I know there's money for everything in the world, so why not get money and have something, you know, give grants to these companies so they can lower their prices to customers? Even if we had free internet or even a portable, it would still have to be available in all areas at like a high quality that's reliable" (FG6-Covered Populations, 1:08:55).

Streamlining the application process for support programs and leveraging existing data from tax returns to prioritize those in need is proposed to facilitate quicker and more efficient access to financial assistance and accessibility services. Some participants discussed the following on the application to the Affordable Connectivity Program (ACP):

“[T]hey're offering this program to help with the internet ... Everything was online ... and there's nothing clear on how to finish or do the application ... I like it better in English because I'm Hispanic and all that, but since there are words that change in Spanish, it's not understandable. I don't understand them ... because I am Puerto Rican and I know people from Mexico and other countries who interpret things differently ... it was still difficult. But I wonder why they offer this if a lot of people won't be able to fill it [out] ... In other words, improve access to that application” (FG5-Covered Populations, 1:00:23-1:01:29).

“The problem with that program is that the threshold for income is too low ... for some people, when you collect Social Security, it takes, our Social Security takes us over that threshold. One dollar will take you over” (FG2-Covered Populations, 30:18-30:30).

Improving customer support and technician services —particularly tailored to the aging population, people with disabilities or language barriers— is another recommended solution. Participants emphasized the need for affordable or free technical assistance, especially for equipment failures or technical issues. Some participants’ comments exemplify the technical support needs:

“[L]uckily, you know, I have ... children who are adults now I can call on now for their help. And, you know, being that I don't have much vision left they will come over and hook that up. But they are also very, very busy. So, yeah. My husband does not do technology. So you have to have somebody who understands the, the barriers of not being able to see, and teach me how to put accessibility on my phone at a level that I can be comfortable and listen to and retain it and keep moving on. That’s what I’d like to say” (FG3-Covered Populations, 08:55).

“I have an iPad at home that somebody just got me for Christmas and we have not had a chance to really set it up. So it's still sitting there ... It connected to the Internet. But I don't have the contrast app on it to where I can visually work with it. So I just haven't done anything really at home ... I'm going to put a plug in the Center for the Blind because they have support groups there. So somebody that comes in who is, I think is legally blind and helps us with our iPhones. And he's, he's a big techie guy. So there's that kind of support in the Center, which is helpful” (FG3-Covered Populations, 09:49-10:25).

“[I]t's hard for a sighted person to train you how to use [software on phones if you are blind] ... They need to know the software in order to teach you” (FG3-Covered Populations, 13:38-14:01).

Service providers should offer free or more affordable support for equipment failures and technical issues. By addressing these barriers, individuals, especially seniors and those with limited technical expertise, would have access to reliable support systems, making internet usage more seamless and user-friendly.

The affordability of devices is another key concern, and participants suggest various approaches. Making mobile phones more affordable, providing affordable laptops or computers with enhanced functionality, and offering devices that cater to specific needs (such as tablets with attached keyboards) are highlighted as potential solutions. Participants highlight as critical the provision of laptops or computers instead of basic phones or tablets, which might not fully meet the needs of users engaging in tasks like applying for jobs, typing documents for work, attending online classes or doing homework. Some participants discussed the following:

“This program is supposed to give you access to the internet and the device, right? Yeah, and even then, it's not the proper one to be able to work. So, you know, to do whatever you need to find a job or go to school or... and tablets... I mean, it's better than nothing, but I'd rather have a computer that can actually type documents instead of a tablet. I never learned to use my thumbs fast like kids do anyway. But the tablets, it's hard anyway. It's kind of awkward. It's not easy to use. And it doesn't have the capabilities of computers, though” (FG6-Covered Populations, 56:19-56:42).

“[My students] cannot afford not to get [a laptop]. So we were buying Chromebooks because Chromebooks are less expensive than buying laptops. Yeah, and I figure Chromebooks, between \$200, you know, tops \$300, laptops are going to be \$800. But if you don't have a stable internet connection, a Chromebook is pretty much worthless because it relies on being able to connect to the internet in order to access the information. So, you know, we would issue Chromebooks to some of our key students to take home, and then they'd say, ‘Why can't we sit at home?’ Because my internet's not enough. So we try to save money and buy more. We can get a lot more Chromebooks, but if you can't use them, you might as well buy a few less laptops. You have a better chance of being able to actually use them for something” (FG6-Covered Populations, 58:00).

They emphasize the importance of ensuring that the provided devices match the intended tasks, thereby enhancing the overall usability and benefits of internet access. The idea of government subsidies for internet access and devices came up as a popular recommendation, as participants believe it could help bridge the digital divide and ensure equitable access for all members of the community.

The discussions also underscore the importance of government involvement, funding, and regulation in implementing these solutions. Participants suggest that the government should allocate resources, regulate internet service providers, and collaborate with community centers and libraries to ensure that necessary resources are accessible to all individuals. They propose that high-quality internet should be treated as a fundamental public service, much like education or healthcare. The overarching goal is to create a more inclusive digital environment by addressing financial barriers and ensuring that everyone has access to reliable, high-quality, and affordable internet services, thereby promoting equal opportunities and digital equity.

2. Expanding options for affordable and accessible internet services:

The proposed solutions focus on expanding options for affordable and accessible internet services, aiming to overcome the economic barriers that hinder internet access for various populations. The solutions are multi-faceted and address various aspects of affordability, availability, technology, regulation, and service quality. Lowering the cost of internet services is a recurring theme, with participants suggesting reduced pricing or even free internet for all individuals, regardless of income. Free, high-quality internet for all was suggested several times by participants, due to the public nature of this service and its exceeding benefits to the economy and well-being of communities. Some comments from participants exemplify this point:

“Lower the price, or give free Internet for everybody. How about that? Because the kids need it. We need it. They know this is how the world was run. So why charge for it at all?” (FG1-Covered Populations, 33:18).

“Well, what they should do is not base it on your income. Because everybody’s income, as you say, actually fluctuates. Yeah. And because we all have different incomes, but we all need the same service. Just give it to all of us for \$10. I’d be grateful. Because y’all making it mandated when we need it. So make it mandated where we can pay for it. You know, because, we’re at \$1,800 in the north end of Hartford where you find \$10 to get an Internet. Let’s be real. And they’re going up work. So if you give us a \$1800 rent and \$130 Internet. Somebody’s going to get cheated” (FG1-Covered Populations, 33:37).

Thus, participants advocated for the establishment of a basic, affordable internet service that would ensure access to essential activities like education, communication, and accessing critical services. Addressing disparities in internet availability, exploring alternative service providers, and utilizing mobile devices as an alternative means of connectivity are also proposed to enhance accessibility. Exploring alternative service providers is key to offering lower-cost options, such as wireless providers and government-subsidized programs. “There’s a single cable provider. So if you’re going to use it, that’s the one you’re going to use ... And for an Internet, the same in the same company. That is a big problem because a lot of places, you want to have one or maybe two options for a provider for Internet,” highlighted some participants illustrating concerns across other participants and focus groups (FG6-Covered Populations, 30:04-30:33).

To improve affordability and accessibility, participants emphasize the need for government involvement and funding. They suggest leveraging existing government programs, subsidies, or discounts to make internet services more affordable, especially for vulnerable groups. Simplifying the technology setup process, enhancing internet speed and reliability, and increasing competition among internet service providers are highlighted as strategies to create a more user-friendly and competitive environment that benefits consumers. Some participants’ comments illustrate further these solutions:

“Yeah, they don’t have any competition” (FG6-Covered Populations, 34:29).

“[A]n à la carte menu where users can choose their desired channels and services. This would create more competition among providers and potentially lower prices.

For example, if you could choose Cox Cable, it would force other providers to be more competitive. Right now, you have limited options based on where you live, and providers can charge whatever they want because you have no other choice. So, I believe customization and competition would improve the situation” (FG4-Covered Populations, 54:13).

“[T]he location and competition between providers can affect costs, service quality, and accessibility” (FG4-Covered Populations, 1:25:46).

Furthermore, participants underscore the importance of government regulation to ensure consistent pricing structures and quality of service across providers. Participants indicate that government should play an active role in regulating internet service providers, ensuring consistent pricing structures, and collaborating with community centers and libraries to provide necessary resources and support. The need for government intervention is highlighted as a means to address the lack of competition among internet service providers, which has been identified as a barrier to affordability and service quality that is particularly affecting vulnerable communities. The following comment exemplifies this proposition:

“The fact that it's so Unregulated, and the Internet providers can change their cost and billing structure with no input from anyone. It's an inhibitor for a lot of people who can't afford \$86 a month or more. I think the Internet is such a utility now that it should be regulated, like the electric utility in this state. Maybe it's not a good example, but it should be regulated so that there's consistency in the support or service you get, regardless of your service provider ... the costs and the service ... The Internet is now a utility, and I believe it should be treated as such, with regulations and consistent pricing structures. It's difficult to figure out what you're getting in terms of speed and service offerings because companies' pricing structures are creative and complex” (FG4-Covered Populations, 46:57-47:25).

Participants also emphasized the need to invest in infrastructure, especially in rural and low-income urban areas, to expand internet coverage and improve connectivity. This includes installing additional cell towers and fiber optic cables to address signal inconsistencies and coverage gaps. “It's important for internet and cell phone providers to understand the significance of providing coverage and access to information,” noted a participant (FG6-Covered Populations, 1:33:57). The discussion further highlights the significance of reliable internet access during emergencies and underscores the importance of equitable distribution of infrastructure to ensure fair and equal access to internet services for all individuals, regardless of their location or socioeconomic status. Another comment reveals the relevance of addressing these needs:

“It's crucial to know where you can get a signal. In emergencies, when there's no contact, it becomes a problem. I once tried to call a friend while driving on Route 8, and the signal was inconsistent. It's challenging because my area, despite being marked as urban, feels rural in terms of internet connectivity. Our service is often unreliable, causing problems for people's daily lives” (FG6-Covered Populations, 1:30:39).

Strict government supervision of internet quality and the resolution of household connectivity issues reported to internet providers were regarded as essential by participants from the indicated vulnerable groups.

3. Enhancing digital literacy and knowledge:

The participants in the discussion offer a comprehensive range of solutions aimed at enhancing digital literacy and knowledge, addressing the barrier of inadequate familiarity with technology. These solutions highlight the need for accessible education and support programs tailored to various skill levels and age groups, as well as utilizing community resources and centers to bridge the knowledge gap. The following discussions from participants suggested this:

“My key to me, the internet, and the computer. I'm a learner. I love to learn. Because it helps me to improve who I am. I come to the library. They have classes here ... Because I like to learn. So to keep up with what's going on with the Internet, I come to the library” (FG1-Covered Populations, 24:27).

“I think there just need to be like, more classes for everybody. Young people, old people, at different times. Because everybody's not on the same schedule. And people work at night, so people work at day. You know, I just think if we have more classes at different times, that can make it available for people” (FG1-Covered Populations, 1:03:24).

“Maybe to learn more [about the internet and technology]. Because there are those of us who don't know how to write ... We have to learn how to use it” (FG2-Covered Populations, 1:02:25-1:02:37).

“So, at the Center of the Blind, I have to find somebody here that's blind and, you know, that can teach me how to do Jaws, the keyboard, and everything like that. And again, as you get older, things get a little bit more intimidating, the change in everything. So whoever is going to work with me need to know what they're doing, so that way I'm comfortable” (FG3-Covered Populations, 21:43).

“I just want to mention that the population I work with relies on the internet to apply for jobs. Some of them, like people who were formerly incarcerated, didn't have internet access while in prison. After they are released, they have to go to the library to apply for jobs and such” (FG6-Covered Populations, 08:04).

“For older adults, one potential solution could be establishing elderly housing sites with internet access ... It's worth exploring if there are ways to provide support and information through existing organizations like senior centers, churches, and adult education programs. This way, people can connect to a sustainable system they trust and rely on, knowing that support will be available in the long run” (FG6-Covered Populations, 1:35:43).

A central solution proposed is the implementation of computer and internet literacy programs. Participants emphasized the value of providing training that covers fundamental computer skills and effective internet navigation. These programs could empower individuals with the knowledge needed to confidently and proficiently use technology. The idea of offering free or subsidized digital literacy programs is emphasized, with suggestions for these programs to be conducted at community centers, libraries, reentry or transitional housing programs, and other accessible venues. A participant indicated the following:

“Training programs to use, using the internet or anything free helps. Especially when you, you know, you're between jobs or if you're struggling, you know, you're trying to see if you're going to put food on the table” (FG1-Covered Populations, 39:39).

“Last year there was a program called [Entrepreneurial Women] and I practically worked with that group and here in the library I met a lot of people from the community and it was to give these art classes, art, these crafts in general and artistic things like painting, this, and there was also computing ... but that the community was getting closer. There was a job behind that, calling people, having a sequence today the percentage of people will come. The attendance was very good, but it was practically the whole year. And it was very [good], really, that there was a very nice turnout. This year many people have asked and have approached” (FG5-Covered Populations, 1:10:17-1:10:53).

“[O]ffering classes that cover basic computer skills, not just learning specific programs like Microsoft Office. Many individuals, including younger ones, lack fundamental knowledge about using computers and navigating the online world. It's important to teach them the basics, like understanding that signing into a website is similar to visiting a physical location. We shouldn't assume that everyone is already familiar with these concepts. The push towards online activities should also consider monitoring one's health” (FG6-Covered Populations, 1:37:21).

To ensure that individuals receive appropriate assistance and support, participants highlight the importance of accessible technical help. They advocate for patient and knowledgeable individuals who can guide users through step-by-step processes, whether those are family members, younger generations, or trained professionals. Moreover, participants recognize that the generational gap can be a barrier, especially for older individuals. Tailored training programs designed to bridge this gap are suggested, ensuring that older generations can effectively utilize internet services by providing them with age-appropriate guidance.

The discussion underlines the significance of utilizing community resources, such as libraries and community centers (or reentry programs for the formerly incarcerated), to address the knowledge barrier. These institutions are seen as valuable hubs for providing access to technology, internet services, and educational programs. Participants propose the integration of digital literacy training within these community spaces, thereby offering a supportive environment for individuals to enhance their digital skills. Additionally, participants stress the importance of increasing awareness about available programs and resources. Effective communication through multiple channels, such as social media, community centers, schools,

and local newspapers, is recommended to ensure that individuals are informed about opportunities for improving their digital literacy.

Therefore, the proposed solutions focus on empowering individuals with digital skills and knowledge through accessible education, tailored assistance, and effective utilization of community resources. By addressing the barrier of limited familiarity with technology, these solutions aim to ensure that all members of society can confidently and competently navigate the digital landscape. Overall, it is critical that training programs are designed to cater to the varying levels of technological proficiency and challenges faced by the indicated vulnerable groups.

4. Improve security measures:

The solutions proposed to improve security measures in the context of internet usage primarily focus on enhancing user privacy, preventing unauthorized access, and educating individuals about security risks. Participants emphasized the importance of software updates and user experience, suggesting that clearer instructions and support for software updates are essential to ensure that users understand and can implement necessary security measures. They also expressed concerns about data privacy and transparency, urging companies to provide clearer information about data collection and usage. Participants highlighted the need for education and training on cybersecurity, specifically tailored to aging populations, to equip them with the knowledge and skills to protect their personal information online. Some participants suggested:

“It's about being mistrustful of the information source and delivery method. During the Covid pandemic, we worked with trusted agencies that the community relied on, rather than relying solely on government information that some people are suspicious of. This is especially important for undocumented individuals in our community who have to be cautious due to their immigration status ... Even older adults have trust issues with signing up for things online. Scams are a significant concern” (FG6-Covered Populations, 1:25:15-1:26:10).

To address privacy and security concerns, participants discussed the significance of receiving advice and guidance on security measures. While they didn't provide specific solutions, they largely emphasized the value of being informed about how to protect personal information, avoid cyber threats, and maintain a secure online presence. The participants suggested implementing cybersecurity measures to safeguard personal information, including using secure connections, being cautious about sharing sensitive data online, and avoiding storing critical information on digital platforms. They also recommended maintaining separate paper calendars as a precautionary measure, underlining the importance of having offline backups to mitigate potential digital risks.

The conversation highlighted the need to design software and websites with user-friendliness in mind, particularly for individuals with varying levels of technological proficiency. Making digital tools and platforms more accessible and intuitive can help users navigate security settings and privacy controls more effectively. A participant indicated the following: “Using the devices, providing help, buying expensive software sets, accessibility software, you know, people that need it. I think we should get, we should have the same services that the K through 12 kids get, you know, so that we have access, too” (FG3-Covered Populations, 08:35).

Furthermore, the participants emphasized the importance of providing better training and education on technology, especially for those who feel intimidated by or lack knowledge about internet usage. Some participant shared the following:

“My fiancé gets super nervous whenever there's a new button or option on the computer. He's afraid of making a mistake that can't be undone. He'd rather not press anything and avoid doing anything at all. It becomes challenging to teach him anything in that state” (FG6-Covered Populations, 1:17:22).

“Without understanding the basics, like how to start, navigate, and close applications, it's difficult to grasp the full potential of a computer. Additionally, inconsistent connectivity adds to the frustration” (FG6-Covered Populations, 1:18:55).

By offering targeted training programs and educational resources, individuals can build confidence in their digital skills and learn how to protect their privacy online. Building trust and addressing privacy concerns were key considerations, and the participants suggested strategies such as transparent privacy policies and clearer explanations of data tracking practices to help alleviate these concerns and create a safer online environment.

B. GROUP-SPECIFIC PATTERNS

1) Minorities

Group-Specific Barriers to Digital Literacy and Access

1. Lack of Information: Participants expressed frustration about the lack of awareness regarding programs and resources that could help make internet services more affordable. Word of mouth is mentioned as the primary means of learning about such programs, but it is unreliable and limited in reach. Participants emphasized the need for better dissemination of information through various channels, such as schools, libraries, advertisements, and public transportation. They highlighted that it is not only about having internet access but also being aware of the resources and benefits that can be accessed through technology.

2. Disparity in Information Distribution: Participants discussed the disparity in how information is distributed in different communities. They observed that in suburban areas, information is shared well in advance through various channels such as schools, community centers, newspapers, and mail. However, in their own communities, information is often received at the last minute, making it challenging to plan and participate in events or programs. Participants stated the following:

“What I’m saying is, a lot of the time the information is. Given to us last. Like, you see it and it's tomorrow or at 2:00. When we go to the suburbs in towns and stuff. They are really handed it out in school a month or before. We have it in the day you find out about it, like you go that, oh, I got this. And they said 8:30 in the same day and you’re going like, yeah but I have something else. I'm just saying I don't

understand how we get it at the last minute but you go to another town and it's posted in the community center, in the paper. And the mail, they get it. They mail it. We don't get it. So it's hard for us. Now, if you made plans to do something, you know, you got to cancel that plan because you want to find out and get the information or go to that class. You know, so I'm just saying we're treated very poorly. That anything that we get is at the last minute. How do they have a bunch of flyers posted for that day, when you go somewhere else it's plastered all over the place?" (FG1-Covered Populations, 50:17).

3. Lack of Community Support: Participants highlighted that there is a cultural barrier when it comes to sharing information. They expressed that there is a reluctance among individuals to share resources and knowledge with others, stemming from a significant distrust from each other in some communities and fear that someone else may benefit more than themselves. This lack of information sharing is seen as a hindrance to accessing important resources and opportunities. Some participants indicated:

"But that's, that's one of the things that's the problem also, is communication. And a lot of people won't share things ... And they will not. They won't, because it's like it's like the mentality has been set. Want us to not share information to get it all for yourself? You so afraid that somebody is going to get something more than you, a better—you don't want to share it" (FG1-Covered Populations, 47:56-48:09).

"Because like you said, we don't want to share ... We just don't want to share information" (FG1-Covered Populations, 49:25-49:27).

They also stressed the need for individuals to help each other by spreading awareness and resources to bridge the information gap that ends up affecting their options for more affordable internet service.

4. Lack of Proactive Engagement: Participants acknowledged the need for individuals to be more proactive in seeking out information and resources. They noted that relying solely on social media or passive reception of information is not enough, and one must actively reach out, RSVP, and stay engaged to be included in limited opportunities. This quote exemplifies the issue:

"But I think one of the problems that we have as a community is that a lot of times, I just went to something yesterday. It tells you to RSVP and if you don't ask people, you're not going to be able to go there. And like you said, we're using the Internet from like social media and all that stuff. It gets sent to your phone. And a lot of times you read it and say like I'm going to get back to it and, you don't get back to it. So some of it is on us too, that you don't RSVP, then you want to go, you're mad because you can't get in. So a lot of times the information is sent out or is posted ... So a lot of times if you want something, you have to do some reaching [out] sometimes, too. No one's going to come to your house and give you what you need to do. Sometimes we have to be more aggressive in order to get things done because I go through a lot of stuff and then when people know you like doing stuff, they will get in touch with you.

But if you don't do anything, you're out of the loop" (FG1-Covered Populations, 51:32).

Proposed Solutions from Participants

1. **Addressing Disparities in Internet Availability:** The participants highlight the unequal distribution of internet service providers in certain areas. They mention that some companies offer cheaper prices in specific neighborhoods while excluding others. This disparity in availability and pricing limits access to affordable internet for certain communities.
2. **Increasing Awareness of Available Programs:** The participants note that information about programs and resources that can help make internet services more affordable is not adequately disseminated. They emphasize the need for better communication and outreach to ensure that people are aware of available programs, discounts, or subsidies.
3. **Promoting Information Sharing and Community Networking:** Participants stressed the significance of sharing information about available resources and programs within their communities. They believe that a collective effort to spread knowledge and support each other's access to affordable internet can lead to better outcomes, which is seen as a community or collective endeavor.
4. **Promoting a Shift in Cultural Mindset:** Addressing the cultural barriers that inhibit information sharing and collaboration requires promoting a shift in mindset. This involves challenging the mutual distrust and fear of someone else getting ahead. Education, awareness, and community initiatives can play a role in encouraging a more supportive and cooperative culture.
5. **Building Trust and Community Connections:** Fostering trust and stronger community connections can help overcome the barriers created by cultural perceptions. Encouraging open communication, cooperation, and sharing of information can build a sense of unity and collaboration within the community. Participants also expressed their appreciation for libraries. They mention the importance of libraries in providing access to computers and knowledge, promoting reading habits, and fostering learning. They share personal stories of their own experiences in libraries and the positive impact it has had on their lives.

2) Aging Population

Group-Specific Barriers to Digital Literacy and Access

1. **Trust and Privacy Concerns:** Participants expressed concerns about trust and privacy online. They mentioned the need to be cautious about sharing personal information, accessing sensitive accounts on public networks, and protecting themselves from hackers and cybersecurity threats. Some comments illustrate this:

"I'm tired enough of my phone. I mean, you can't. You can't hide anywhere anymore. People know. You know who's calling, you know what time they call. And, you

know, you can, just to call, those people will know it. I mean, there's no privacy, really. No privacy" (FG2-Covered Populations, 05:55).

"And the way the Internet is now is that you could punch anybody's name in and you know where they live. You know where they are. And you have so much information today, it's too dangerous, and they can hack your page and then start writing things that you don't write and cause some deep confusion" (FG2-Covered Populations, 06:20).

"Look at all of these scams that are happening. Because they can get into your bank and watch everything" (FG2-Covered Populations, 06:30).

"The greatest problem is security. You can get devices and people can pick up your signal through IP addresses. You know, that's a big problem" (FG2-Covered Populations, 16:58).

2. Device Compatibility and Updates: Participants mentioned challenges related to device compatibility and updates. They described instances where websites do not function properly or load correctly on their devices. The need to upgrade devices to support newer technologies is also mentioned as a potential barrier. The following comment illustrates this:

"[S]ometimes when they update it, it's all different. And it's like, well, you know, now. It's different, now it's a different application or whatever. And it just moves very quickly. It changes very quickly" (FG2-Covered Populations, 24:54).

3. Financial Support: Participants discussed the need for financial support or subsidies to alleviate the burden of internet costs. However, some participants noted that the income thresholds for government programs to access the internet were too low and did not account for people in other income thresholds that also struggle to make ends meet. The following comments exemplify this:

"[S]ometimes the Internet is slow, and that is because of the money. But if you want it to be better, you have to pay more" (FG2-Covered Populations, 25:52).

"Well, I mean. Like I'm saying, my daughter has the Internet in the house, so I'm all set" (FG2-Covered Populations, 38:40).

4. Technical Complexity: The complexity of setting up and using internet services and devices was mentioned as a barrier by some participants. They expressed difficulties in understanding how to connect and configure equipment, especially with the proliferation of smart TVs and the need to set up applications and functions. Some participants preferred relying on family members for assistance, and very rarely often on technicians.

5. Technical Support: Participants discussed the challenges of obtaining technical support when facing software or hardware issues. They mentioned the need to contact the service provider or

the carrier to resolve technical problems, and they highlighted the importance of helpful and reliable customer support.

6. Perceptions and Value of the Internet, Lack of interest: Participants had varying perceptions about the value and importance of the internet and technology. Some felt that they could live without it due to having lived most of their lives without it, while others recognized its benefits, such as educational opportunities and keeping the mind sharp. There were concerns about the limitations and risks associated with internet usage. Some participants expressed a lack of interest in using the internet, stating that they live fine without it and have no desire to get connected. This lack of interest can be a significant barrier to internet use, as individuals may not see the need or benefit of using online services. Some comments illustrate this:

“I live fine without it” (FG2-Covered Populations, 58:31).

“I don’t know how to use it” (FG2-Covered Populations, 59:04).

“It’s way too complicated. Way too complicated” (FG2-Covered Populations, 59:06).

Proposed Solutions from Participants

1. Improve Security Measures: Participants suggested implementing stronger security measures to protect users’ privacy and prevent unauthorized access. This may involve educating and raising awareness about security risks, and measures for added protection. They agreed that receiving advice and guidance on security measures would be helpful. They also emphasized the need for general awareness and education about the digital world, including how the internet operates and how to navigate online platforms safely. They highlighted the importance of reading privacy policies, being cautious when connecting to public networks, and using secure password management services.

2. Improved Customer Support and Technician Services: Participants discussed the need for better customer support and technician services paced to interact with the aging population. They highlighted issues with expensive technician visits and suggested that service providers should offer free or more affordable support for equipment failures or technical problems. They need timely resolution of equipment failures and access to up-to-date devices. They suggested that service providers should offer equipment replacements or repairs without additional costs, especially in cases where the issues are beyond the user's control.

3. Simplification of Technology Setup: Some participants expressed frustration with the complexity of setting up and using electronic devices and internet services. They suggested that companies should make the setup process simpler, especially for older individuals, by providing clearer instructions or offering user-friendly devices.

4. Accessibility and Transportation Support: Providing accessibility support and accommodations, especially for individuals with disabilities, and transportation assistance to access training programs or internet-related services.

5. Language and Cultural Considerations: Language barriers were identified as a potential factor that could affect perceptions and use of the internet for the elderly. Participants recognized the universality of language over the internet but also highlighted the need for language support and accessibility for elderly people who may not be fluent in certain languages.

6. Addressing Other Personal Conditions: The conversation briefly touched on the influence of personal conditions, such as disabilities, aging population, and living in rural areas, on perceptions and use of the internet. While not extensively discussed, these conditions were acknowledged as potential factors that could impact access and usage.

3) People with Disabilities

Group-Specific Barriers to Digital Literacy and Access

1. Barriers for individuals with multiple disabilities: The conversation touched upon the challenges faced by individuals with multiple disabilities, such as those who are visually impaired and hard of hearing or have physical impairments like neuropathy. These individuals may require specialized technology or accommodations to access and use the internet effectively. Some comments illustrate this:

“If I was just hard of hearing, and had perfect sight, or better sight, I'd be okay with it because I would just be visually reading. But somebody who is visually impaired and hard of hearing would be very different. Again, you know, I'm just struggling to get through it safely” (FG3-Covered Populations, 55:40).

“[She has] [n]europathy ... she has to use a touchscreen ... She, she had her phone set up through Alexa so that she can make calls through Alexa to get into that. But it's very difficult for her to hit buttons, to dial a number ... [f]or the computer .. [s]he uses the iPad ...” (FG3-Covered Populations, 56:15-57:03).

2. Inaccessible Websites: One of the main issues raised by participants is the lack of accessible websites as a barrier. They mentioned that many websites are not designed to be accessible for individuals with disabilities, such as having automatic reading or popovers, that make it difficult to navigate the site. They discussed issues such as background images obscuring text, poor contrast, and the absence of accessibility features. They suggested the need for a platform or mechanism to report inaccessible websites. Participants suggested that companies should be responsible for ensuring their websites are accessible and that search engines like Google could list inaccessible websites to raise awareness.

3. Cost of Software and Services: The cost of software and internet services was mentioned as a barrier. Participants highlighted the expense of accessibility software, such as JAWS, which is used for text-to-speech conversion. They also mentioned that individuals with disabilities on fixed incomes may struggle to afford internet services, limiting their access to the online world. The following points from participants show this:

“I have, we, I have access at the center [to a specialized accessibility software]. I don't have it on my computer at home. And that's another thing that's very costly, which is software. And then you gotta sign up for it, update it every year” (FG3-Covered Populations, 22:36).

“Do you think some people—well, some of them are on fixed income, and sometimes by themselves—how can they afford to pay for Internet? You know. That's a problem right there. You know. If you don't have internet, then they don't have access to the outside world ... ” (FG3-Covered Populations, 25:50).

4. Access to Equipment and Software: Participants discussed the need for devices and software tools to access the internet effectively. They mentioned specific software like JAWS (text-to-speech software) and Microsoft Office, which can be costly and may require annual subscriptions. Lack of access to necessary equipment and software was identified as a barrier, particularly for individuals who could not afford them. Accessibility issues were also highlighted, particularly for individuals with visual impairments. Participants discussed the need for magnifying devices and adaptive software that enable seniors with disabilities to use devices effectively. They expressed the importance of making phones, applications, and websites more accessible for people with different disabilities. Individuals with different disabilities face specific challenges when using the internet. Participants also mentioned issues related to visual impairments, hearing impairments, and physical limitations. They highlighted the need for assistive technologies like screen readers, touch screens, and specialized software to overcome these challenges. Transportation to centers came up as a limitation again. The following statements from participants explain this:

“So we used to have members that would come to the centers to use our computers because they could not afford Internet and could not afford the equipment, the computer, laptop, whatever. So they would come in weekly and, you know, emails and stuff like that” (FG3-Covered Populations, 28:08).

“I think [being] blind [makes you more vulnerable to issues related to the internet], if you don't have JAWS or Zoom text, or if you're relying on one or the other. I'm thinking being totally blind ... You get to the point where, like, you know, like I said, I have some vision now and I got to learn JAWS on top of that. So that way I can go back on the Internet. It's still a whole new learning process and knowing what we all know about hackings and bad websites, I don't want to get involved. I just don't want to risk it. And all I'm trying to do is get a recipe for chicken noodle bake or something” (FG3-Covered Populations, 53:27-53:42).

5. Digital Literacy and Technical Support: Participants emphasized the importance of education and training in using technology, particularly for seniors and individuals with disabilities. They mentioned the need for training programs and support services —by professionals experienced in working with people with disabilities— to help individuals navigate the internet and learn how to use devices and software effectively. The availability of local services, such as volunteer assistance at senior centers, was suggested as a way to provide guidance and support.

6. **Transportation:** Transportation was identified as a significant barrier to accessing support services and senior centers. Participants highlighted the challenges faced by individuals with disabilities in reaching the centers due to limited transportation options. This comment exemplifies the problem:

“Transportation, right, if you stop driving because you can't see, and then you need a ride [to get to the center to use their software and equipment]” (FG3-Covered Populations, 28:41).

7. **Social Isolation:** The conversation highlighted the importance of staying connected for seniors and individuals with disabilities. Participants expressed concern about the isolation that can result from a lack of access to technology and emphasized the significance of addressing this issue. Some comments show this:

“It's important to stay connected and that's why seniors are isolated. I can't imagine not being able to see, not being able to have television, not being able to, I can't imagine like, I don't want to know. But it's it's. There's a lot of people out there, like you said, something like 5,000 people in our area” (FG3-Covered Populations, 44:06).

8. **Disparities in Access to Support Services:** Participants express frustration with the limited availability of services for individuals with disabilities, including the perception that services are only provided to those who are employed or children. They advocate for broader access to support services and assistance for individuals with disabilities, regardless of their employment status.

Proposed Solutions from Participants

1. **Accessible Websites:** Participants suggested that companies should be more responsible and ensure that their websites are accessible to individuals with disabilities. They proposed that websites should have features like automatic reading of content and avoiding popovers. They also suggested that search engines like Google could play a role by listing inaccessible websites to raise awareness.

2. **Software and Application Tools:** Participants discussed the need for software and applications that cater to the needs of elderly and disabled individuals. They suggested the development of user-friendly software like JAWS, which is a text-to-speech software, and mentioned the importance of providing support and training for using such tools. They also proposed the idea of creating settings or applications similar to parental controls that can be customized for seniors to protect them from potential online risks.

3. **Accessible Communication Services and Support Programs:** Participants suggested making communication services, such as the "Obama phone" program, more accessible to individuals with disabilities, particularly the visually impaired. They proposed ensuring that phones provided through such programs are accessible and that individuals with visual impairments receive sufficient minutes and data. They also suggested making sure of compatibility and accessibility

for individuals with specific impairments, such as touchscreens for those with neuropathy or adapting technology for individuals with hearing impairments. They also discussed the importance of support programs like "I Can Connect," a federally funded organization that offers devices, training, and support to individuals with visual and hearing impairments. They express the need to expand and enhance such programs to provide resources and assistance to a broader range of individuals with disabilities. They requested greater advocacy for broader availability of services and support, including technical assistance, for individuals with disabilities, regardless of employment status.

4. **One-on-One Training and Multi-Talented Support:** Participants expressed a preference for personalized, one-on-one training to overcome the knowledge barrier. They believe that individualized support would be more effective in helping seniors and individuals with disabilities learn how to use devices and navigate the internet. Moreover, participants emphasized the importance of support personnel having a diverse skill set to cater to different disabilities and language barriers. They discussed the need for support providers who can adapt their teaching methods to meet the specific needs of individuals with various disabilities.

5. **Accessibility in Senior Centers:** Participants proposed that senior centers should offer support services specifically designed for seniors with disabilities. They suggested providing trained personnel who can visit senior centers periodically to assist individuals with technology-related issues.

6. **Transportation Assistance:** Participants highlighted the need for addressing transportation challenges faced by seniors with disabilities. They suggested providing transportation services or ensuring that senior centers are easily accessible for individuals with mobility limitations. Considering transportation limitations, participants seem to suggest exploring accessible transportation solutions for individuals with disabilities in rural areas. This may involve coordinating transportation services to technology centers or creating mobile tech support units to reach underserved communities.

7. **Reporting inaccessible websites:** Participants suggest the need for a platform or mechanism where users can report websites that are not accessible to individuals with disabilities. They emphasize the importance of having a place to report such websites and specify the issues encountered, allowing businesses and organizations to address and rectify the accessibility barriers. They also mentioned an example from the state of Connecticut where businesses were mandated to make their websites accessible. They highlight the positive impact of such mandates and suggest expanding similar requirements to ensure more websites become accessible, benefiting individuals with disabilities.

4) Veterans

This group of veterans did not reveal any limitations on using the internet and technology, and they believe that most veterans are trained in using them. They recognized that any existing barriers are not related to being a veteran but to socioeconomic factors.

Group-Specific Barriers to Digital Literacy and Access:

1. **Trial and Error Learning:** Participants mention that they learn how to use computers and the internet through trial and error. They acknowledge that while some tasks may not be immediately clear, they can figure things out by exploring and experimenting with technology. They mention that they learn and find their way around through hands-on experience, even if they make mistakes initially. Some participants indicated the following:

“Trial and error is often involved. We learn as we go and find our way around” (FG4-Covered Populations, 1:12:54).

“Trial and error is part of the process” (FG4-Covered Populations, 1:13:10).

“Exactly, we may make mistakes initially, but it's a learning experience” (FG4-Covered Populations, 1:13:12).

2. **Limited Knowledge, Not Limiting Usage:** Participants indicate that having basic knowledge is sufficient to use computers and the internet effectively. They state that while there might be specific tasks that require further understanding, their overall usage is not limited by their knowledge. They express confidence in their ability to navigate technology. This comment illustrates this:

“Even for us older folks, if we have the basics down, it's not a problem” (FG4-Covered Populations, 1:12:20).

3. **Veterans and Technology Proficiency:** The conversation mentions that veterans who have served in the last 15 to 20 years are likely to be comfortable using the internet due to their training and experience in the military. The military’s use of advanced devices and real-time communication technologies has contributed to their familiarity with internet technology — devices for real-time communication on the battlefield demonstrates the importance of recognizing the internet as an integral part of veterans' skills and support systems. Participants highlighted the following:

“Regarding veterans' Internet usage, I think any veteran who has served in the last 15 to 20 years is likely to be comfortable using the Internet. It's just part of their training and career. In the military, they receive real-time commands on the battlefield through advanced devices” (FG4-Covered Populations, 1:28:27).

Proposed Solutions from Participants

1. **Utilizing face-to-face communication:** Some participants propose using alternative methods like landline phones or in-person interactions to ensure greater certainty and security in those situations.

2. **Acknowledging diversity:** Participants recognized that their experiences may not be representative of all parents or veterans, highlighting the need to consider specific groups and individuals who may have different challenges in using the internet and technology. Participants

expressed a desire to know more about the experiences of veterans, their neighbors, and other individuals who may face difficulties in using the internet and technology.

3. Recognizing socioeconomic factors: There is an agreement that socioeconomic levels and work experience can play a significant role in an individual's ability to absorb and utilize technology effectively.

4. Promoting exposure and familiarity: Participants emphasize the importance of exposure to technology from an early age and gaining familiarity with its use over time to develop the necessary skills and caution, particularly in the context of social communication on the internet.

5) Language Barriers

Group-Specific Barriers to Digital Literacy and Access

1. Language Barrier: Participants mentioned that the language barrier is a significant obstacle to using internet services. Many websites and platforms are primarily in English, and the lack of translation or limited availability of content in other languages hinders their access and usability. Participants indicated:

“All new learning is difficult and takes time. Now when you acquire the skill, you say ‘no, I do this job in one hour,’ [but] the one who doesn't know does it in five hours. This means that there is an efficiency. When you have knowledge of something ... it makes it more effective. And in our case it is the [limited] computer [knowledge], plus the language” (FG5-Covered Populations, 1:05:24-1:06:01).

2. Limited Technical Support: Participants express the need for accessible and reliable technical support to address issues and provide guidance when using computers and the internet. They suggest having a dedicated support line that can provide assistance over the phone in the preferred language, ensuring that individuals can receive help promptly.

3. Poor Training: Participants highlighted the importance of having skilled and empathetic instructors who can effectively teach and guide users in using internet services. They mentioned instances where instructors lacked pedagogical skills or failed to provide adequate support, particularly for individuals with different levels of knowledge, disabilities, or languages. This discussion demonstrates the issue:

“[Some groups are] learning English and then [also the] new technology ... It is sad to see those people who are the instructors but who do not have that empathy, that empathy, that dedication to say yes they are going to teach you. I mean, there are at least three barriers, right? ... [O]ne is the language, knowledge ... of what we're trying to learn and then how it's taught and whether the instruction it gives or the guidance it can give” (FG5-Covered Populations, 42:38-43:01).

4. Difficulty with application processes: The participants mention the challenges they faced while trying to complete an application for a program related to internet access. They express

frustration with the complex application process and the difficulty of understanding instructions, especially when translating from English to Spanish. They mention that some processes are complex and confusing. They highlight the need for clearer instructions, simplified steps, and user-friendly interfaces to facilitate the completion of applications related to internet services or programs. Participants noted the following:

“I wonder why they offer this if a lot of people won't be able to fill it. I couldn't even fill it out because it's an app that takes you to another app ... In other words, improve access to that application” (FG5-Covered Populations, 1:00:54-1:01:29).

5. Language and cultural barriers: Participants discuss the language barrier as an obstacle to understanding and using the internet effectively. They mention that language differences, especially for non-native participants, can make it challenging to navigate applications and comprehend instructions. They suggest that providing information in multiple languages and considering cultural nuances could improve understanding and access. The following quote explains part of the issue:

“I don't understand [the application] ... because I am Puerto Rican and I know people from Mexico and other countries who interpret things differently ... it was still difficult” (FG5-Covered Populations, 1:00:54).

6. Challenges when coming from other countries: Participants mention that in some countries, access to the internet is limited or not readily available. When individuals from these countries come to a place with better internet access, they may face challenges in adapting to and utilizing the technology effectively. Thus, this situation can also impact their ability to use the internet effectively to navigate and utilize online platforms. Participants indicated the following:

“[M]any people who come from other countries, it's like it's further back there. The internet should already be more advanced ... because there are many people who do not have internet access in their country, but when they come here they go to schools [and need to use it]” (FG5-Covered Populations, 1:12:54-1:13:11).

Proposed Solutions from Participants

1. Language: Participants mentioned that language is a barrier to accessing and using internet services. They suggested the need for better translation options and more content available in Spanish or other languages.

2. Improve program application processes: Participants suggest that the application process for programs or services related to the internet should be made clearer and more user-friendly. They mention the need for step-by-step instructions and language options that cater to different cultural backgrounds.

3. Government involvement and funding: Participants believe that the government should take an active role in implementing these solutions. They suggest that the government should allocate

funds, regulate internet service providers, and collaborate with community centers and libraries to provide necessary resources and support.

4. Establish a support hotline: Participants propose the idea of having a dedicated support line that individuals can call for assistance. They suggest that this support line should provide technical support over the phone and be available in the preferred language. The support line can offer guidance and help individuals navigate through technical issues they encounter.

5. Utilize libraries as community hubs: Participants recognize the role of libraries as community centers and propose utilizing them as venues for providing support, courses, and information related to computers and the internet. They mention the success of previous programs held at libraries, such as the Women Entrepreneurs program, which facilitated learning and community engagement.

6. Establish communication platforms: Participants highlight the value of communication platforms such as WhatsApp groups to facilitate community interaction and information sharing. They suggest creating WhatsApp groups where individuals can join and stay informed about upcoming courses, classes, workshops, and other relevant activities happening in the community.

6) Rural Area Residents

Group-Specific Barriers to Digital Literacy and Access

1. Limited infrastructure and connectivity issues: The rural locations discussed in the conversation face challenges in accessing reliable internet services due to the lack of cell phone signals, limited cable systems, and the absence of nearby towers. This hampers their ability to connect to the internet and access online services. Access to stable and reliable internet connections is another challenge. Some areas have poor internet infrastructure, resulting in limited or unreliable connectivity. Even if individuals have devices, the lack of proper internet access hinders their ability to fully utilize online resources and services. This is exemplified by the following quotes:

“When the pandemic started, it was challenging for us, especially in our organization. The service was unreliable, and the building wasn't the best. I would frequently get disconnected during Zoom meetings. There was even a time when I couldn't use a specific word, and I had to go home for the meeting. I think it was Microsoft. Work became more difficult” (FG6-Covered Populations, 02:21).

“I use the internet for almost everything else as well. But I also use it for church activities and filling out forms. Sometimes, it can be frustrating. You know, like when I have an activity program, and they give me a tablet, but [the internet is] not very reliable” (FG6-Covered Populations, 06:41).

“Our phones are the only reliable option” (FG6-Covered Populations, 09:08).

“So, when you are connected online, your primary use of the internet is for work. But as others have mentioned, it doesn't work reliably even at home ... It's unreliable, maybe around 60% of the time. Sometimes it just stops working” (FG6-Covered Populations, 11:16-11:30).

2. Limited internet service providers and competition: Many rural areas mentioned in the conversation have only one or a limited number of internet service providers, leading to a lack of competition. This results in fewer choices for consumers and potentially lower-quality service. Limited options for internet service providers lead to a lack of competition. This can result in slower and less reliable internet connections compared to urban areas where multiple providers and packages are available for comparison. The following comment illustrates the problem:

“When I moved from California to Windsor, the switch was drastic. In California, I could get help with my internet on the same day within a few hours. But here, even though we're only three hours away, it took about a week to fix our spotty internet. We have limited providers, and the competition is scarce. Over there, we had options to compare prices and packages, but here we only have Spectrum. Additionally, the quality of the internet depends on which area of my house I'm in. I don't even have LTE anymore and no signal. The difference between urban and rural areas is significant” (FG6-Covered Populations, 1:28:36).

3. Unequal access and coverage: Participants highlighted the disparities in internet access and coverage between rural and urban areas. They mentioned that rural areas often have spotty or unreliable internet connections, with certain areas of a house or specific locations experiencing poor signal strength. This lack of consistent coverage can hinder daily activities and communication, especially in emergencies. Telecommunication companies tend to prioritize densely populated urban areas for infrastructure development, such as installing cables or fiber optic networks. As a result, rural areas with fewer households and longer driveways may be left with limited connectivity options or face delays in receiving essential services like internet access. The problem is illustrated through the following quotes:

“I've always lived in a rural area, so even if you're at the bottom of a building, don't call me ... the area has spotty coverage” (FG6-Covered Populations, 1:29:37).

“It's mind-boggling. A few months ago, there was a fatal crash on Kennedy Drive, the main road we use for work. I was trying to text or explain something, and it took 20 to 30 minutes because there's a Verizon tower issue. I never had these problems back home. Now, it's a matter of knowing where the Verizon Towers are and adjusting accordingly” (FG6-Covered Populations, 1:30:12).

“I pay \$50 for a service that doesn't work. It's not just one place; it's everywhere. Some people prioritize other things over improving phone service. They say they want to make America great but ignore the issue of phone service. Even with 5G capability on my phone, I often don't have access to 5G service in my area. It's not available unless I'm in a densely populated location, which is frustrating. This has been an ongoing conversation for years” (FG6-Covered Populations, 1:32:42).

4. Service reliability and technical support: Participants in the conversation expressed frustration with the reliability of their internet service, including issues like spotty coverage, delayed repairs, and inexperienced technicians. Customer support experiences are mentioned to be subpar, with long wait times, disconnections, and ineffective problem resolution. These comments explain the situation:

“Like when he calls customer service. That's another issue I was dealing with. I was calling them around to me from one customer service representative to another department, customer service to another customer. I was on the line for three hours, then they disconnected me for somehow I always mysteriously get disconnected, call again and go through the whole thing and nothing was ever getting resolved. It was like, no one knew the situation. I know, am I to look into the situation to correct the problem? Why I'm not getting the Internet service that I'm paying for? Right. And it's just a mystery. It's a mystery why nothing is getting resolved and that you get, so I don't, you just don't deal with the issue” (FG6-Covered Populations, 1:38:30).

“[O]ur Internet providers, they don't really have competition. So it's funny, I mentioned when our IT guy came for his three-hour drive, he couldn't complete the job because he was new. And he told me that the way their company worked is new guys would get the night shift and all the pros, they have years of experience, they get the day shifts” (FG6-Covered Populations, 37:01).

5. Dependence on online resources: The conversation highlights the increasing reliance on the internet for various aspects of life, including education, healthcare, and communication. Lack of internet access can result in significant disadvantages and limitations in accessing important information and services. The following comment illustrates this:

“I believe our generation needs to grow alongside computers and learn as technology evolves. Many of us lack proper training and knowledge. In contrast, our children are learning about computers in schools. During the pandemic, my daughter's school initially had no idea how to set up an online classroom for their students. Now, things have changed, but she still has access to additional programs like Alexa for continued learning at home. The fear of not knowing how to navigate technology creates anxiety for those of us who didn't receive proper education. Like the older lady mentioned, some people try their best but still struggle to understand. It's challenging because technology is different from other activities, like painting a picture. It's a little thing with endless possibilities, but without the basic skills, it becomes overwhelming. It's like not knowing the alphabet but having a multitude of words you can't read. Computers are similar. Without understanding the basics, like how to start, navigate, and close applications, it's difficult to grasp the full potential of a computer. Additionally, inconsistent connectivity adds to the frustration. Sometimes, I prefer the old-fashioned way of filling out paperwork and interacting with people face-to-face, as technology isn't always reliable. However, we still need to adapt to it” (FG6-Covered Populations, 1:18:55).

Proposed Solutions from Participants

1. **Improve internet access:** Participants emphasized the importance of free and quality internet access as a basic service. They highlighted the limitations of current internet services, such as unreliable connections, limited coverage in certain areas, and high costs. They suggested that internet access should be provided as a basic need, similar to education or healthcare, and advocated for lower prices through grants to internet service providers. Participants also mentioned the need for better cell phone signal coverage and the installation of additional towers in remote areas to improve connectivity. Moreover, participants emphasized the importance of reliable communication during emergencies. They suggested improving coverage and access to ensure that people can make calls and access information in critical situations. This would involve addressing coverage gaps and signal inconsistencies in rural areas to provide reliable communication options when needed the most.
2. **Increasing competition:** The lack of competition among internet service providers in rural areas was identified as a barrier. Participants highlighted the need for more options and providers to increase service quality and lower prices. Having more providers would give residents the ability to compare prices and packages, potentially leading to improved service quality and options.
3. **Improved Infrastructure, Coverage, and equitable Distribution:** Participants emphasized the importance of enhancing internet infrastructure in rural areas. They suggested investing in expanding coverage, such as improving signal strength and reducing areas with poor connectivity. This could involve installing more cell towers and fiber optic cables to reach remote or sparsely populated areas. Participants also highlighted the need for a more equitable distribution of internet infrastructure. They expressed concerns about densely populated areas receiving priority while rural areas, even within urban designations, face inadequate connectivity. They called for providers to consider the needs of households that are far apart or at the end of roads, recognizing that running cables or fiber to these areas may be costly but necessary for equitable access to internet services.
4. **Need for government intervention:** The discussion suggests the need for government involvement in ensuring affordable and reliable internet access as a basic service, similar to education or healthcare. The idea of free or subsidized internet access is proposed as a potential solution to bridge the digital divide and address the financial barriers.
5. **Collaboration with internet service providers:** The conversation touches upon the possibility of working with internet service providers to negotiate more reasonable prices for customers, ensuring affordability and accessibility for a wider population. Grants and incentives are suggested as potential ways to incentivize providers to lower prices and improve service quality.
6. **Timely and effective customer service:** Participants expressed frustration with the quality of customer service provided by internet service providers. They emphasized the need for prompt and reliable technical support and quick resolution of connectivity issues.

7. Provide suitable devices: Participants suggested providing devices that meet the specific needs of users, such as tablets with attached keyboards or smartphones with hotspot capabilities. They emphasized the importance of ensuring that the devices provided are suitable for the intended tasks, such as education or work.

8. Addressing fear and anxiety: Participants recognized that fear and anxiety can be significant barriers to learning and using technology. They emphasized the importance of creating a supportive and patient learning environment, where individuals feel comfortable asking questions and taking risks without fear of making irreversible mistakes. Building confidence and adapting to the rapid changes in technology were seen as essential in overcoming these emotional barriers.

7) Formerly Incarcerated

Group-Specific Barriers to Digital Literacy and Access

1. Limited Internet Access during Incarceration: Participants referenced the limitations of the Tablet Program and the failure of prison programs in preparing individuals to navigate technology when returning to the community. The following quotes from focus group participants reflect these perspectives:

“I did 26 years and seven months...(for a few years) we had access to computers, (they) kind of helped us learn how to type but we didn’t have Internet access” (FG11-Covered Populations, 30:52).

“So the tablets... (In the prison) where I was at, was one of the last prisons to get it (The computer tablet program). They’re so limited in what you can do, it’s basically a glorified phone and a TV because you can watch a lot of media on it. You can watch music and movies. But as for... learning something on there, it doesn't really teach you. I had the tablet... for a year or two before I got out here, and it’s just a totally different experience. The tablet is very, very limited” (FG11-Covered Populations, 25:14).

“The problem, at least what I ran into in the prison is that they’ll have these programs because they do have programs... but they’re limited to certain people. There’s so many stipulations, guidelines, for you to get into these programs. It goes by... your discipline history, it goes by all these things. So more than likely, most of the people are not going to be able to participate in these programs because what the DOC does is they make it where it’s like an exclusive program” (FG11-Covered Populations, 44:27).

2. Limited Access to Internet at Halfway Houses: Two participants indicated that there was generally no WiFi access at their transitional facility (Most of the other participants nodded their heads in agreement). Some comments from participants show this:

“Broadband. Internet. Data. What's the difference between all of them? Because I think I'm using internet on my phone. I don't have... I'm in a halfway house. I don't think we

got (WiFi)... I don't know... this thing is like a paperweight to me, so I'm still learning the difference" (FG11-Covered Populations, 03:23).

"There's no WiFi... They have it, but they don't give you the app (the password). Which, I don't understand why" (FG11-Covered Populations, 1:02:57).

2. Lack of Familiarity with Technology: Participants struggle to keep up with technological changes. They experience challenges when navigating online job applications and government websites. Some comments from participants further illustrate this:

"I think, that'll be real instrumental (a training program) in jail when you get reentry... you got a reentry program that's going to say, "We got a computer tech class here at the facility because you're on your way home"... And then when you go to the halfway house, you'll be able to link up with people who know the Internet... so you can navigate the system" (FG11-Covered Populations, 16:40).

"You click there, it sends you somewhere else. Gives you an ad, right? And then you're like, wait, I just clicked this, now I'm buying Clorox bleach. And I'm like , wait a minute, what happened to the Walmart job? Go back, start all over... The DMV, everything is online. Just, I mean, everything you can think of" (FG11-Covered Populations, 19:12).

"How do you begin? How to open up a bank account? Getting IDs, the proper requirements of getting the money to just put in as a deposit for these bank accounts... People that are used to training themselves adapt to it... When people don't have access to learning how to do it, they get so far behind that society in general will get tired of trying to teach people because they'll put certain people in brackets... You should have learned this. You had plenty of time to learn this. You're not going to listen to everybody's individual story about how I spent 25 years in this life. They're going to be like, well, we don't have the time to teach you because you need to teach yourself" (FG11-Covered Populations, 34:32).

"The halfway house would be a lot more welcoming to a group of you guys coming in. Saying, 'Hey, we're going to hold a tutorial for 2 or 3 hours and open up your phones. Let's do this . Let's do that.' That would seem to be me, a lot more feasible, and something that can be done very quickly" (FG11-Covered Populations, 48:05).

Proposed Solutions from Participants

1. Increasing Knowledge and Enhancing Educational Opportunities: This involved some of the following ideas suggested or implied by participants throughout the discussion:

- Expand educational programs in prisons to increase digital literacy.
- Address limitations in tablet pilot programs by providing access to tablets with educational content; Tablets should offer learning resources, enabling self-directed education and personal growth.
- Reentry programs should offer computer literacy classes to prepare individuals for post-

release challenges.

- Digital literacy training is needed at halfway houses. Training programs in transitional housing facilities should teach essential digital skills (e.g., Online banking and job applications).
- Launch public awareness campaigns about internet scams and online safety, especially targeting vulnerable communities.

The following quotes reflect participants' perspectives regarding knowledge and educational opportunities:

"I just got (my phone) a month ago... but it's been very difficult navigating the phone because some of my sisters set it up for me, so I didn't get the tutorial in the beginning. And so now I'm going through... settings and trying to figure out what to do, and I shut so much stuff off, that I don't know how to turn it back on. So I have literally had to hand my phone to people and just be like, 'Hey, could you fix this?'" (FG11-Covered Populations, 12:28).

"I didn't know how to use (my phone). I didn't know how to use it, and I was walking down the street. I'm not from Hartford, and I was walking down the street, and I asked some of the nurses that were standing there. I said, 'Do you know where a Chartered Call Center is? And they looked at me, like one of them actually said it. She was like, 'You have an iPhone in your hand.' And I was like... 'I don't know how to use it'" (FG11-Covered Populations, 13:30).

"How come we don't have a group in the halfway houses just teaching basic technology? ...How to use the GPS... why are we not doing that? ...Some of us have been home for 5 or 6 years, and don't know everything" (FG11-Covered Populations, 16:15).

"When you're actually on your phone trying to figure it out, it's like, oh, type in your gmail. Well, I got to go back out to gmail to go find out what's my gmail account. Go back in, cut and paste... And it just seems a lot more difficult than it should be to apply for jobs, to get your IDs, to get everything started, especially for someone coming home" (FG11-Covered Populations, 20:29).

"People with lived experience being able to teach the people that come home because we all... wrestle with psychological problems. You have things when you step into a space, you feel dislocated, but with somebody there... with them in your space, you're apt to feel comfortable talking about things that might make people think you're weak" (FG11-Covered Populations, 30:52).

"If everybody has a tablet already, why can't a program be uploaded? So... people can learn how to type all the time. People can learn Internet whenever they feel like it, there's nothing to do in there. And we should be able to go to school. Like (when) I was young... when I was incarcerated, so I was mandated for school. But... you have to qualify for all these things. But if there's already a tablet, why can't we upload tutorials on how to use a

phone when you come home? Tutorials on how to write a resumé... everyone has a tablet now” (FG11-Covered Populations, 46:42).

2. Addressing Economic Barriers: Similarly, this included some of the following suggestions proposed or implied by participants throughout the discussion:

- Establishing lending programs for devices like smartphones or laptops during reentry can help to alleviate economic barriers.
- Implementing subsidized internet programs that focus on low-income individuals, can help to address economic struggles of the formerly incarcerated.

The following quotes reflect participants’ perspectives regarding economic barriers:

“The internet costs money and people that are coming out don’t have money, so they don’t have immediate access to Internet... You need to consider this one bill you’re going to be paying for on top of getting money for clothes and whatever on top of planning” (FG11-Covered Populations, 20:29).

“Many were going straight for the shelters, and it would be like one phone, maybe (at the shelter)... So imagine you’re walking around, you just came out of jail, you’re in a city that you’ve never been in. You have no phone, no contact. They’re not giving you phones” (FG11-Covered Populations, 1:09:52).

“Like even if they were to give out like loaner devices that just had... a universal like (Lending program)... So it would be like as you come in, you could sign out at home. You know, and they’ll give you a certain amount of time” (FG11-Covered Populations, 1:11:23).

IV. REPORT #2: *FRONTLINE WORKERS*

A. INTRODUCTION

To understand the barriers to accessing and using the internet and technology from a service provision perspective, four focus groups were conducted with frontline workers who interact with the vulnerable population groups regularly. These focus group participants consist of academic and public librarians, Digital Navigators, and frontline case workers. When asked which of the covered population groups they usually serve, most participants reported experiences with minorities, the elderly, people with disabilities, veterans, people with language barriers, and rural area residents. However, given the nature of the specific institution/program, these frontline workers specialize in serving different technological and Internet access needs of the covered populations.

These are facilitated discussions where questions are presented to participants to ignite the conversation of particular topics rather than a strict list to follow. Facilitators used questions on digital equity barriers as a guide, with the expectation that the initial questions of each section generated open discussions on all other key topics to understand their difficulties in using and accessing the internet and technology. The main objective was to understand the experiences of members of vulnerable groups based on frontline workers' interactions with them.

B. COMMON PATTERNS ACROSS GROUPS

These conversations reveal many shared opinions from the frontline workers' perspective. The detailed lists are provided under the "Findings" section. We highlight several key findings below:

1. Improving access to broadband: Participants agree that there is room for improvement in universal broadband access, specifically in rural areas and some urban areas affected by profit-driven digital redlining. Many advocated for considering Internet access as a basic human right and more government intervention.
2. Willingness and trust: Participants suggest that the willingness to adopt new technologies is crucial. Among those who are willing to use the Internet, building trust becomes essential to drive these individuals to seek help when needed. People commonly experience information-seeking anxiety and library anxiety.
3. The role of public libraries: Many participants point out that public libraries play a special role in local communities, both as an information hub (or a point of referral) and as a trusted public institution. Participants argue for more collaboration and communication among public libraries and other entities that may provide access-related resources. A centralized information hub is especially important when in this case, the service users sometimes "don't know what they need to know."

4. “Meeting clients where they are”: This is identified as an effective approach adopted in the Digital Navigator model and among case workers. Librarians also recognize the Digital Navigator Program as being highly effective and helpful.

5. Tailored or unified solutions?: Participants have conflicting opinions towards whether general digital assistance programs should be tailored for different covered populations or unified. While they recognize that minorities, immigrants, individuals with disabilities, and the elderly all face different challenges, some also argue for avoiding excessive segmentation in services.

Recommendations

Based on the conversations, we list several common recommendations below, many of which are interrelated. More detailed solutions are in the “Findings” section.

Economic

- Provide more funding to libraries: Participants suggest that the libraries are usually underfunded and understaffed, making it difficult to meet the public needs. More specifically, these funding can be used to provide (1) direct financial aid for individuals to access devices instead of through the device lending programs; (2) hotspot lending or public hotspot access outside of library hours; and (3) more human resources/hours for one-on-one assistance.

Knowledge

- For digital literacy and skills training, use a hybrid approach with asynchronous information, synchronous structured classes, and in-person one-on-one support.
- Build a deeper understanding of information seek anxiety and library anxiety. More research can be done on this topic. Participants suggested training for frontline workers to strategically help individuals cope with these anxieties.
- Consider digital skills are a core competency in individual education and promote continuous lifelong learning of digital skills.

Perceptions

- Building trust by more individualized “meeting clients where they are” programs and services.
- Promote awareness of available resources using both printed and online materials.
- Recognize and promote library importance in the community so that individuals can fully utilize the library resources.
- For public services that require online access, create mobile-friendly websites for individuals who only rely on mobile devices to access the Internet.

Infrastructure (mostly discussed as general barriers)

- Increase system interoperability. Create a seamless and uniform system that allows individuals to move from one institution or community to another without facing connectivity barriers. The library can also serve as a central location for information on various resources and a central point of referral to more specialized assistance.

- Improve public transportation. Participants point out that individuals who seek help may still find it difficult to get to the library or other service points through public transportation.

C. GROUP-SPECIFIC PATTERNS

The following lines detail the main findings from each focus group. It also examines specific barriers pertaining covered populations' economic conditions affecting access, knowledge and familiarity with internet and technology, perceptions that may influence their use of the internet and technology, and infrastructural limitations, and additional barriers. Finally, it is important to note that these patterns are derived from the provided focus group sessions and may not represent the complete range of barriers surrounding internet services as experienced by both frontline workers and the covered populations.

For each group, we first summarize their available programs and services, and then discuss general barriers with relevant solutions. Next, we provide specific barriers and solutions in economic, knowledge, perceptions, and infrastructure areas.

1) Academic Librarians

Summary: General Barriers

General Barriers

Based on the conversations, libraries associated with academic institutions may provide library computers, short-term or long-term device/accessory loans, and workshops/classes, and they typically work closely with their IT department to provide additional technical support.

In general, the participants highlight access to broadband, access to devices, and digital literacy as the main barriers, in addition to other factors related to socioeconomic status and awareness. Specifically,

1. **Lack of Broadband Access:** One of the primary difficulties faced by vulnerable population groups, particularly those in rural areas, is the lack of broadband infrastructure (see Appendix FG7-Academic Librarians: 40:58). Internet service providers may not find it financially viable to invest in these areas, resulting in limited access to high-speed Internet. These libraries (in the focus group) do not currently provide hotspot lending.

2. **Access to Devices:** Another challenge is the availability of devices necessary to access the internet. Many students and individuals in vulnerable populations may not have access to suitable devices like laptops or computers, hindering their ability to connect and participate in online activities.

“It's just anecdotal, but some of the folks I talked to here say that some students come in thinking they can do their whole college career off their cellphones, and that's just not possible. And I just feel no one should fail in their higher education because they don't have access to a device” (FG7-Academic Librarians, 26:02)

3. **Digital Literacy:** The lack of knowledge and digital skills on how to use the internet and digital platforms is a significant barrier. Many individuals struggle to navigate online systems, online courses, or use digital tools effectively, limiting their engagement in higher education and other activities. For college students from the vulnerable populations, they may lack the basic understanding of what device specifications and digital skills are expected from them to complete the degree program.

4. **Financial Barriers:** Financial constraints play a significant role in hindering internet access. Some individuals may not be able to afford devices and/or internet plans. And even affordable plans may not be accessible to everyone in vulnerable population groups due to financial limitations.

“If we could manage to have access to everybody, but not everybody can afford their electricity under capitalism either. And so if your modem doesn't have electricity, then you still don't have access to the Internet. So a utopian society where we have access to all of our utilities, the big grid...” (FG7-Academic Librarians, 39:17)

5. **Lack of Awareness and Communication:** There may be a lack of awareness among vulnerable population groups about the resources and services available to them, such as those offered by public libraries or state libraries. Improved communication and coordination between different information providers could help ensure that people are aware of available resources.

6. **Challenges in Remote Learning:** The shift to digital platforms for education during the pandemic highlighted barriers towards digital equity, as some students face difficulties in accessing online classes, simulations, and resources.

7. **Senior Citizen Population:** Senior citizens may face barriers due to a lack of familiarity with technology, making them susceptible to scams and misinformation. However, access to the internet can greatly improve their lives, allowing them to access healthcare, information, and other resources.

“...COVID made it unavoidable. If they want to have their doctor's appointments checked-in and pay, they have to have Internet, which was definitely a big learning curve. I think there's a difference. I think they would prefer not to have the Internet, but they need to have the Internet” (FG7-Academic Librarians, 36:33)

8. **Need for Universal Internet Access:** Participants highlight the importance of considering internet access as a basic human right, stressing the need to move away from purely profit-driven models to ensure universal access for everyone.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Improve Access to Broadband:** Participants highlight the need to improve access to broadband internet, especially in rural areas where physical infrastructure like internet lines is lacking. They

suggest that there should be more pressure on service providers to expand broadband coverage and ensure that all areas have access to high-speed internet (FG7-Academic Librarians, 40:58). Additionally, the libraries may provide hotspot lending services.

2. **Provide Financial Aid to Access Devices:** Many students and vulnerable individuals may not have access to the necessary devices (such as computers or large-screen devices) that are essential for participating in online education and accessing various digital resources. However, the libraries are not able to manage all of the requests. Therefore, financial aid programs may be a more efficient alternative to access devices including laptops.

“We've often come to the conclusion that the laptop lending program should be something that should fall under financial aid. And with financial aid, they should be receiving phones or a laptop because at the library, we just cannot manage all of their requests” (FG7-Academic Librarians, 12:57).

“I just sat in on a webinar not that long ago from a group called the Benefits Data Trust. And there are states that are, you know, developing offices either with institutions or within the state, to make sure that the students are getting connected with all the money that they're eligible for and can help them be successful in their college careers. And it just seems like that's a missed opportunity right now, especially with this additional federal funding coming open ...” (FG7-Academic Librarians, 15:23)

3. **Enhance Digital Literacy:** Participants emphasize the importance of providing knowledge and training on how to effectively use the internet and digital tools. Digital literacy programs can help individuals —particularly seniors and vulnerable populations— to understand what types of devices they need to shop for, navigate through online platforms, use digital resources for education and research, and protect themselves from scams and misinformation.

4. **Promote Interoperability:** Participants mention the need for interoperability among different internet service providers and institutions. Creating a seamless and uniform system that allows students to move from one institution to another, or across communities, without facing connectivity barriers would help in enhancing their learning experience and continuity of education. Participants discuss the need for better communication among information providers, such as libraries and educational institutions. Improving collaboration and sharing resources among these entities could result in better support for faculty, students, and the broader community.

“I'd love to see interoperability, so that if there's a uniform device and you know, there's a device available, and that students can move from a public library to a community college campus to a four-year campus to any sort of public good throughout the state without having to worry too much about how they connect” (FG7-Academic Librarians, 28:34)

5. **Consider Internet Access as a Human Right:** Some participants argue that internet access should be considered a basic human right rather than driven solely by financial incentives (FG7-Academic Librarians, 33:02). Treating internet access as a human right may lead to greater

efforts by governments and service providers to ensure that all citizens have access to affordable and reliable internet services.

Specific Barriers

A) Economic

Based on the conversations, we can identify several main barriers discussed by participants:

1. **Lack of Financial Support:** The conversation highlights the financial difficulties faced by individuals, particularly in terms of affording electronic devices, internet connection, and training programs. There is a need for government or public programs to provide financial support in the form of vouchers, subsidies, or direct monetary assistance to help overcome these challenges.
2. **Limited Internet Access:** Internet access is a crucial factor in education and daily life. Many individuals, especially in certain geographic locations, face difficulties in accessing the internet. The lack of connectivity can affect students' education, job opportunities, and overall quality of life.
3. **Inadequate Access to Devices:** Access to devices like laptops or tablets is essential for digital literacy and remote learning. Some programs have provided devices like Chromebooks, but aging devices and the need to return them after a certain period can create challenges for students transitioning to higher education.
4. **Awareness and Navigation of Support Programs:** Even when financial assistance or programs are available, some individuals may not be aware of them or have the necessary digital skills to navigate the internet and find relevant information. This lack of awareness and skills can hinder people from accessing the help they need.

“Thinking like the Affordable Connectivity Program, how to find the information on that program to determine if you're eligible... really a lot of people need help doing that. And so I think in order to help people financially, like, let's say, the state or the federal government makes benefits available to help with the cost additionally of broadband access or help with the provision of the cost of a large screen device. There need to be people that can help connect the residents with those resources because it's just not always transparent and easy, especially for someone who doesn't already have the tech skills” (FG7-Academic Librarians, 51:30)
5. **Impact on Parenting and Education:** The lack of internet access and devices not only affects individuals but also impacts their children's education. Parents who cannot access the internet may face difficulties in supporting their children's learning and educational development.
6. **Bridging the Gap between High School and College:** Ensuring that students have access to technology and internet resources during their transition from high school to college is essential. Without proper access, they may face challenges in applying to colleges and completing the necessary paperwork.

7. **Serving Diverse Populations:** The conversation emphasizes the importance of providing internet access and resources to various populations, including students, parents, and communities, to address multiple needs simultaneously.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Provide hotspot lending:** One of the proposed solutions is to provide electronic devices (such as laptops or tablets) and internet access to those in need. This can be achieved through public programs, government initiatives, or partnerships with public libraries to lend out hotspots and devices, especially in geographically dispersed areas (FG7-Academic Librarians, 48:38).

2. **Direct financial aid:** The participants suggest creating more scholarships and financial support programs that are not tied to tuition. Giving students direct monetary assistance can help them address their specific needs, such as affording an internet connection or purchasing necessary devices (FG7-Academic Librarians, 48:38).

3. **Outreach to Increasing Awareness and Assistance:** To help people take advantage of existing programs, there is a need to increase awareness and provide assistance in navigating the available resources. People also need help with determining what programs they are eligible for. Some individuals may not be aware of the support programs available to them or may lack the digital skills to access the relevant information on the internet.

4. **Community Engagement:** The idea of engaging with communities and creating satellite locations with Wi-Fi access is proposed as a way to extend internet availability to areas that currently lack it. This approach aims to serve diverse populations and address financial difficulties in accessing the internet.

B) Knowledge

The main barriers discussed by the participants are as follows:

1. **Point-of-Need Information:** Participants emphasize the importance of providing information and support to individuals at the point of need (FG7-Academic Librarians, 57:46). They mention that creating workshops or programs might not be as effective as providing asynchronous information or accessible tactical support at the moment when individuals are experiencing difficulties with internet access or digital technology.

2. **Different Skill Levels and Needs:** The participants recognize that people have varying levels of technology skills and different needs depending on their life situations, such as seniors, parents, incoming freshmen, and English language learners. Addressing these diverse skill levels and needs requires tailored approaches and programs to bridge the knowledge gap.

3. **Cybersecurity and Privacy Concerns:** While cybersecurity and privacy protection were not frequently mentioned as concerns, participants acknowledge the importance of educating individuals about these safety issues (FG7-Academic Librarians, 01:02:06). They emphasize the

need to provide information on basic web security and safeguarding personal data to protect both organizations and individuals.

4. **Equity and Inclusivity:** Participants discuss the need for equity and inclusivity in providing digital education and support. They highlight the importance of considering vulnerable populations, racial and ethnic minorities, individuals with disabilities, and English language learners in designing programs and initiatives. Addressing language barriers and building trust within these communities were identified as crucial elements in reaching and supporting these populations effectively.

5. **Lifelong Learning and Collective Learning:** The participants stress the significance of lifelong learning and collective learning opportunities that involve citizens of all ages and stages of life. They propose programs that cross generations and involve primary and secondary school students, college students, adults, and senior citizens to collectively learn from each other and strengthen the digital skills and knowledge of the community.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Asynchronous Information:** Participants suggest that providing information and support in an asynchronous manner, allowing individuals to access relevant resources and guidance at the point of need, may be more efficient than synchronous workshops or classes that are currently available (FG7-Academic Librarians, 57:46).

2. **The Affordable Connectivity Program and the Digital Navigator Program:** Participants highlight the effectiveness of the affordable connectivity program and the digital navigator programs offered by public libraries. These programs involve knowledgeable individuals who can assist users across various technology skill levels and address specific challenges, such as obtaining devices, accessing broadband, navigating the internet, or using course software.

“...I think what some of the public libraries have been able to do with their digital navigator programs that were part of a pilot project, I think last year or two years ago, it seems like the best way to engage with individuals where they are -- having people who are really knowledgeable and across a broad spectrum that can teach ...” (FG7-Academic Librarians, 59:49)

3. **Cybersecurity and Privacy Education:** They recognize that many individuals might not be aware of potential risks and suggest incorporating privacy protection and good online behaviors into primary and secondary school curricula and digital navigator programs.

4. **Lifelong Learning and Cross-Generational Programs:** Participants emphasize the value of lifelong learning and cross-generational programs that involve citizens of all ages and stages of life. By collectively learning from one another, participants believe that communities can strengthen their digital skills and knowledge, fostering a more inclusive and equitable environment (FG7-Academic Librarians, 01:03:06).

C) Perceptions

Based on the conversations, we can identify several main barriers discussed by participants:

1. **Trust and Library Anxiety:** Participants discuss the importance of trust when helping students or individuals get connected. They mention that negative experiences with libraries or librarians can create barriers for individuals in seeking help. Library anxiety and information-seeking anxiety are highlighted as separate barriers that need to be addressed to ensure users feel comfortable asking for assistance (FG7-Academic Librarians, 01:07:32).

2. **Communication and Asking for Help:** Participants emphasize the significance of effective communication in encouraging individuals to seek help. Some students may be hesitant to ask for assistance due to various anxieties or perceived barriers. Creating a supportive environment and engaging with students in a fun and approachable way can help break down these barriers and encourage them to reach out for help when needed.

3. **COVID-19 Impact:** The COVID-19 pandemic has exacerbated some of these barriers, with students experiencing self-advocacy challenges and reluctance to seek help due to stress and the challenging educational environment during the pandemic (FG7-Academic Librarians, 01:12:10).

4. **Variability Across Vulnerable Populations:** The level of trust, anxiety, and willingness to ask for help may vary across different vulnerable populations. Factors such as cultural background, immigrant status, and data privacy concerns can impact how individuals from different groups approach seeking help.

5. **Targeted Programs:** There is a discussion about the need for targeted programs that address the unique challenges faced by specific groups. Tailoring support and assistance based on the specific anxieties and barriers experienced by different populations can lead to more effective and inclusive programs.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Building Trust and Targeted Programs:** Participants emphasize the importance of building trust with students and individuals seeking help. Creating a supportive and safe environment can encourage individuals to overcome anxieties and barriers and feel comfortable asking for assistance. Particularly for individuals from a different culture or use English as their second language, it is important to understand their communication skills in order to develop trust (FG7-Academic Librarians, 01:05:50). Acknowledging that different groups may have unique barriers and concerns, tailored programs can effectively address their needs and encourage help-seeking behavior. When considering racial ethnic minority groups or individuals with disabilities, participants also highlighted the importance of tailored support and programs.

2. **Communication and Encouraging Help-Seeking:** The participants suggest improving communication strategies to encourage students to ask for help. They propose engaging with students in a fun and approachable way during orientations and events to break down barriers

and promote open-mindedness and engagement with learning. Frontline workers or librarians may need more understanding and strategies to deal with information-seeking anxiety. This is also an area where more research can be done (FG7-Academic Librarians, 01:12:10).

D) Infrastructure

On infrastructure, the participants point out the lack of access in rural areas and the presence of digital redlining in some urban areas (Appendix FG7-Academic Librarians, 43:13), where high-speed internet access is limited or not provided by service providers in specific neighborhoods, exacerbating existing inequalities.

“...we're experiencing the worst of both worlds. Right? So the governmental entities that are supposed to be like watching out for everybody are laying it in the hands of companies. But the companies have no incentive because their only incentive is money. And so if they're not going to get the money because our populations don't have money and they're not going to do it... that's the reality we're in” (FG7-Academic Librarians, 46:27)

Proposed Solutions from Participants

Consider internet access as a basic human right: Currently there is no public or policy pressure on companies that provide fiber lines and Internet access to roll out services in all the rural areas. Participants point out that given how important Internet access is in our daily life, the service itself should not be only driven by financial incentives. “It is just like the telephone line” (FG7-Academic Librarians, 01:11:39).

E) Other Barriers

Proposed Solutions from Participants

Other improvements suggested by participants are the following:

1. Increasing Scholarship Value: One participant suggests increasing the value of an internal library scholarship for student workers to cover the cost of a computer. This would help address the financial difficulties faced by students and improve access to technology (FG7-Academic Librarians, 01:20:05).
2. Creating Statewide Momentum: There is a call for more momentum at a statewide level to address digital equity barriers. The participant emphasizes the need for a coordinated effort and system to solve these problems collectively, rather than individual grassroots initiatives (FG7-Academic Librarians, 01:20:51).
3. Coordination Among Libraries and Programs: Participants highlight the importance of different libraries and programs coordinating their efforts to tackle digital equity barriers effectively (FG7-Academic Librarians, 01:21:52). This would involve sharing resources and best practices to improve overall effectiveness.
4. Incorporating Digital Skills in Education: A participant suggests the need to ensure that digital equity and digital skills are integrated into education beyond K-12, making it a basic educational

requirement. This would help prepare individuals to function in a society where technology is prevalent (FG7-Academic Librarians, 01:22:04).

“... back to the early 2000 and then later with the No Child Left Behind, every student succeeds. And how do we make sure that digital equity, digital skills can be rolled into education, but past the K through 12 and through people's higher education careers as well, making it a basic educational requirement? And how do we make that happen? Because it is the way that, you know, people are going to be functioning in society now, going forward. And so it has to be considered a core competency” (FG7-Academic Librarians, 01:22:04)

2) Public Librarians

Summary: General Barriers

General Barriers

Based on the conversations, public libraries currently provide services including public computers, device loans, technical support (ad hoc, by appointment), computer basics and cybersecurity classes, online tutorials, outreach services to senior centers. Some also offer the Digital Navigator Program, the North Star Digital Literacy Program, or solar-powered public Wi-Fi access points.

The participants highlight several main barriers: the lack of knowledge and skills, the tension between digitalization of public services and the digital divide, frustration and miscommunication over technology, and from the libraries' perspective, the lack of resources to cope with the needs. Specifically,

1. **Digital Literacy and Training:** The lack of digital skills and knowledge emerged as a major barrier for people accessing and using internet services (FG10-Public Librarians, 13:47). Many individuals, particularly seniors and English-speaking minority groups, struggle to navigate websites, complete online tasks, and understand how to use digital devices effectively, while an increasing number of public services have to be applied for or completed online, especially after the pandemic. The conversation highlight the digital divide between those who have easy access to digital resources and those who do not. Differences in digital literacy levels, access to devices, and internet connectivity exacerbate the divide.

2. **Lack of Access to Devices and Internet:** Another significant barrier is the lack of access to digital devices and the internet, especially among certain communities. Many individuals, particularly those from low-income backgrounds, do not have personal devices or internet connectivity, which hinders their ability to access online services and information. Meanwhile, although some libraries were able to fund device loaning services through federal or state grants, they can still be overwhelmed by the requests to loan devices such as Chromebooks and hotspots.

3. **Funding Challenges for Libraries:** The participants discuss the challenges faced by libraries in securing funding for digital navigator programs and other digital literacy initiatives. Libraries

often struggle to justify their budgets and compete for grants, making it difficult to allocate resources for digital training and support. Some libraries have a small staff group and rely on volunteers to provide technical support and training services. One participant mentions “we're constantly just defending our budget just to keep our doors open” (FG10-Public Librarians, 23:23).

4. Need for Mobile-Friendly Websites: Participants point out that many websites are not designed to be mobile-friendly, which creates barriers for individuals who primarily use smartphones and mobile devices to access online services.

5. Role of Libraries and Librarians: The importance of libraries and librarians as key resources for digital literacy training and support is emphasized. However, libraries often face challenges in providing comprehensive digital assistance due to limited staffing and resources. Participants discuss the need for a clear distinction between the role of libraries as service connectors and not service providers. There is concern about "mission creep," where libraries are being expected to take on roles beyond their expertise and capabilities, leading to potential confusion and frustration (FG10-Public Librarians, 28:52).

6. Community Support and Recognition: The lack of recognition of libraries' value and importance in the community is suggested as a barrier to obtaining adequate funding and support for digital literacy initiatives.

7. Collaboration Disconnect: One participant mentions that there is a communication disconnect in the collaboration process (FG10-Public Librarians, 01:25:44). The top management of local organizations may not be aware of the library's provisions.

Proposed Solutions from Participants

Some solutions suggested or implied by participants are the following:

1. Digital Navigators and Training: Participants suggest implementing digital navigator programs and providing adequate training to address the lack of digital skills and knowledge among the public. Digital navigators can assist individuals in utilizing digital tools effectively and help them overcome barriers to accessing internet services.

“... every library really would benefit from just having 1 or 2 digital navigators on staff, depending on your population that are fully trained in that, and even social workers.” (FG10-Public Librarians, 23:23).

“I think the case has been made in this conversation that every library would benefit from at least one digital navigator” (FG10-Public Librarians, 01:32:21).

2. Mobile-Friendly Websites: Creating more mobile-friendly websites is proposed as a solution to improve accessibility for individuals who primarily use smartphones and mobile devices to access online services. Simplifying the user experience on mobile devices can enhance digital inclusion.

“... a lot of these websites are not designed for cell phone use, right? They're not mobile on mobile friendly sites. And so we know from lots of research that the majority of folks who have a lack of digital literacy skills are primarily using their cell phones and mobile devices to access these websites. And so making more app-like websites could be a major shift, right, where they don't have to get on a computer and figure out how to use a keyboard to figure out how to use a mouse” (FG10-Public Librarians, 16:06).

3. **Dedicated Staff and Resources:** Participants emphasize the need for dedicated staff, such as digital navigators or tech coaches, to provide personalized assistance to library patrons. Additionally, allocating sufficient funding for libraries is considered essential to support digital literacy initiatives and provide necessary resources.

“And I think you can see a lot of frustration in some librarians that are trying to assist where we don't have dedicated digital navigators or dedicated tech coaches where they're trying their best to be able to train someone, but they might not even have a full grasp themselves” (FG10-Public Librarians, 21:37).

4. **Recognition of Library Importance:** Participants highlight the importance of raising awareness about the value of libraries in the community. By demonstrating their significance and the services they provide, libraries can garner more support, including financial support, from their communities and policymakers (FG10-Public Librarians, 25:33).

5. **Clarifying the Library's Role:** Participants emphasize the need for a clear distinction between the role of the library as a service connector rather than a service provider. They propose that the library should focus on connecting patrons to relevant resources and support services rather than trying to fulfill roles that are beyond their expertise.

“We can be a referral site, but we are not a service provider. And I think that's where there's a lot of misunderstanding. We are not a social service provider, but we can connect you to social service providers... there's a lot of people who are interested in making libraries and librarians, service providers for things that we are not trained to do. And it is, quite frankly, not the mission of the library” (FG10-Public Librarians, 28:52).

6. **Collaboration and Communication:** Participants point out that they collaborate with various service providers, including senior centers, schools, daycare centers, and other community organizations for outreach (FG10-Public Librarians, 01:22:56; 01:23:14). They also suggest that a larger community conversation should take place to understand each other's services better and find ways to support one another to avoid duplication of efforts and confusion for patrons.

“But I feel like if more people could have a bigger community conversation, because what you'll find is there are six services in town and we're all doing the same thing, right? So everybody's pointing like in different directions, like, no, go right, go left, go straight. We all need to be sitting at a table, you know, in our communities and saying, what do you do? What are your services? We used to do that, but not so much anymore. And how can we support one another? Because we are all short staffed and then it will be

confusing trying to point people in a hundred directions” (FG10-Public Librarians, 32:21).

Specific Barriers

A) Economic

Based on the conversations, we can identify several main barriers discussed by participants:

1. Geographic and Transportation Barrier: For individuals living in remote areas or lacking reliable transportation options, geographic barriers can further limit their access to library services and other public resources. The lack of accessible and affordable public transportation is highlighted as a major barrier for individuals to access library services. This is particularly challenging for those in rural or underserved areas.

“... public transportation from where we are to Meriden is quite lacking. So even though I know now of a service that I would like to take advantage of, I know that there is now this other barrier for those people ... because they tend to be, you know, lower income levels, they tend to lack personal transportation and rely on public transportation” (FG10-Public Librarians, 34:54).

2. Marketing and Advertising: Limited marketing and advertising budgets are mentioned as an obstacle to reaching individuals who may benefit from library services but are not aware of the available resources. Traditional methods of outreach, such as mailings, may not be feasible for some libraries, and reliance on digital advertising may exclude those with limited internet access or digital literacy.

3. Digital Inclusion: The conversation touches upon barriers related to digital inclusion, where individuals with limited internet access or digital skills may miss out on important services and resources, including library initiatives.

4. Library Underfunding and Understaffing: Libraries and other public services are facing challenges due to underfunding and understaffing, limiting their ability to cater to the diverse needs of the community effectively.

Proposed Solutions from Participants

Some solutions suggested or implied by participants are the following:

1. Addressing Underfunding and Understaffing: Participants acknowledge that libraries, like other public services, often face challenges related to underfunding and understaffing (FG10-Public Librarians, 32:21). Solutions might involve advocating for increased funding and resources to expand the reach and effectiveness of library services. Some suggest that having grant writers is helpful in grant application (FG10-Public Librarians, 25:23-25:33).

“... it is not that all libraries would not be interested or are not already trying to do this level of work. It is that... we all just need the funding and support to do it. And I think that that was such a premium point. And I just want to make sure that it gets reiterated.

We all want to do the work and we all need the funding ...” (FG10-Public Librarians, 01:27:17).

2. Enhancing Marketing and Outreach Efforts: To address limited marketing budgets, participants discuss the need for creative and innovative outreach strategies. This includes finding ways to reach individuals who may not have internet access and improving communication to inform the community about the diverse services offered by libraries.

“I work in a bigger system, there are still staffing constraints and staff retention issues. But when we do have enough staff, we do try to go to community events to do outreach. But again, it's when we can do it and we just definitely don't do it as much as we'd like it” (FG10-Public Librarians, 01:22:10).

3. Need for Community Conversation: Participants emphasize the need for communities to engage in broader conversations about their needs and how different service providers can support one another to fill gaps and enhance access to resources. There is also a need to understand the root cause of the barriers, including public transportation as a possible bottleneck (FG10-Public Librarians, 35:54).

3. Offering Programs in Both Digital and Print Formats: Considering that digital literacy and internet access are crucial in today's world, participants stress the importance of ensuring digital inclusion for all members of the community. This may involve offering digital literacy programs or making resources available in both digital and print formats.

“[L]ibraries are doing summer reading right now. And we have always, because of understanding our community, we've always offered, you know, a print version of that summer reading challenge, ... as well as an online version. But I see it more and more even with our recreation department, you know, that everybody's got the QR code... Here's all your information that's on the QR code ...If, you know, they don't know what a QR code is, so how are they going to get that?” (FG10-Public Librarians, 38:39)

B) Knowledge

The main barriers discussed by the participants are as follows:

1. Individualized Assistance: Participants mention that individualized help, especially for technology-related barriers, is highly effective in assisting patrons. However, this approach can be challenging to manage, as it may blur the boundaries between the role of a librarian and the patron's privacy and safety concerns (FG10-Public Librarians, 49:34-51:27).

2. Training Program Dilemma: Participants discuss the dilemma of designing training programs for vulnerable populations, such as the elderly or those with language barriers. While general training programs can be beneficial, the effectiveness varies due to the different levels of technological proficiency among individuals.

3. Communication and Outreach: Marketing and advertising were identified as important aspects for libraries to reach out to the community effectively. Participants discuss the challenge of

ensuring that patrons are aware of the services and resources offered by the library, particularly for those without internet access (FG10-Public Librarians, 36:45).

4. Transportation and Access Barriers: Limited public transportation and lack of internet access are identified as barriers to accessing library services, particularly for vulnerable populations.

5. Collaborative Efforts: Participants highlight the need for collaboration among different service providers, including libraries, social services, job centers, and community organizations. Collaborative efforts can prevent duplication of services and better support the community. In addition, librarians often face the challenge of balancing their compassion and willingness to help patrons with maintaining professional boundaries and privacy considerations.

Proposed Solutions from Participants

Some solutions suggested or implied by participants are the following:

1. Individualized Assistance and Structured Classes: Participants highlight the effectiveness of one-on-one or hands-on assistance for patrons, especially for helping them navigate and use specific devices or applications. They identify the Digital Navigator Program as highly effective in providing individualized assistance (FG10-Public Librarians, 06:34). Participants suggest offering both structured classes and individualized assistance. Structured classes can act as entry points for patrons, and then they can transition to individualized help as needed. Some participants mention the value of using the North Star digital literacy platform, which allows individuals to learn at their own pace and offers a range of programs (FG10-Public Librarians, 10:02).

2. Collaboration and Referral: The idea of libraries serving as referral sites for other organizations or services is discussed. Participants emphasize the importance of collaborating with external agencies to support patrons better.

“We have also worked with a nonprofit in New Haven called Concepts for Adaptive Learning, otherwise known as Seat Belt, which does digital inclusion work and provides refurbished computers and tablets with training for youth and adults” (FG10-Public Librarians, 12:09).

3. Effective Communication and Outreach: Participants emphasize the importance of improving communication and outreach strategies to ensure that patrons are aware of available library services and resources.

“Even in a larger urban system, especially with like digital literacy and inclusion initiatives, a lot of that advertising goes online. And I have to wonder, you know, are we really accessing the populations and individuals that we're looking to help, because they're having struggles with getting on and navigating the Internet?” (FG10-Public Librarians, 37:57).

C) Perceptions

Based on the conversations, we can identify several main barriers discussed by participants:

1. **Trust and Confidence:** Participants mention the importance of trust in the library as a trusted institution, especially when it comes to providing accurate information and assistance with technology (FG10-Public Librarians, 52:43). Building trust is crucial in helping people get connected to the Internet. Others mention the lack of confidence (or negative self-image) may prevent the patrons from seeking help (FG10-Public Librarians, 01:11:45).

2. **Library Anxiety:** Library anxiety or information-seeking anxiety is discussed as a potential barrier for some individuals when seeking help or using the Internet. Some patrons may have negative self-perceptions related to not knowing technology, which can hold them back from seeking help or learning new skills.

3. **Generational Factors:** Generational differences are mentioned as a stronger factor influencing people's access to and trust on the internet, compared with cultural differences (FG10-Public Librarians, 01:14:18-01:14:45). Some participants note that distrust of technology may be more pronounced among certain generational groups, while others mentioned how cultural backgrounds can impact technology usage. Bridging these gaps requires understanding the needs and challenges of different demographic groups and tailoring support accordingly.

4. **Challenges with Technology:** Participants mention that technology-related challenges, such as internet connectivity problems or difficulties with online platforms, can lead to frustration and further deter people from accessing the Internet. Participants emphasize the need to troubleshoot and resolve technical issues promptly to improve access to the Internet for patrons.

5. **Resistance to Technology:** There is a spectrum of acceptance in terms of using technology and learning new skills. Participants point out that people who resist or distrust technology are less likely to seek assistance from the public libraries (FG10-Public Librarians, 01:07:36).

Proposed Solutions from Participants

Some solutions suggested or implied by participants are the following:

1. **Creating a Supportive Environment:** Participants acknowledge the importance of encouraging patrons and dispelling negative self-image (FG10-Public Librarians, 01:11:45). They emphasize the importance of creating a welcoming and supportive environment to alleviate anxiety. Building trust between patrons and the public library in their communities would also encourage individuals to seek help from the libraries.

“I think if you are faced with someone that is nice and kind and friendly and can admit that, hey, I might not be able to, you know, fully give you every answer, but, you know, I can find that information for you. I think it's all about the customer experience” (FG10-Public Librarians, 01:09:29).

2. **Providing Individualized Assistance:** Participants recognize programs such as Digital Navigator can help build trust and provide more tailored support to meet individual needs. But

they also caution the risk of losing proper boundaries between librarians and those who seek help.

“... in my case, being in a... branch library, you will actually get people that will come back to you and ask for you by name because, you know, we'll be trusted. You know, they trust you... you're not just seen as a library worker, a librarian. There's you know, for better or worse, you have now become kind of a... trusted companion or what have you” (FG10-Public Librarians, 53:32).

3. Recognizing and Reinforcing Library's Role as a Trusted Institution: Building a community consensus that public libraries are trustworthy institutions where individuals can find support and referral to services they need. For the librarians, participants also mention that they need to be honest and show their own vulnerabilities. Librarians are not expected to know everything, but they can be open about their limitations and show how they are learning with the patrons. In this way, librarians also set an example of how to navigate unknown territories.

“I think in part the trust is just being honest, because sometimes we have to say... I mean I do have staff who does struggle with technology more than others. And if you know, a patron comes in and that's who's available, I think just being, you know, showing your own vulnerability and saying, you know, I'm going to do the best that I can” (FG10-Public Librarians, 01:00:40).

“... especially with how COVID went and everything. And, you know, I had no idea on how to how the whole like filing for unemployment benefits process worked before coming into the library. And I was somebody that was at the time had two degrees. And, you know, some of this was absolutely foreign to me. But, you know, I would kind of readily admit to the person, you know, this is kind of the first or second time I've done this or helped with this. We will get through this together. So I guess being humble and vulnerable were pieces to kind of building or setting, hopefully a trustful atmosphere in place” (FG10-Public Librarians, 01:01:14).

“[W]e need to be allowed to say this is new for me too, and we'll try our best to get through it together. But it's going to be a learning process for both of us in this situation” (FG10-Public Librarians, 01:02:25).

D) Infrastructure

Main barriers discussed in this part of the conversation include:

1. Uneven Infrastructure: The discussion highlights that the quality and availability of Internet infrastructure can vary significantly within a city or area. Some sections may have robust access to both wired and wireless Internet, while others may have limited access or unreliable service (FG10-Public Librarians, 01:18:58).

2. Limited Provider Choices: Participants mention that in certain areas, there might be limited options for Internet service providers, “leading to a lack of choice for affordable Internet access”.

This lack of competition in the telecom space can be a barrier to accessing reliable and affordable Internet services (FG10-Public Librarians, 01:19:55).

3. Hotspot Usage: The reliance on hotspots, particularly in areas with limited internet access, indicates that there is a need for alternative solutions for connectivity in regions where traditional Internet service is lacking.

4. Urban-Rural Disparities: The discussion touches upon the disparity in internet infrastructure between urban and rural areas. Rural areas may face more challenges in terms of access to reliable and high-speed Internet compared to larger cities.

Proposed Solutions from Participants

Infrastructure Development: Improving Internet infrastructure, such as expanding access to reliable and high-speed Internet service, is seen as crucial for enhancing digital equity.

“...through our funding for a solar powered charging station that's outside our library and we have two Wi-Fi access points so people can utilize Wi-Fi even when we're closed.”
(FG10-Public Librarians, 12:46).

E) Other Barriers

In the concluding remarks, participants stress the underfunding and understaffing situation faced by local small libraries. There is a recognition that the competition for funding can lead to a winner-takes-all situation, where larger and more resourceful institutions have a better chance of securing funding and support (FG10-Public Librarians, 01:28:19-01:28:59). This can result in disparities in access to resources and opportunities for smaller or underfunded institutions.

Proposed Solutions from Participants

Some additional remarks suggested by participants are the following:

1. Policy-level Changes: Despite serving different socioeconomic populations, there is a recognition that many similar barriers related to digital equity are prevalent across the entire state of Connecticut (FG10-Public Librarians, 01:32:21). Participants express a strong passion for seeing changes in digital equity and recognize the importance of addressing these barriers from both the top (policy-level) (FG10-Public Librarians, 01:30:14).

2. Librarian Burnout Awareness: Given the understaffing situation, participants discuss the need for setting boundaries and managing multiple roles effectively to prevent burnout (FG10-Public Librarians, 56:25). They also highlight the need for continuous learning and being open about their limitations while providing assistance.

3) Digital Navigators

Summary: General Barriers

General Barriers

Based on the conversations, participants believe that the Digital Navigator Program is highly effective and one of the key benefits is that the digital navigators are able to meet the clients where they are, in terms of physical location, knowledge/skill levels, and individual specific needs. As a result, the actual type of assistance and the length of the support sessions both largely depend on individual clients.

The digital navigators in the focus group mainly serve Hamden and East Hartford. Therefore, the average profiles of their clients are different. For example, there are more English language learners in East Hartford and more elderly in Hamden. But they have interacted with most of the covered population groups.

Participants highlight affordability of both Internet and devices, the lack of skills, the lack of resources to seek help, and personal bandwidth as some main barriers. Specifically,

1. **Affordability:** All participants mention cost as the top barrier for people to access the Internet and get a broadband connection at home. The affordability of devices and internet services is a common concern.
2. **Digital Skills Gap:** Lack of digital skills is another major difficulty faced by individuals. Many people struggle with using technology effectively, which hinders their ability to participate in the digital world.
3. **Personal Bandwidth and Time Constraints:** Participants highlight the issue of personal bandwidth, meaning that people are often overwhelmed and have limited time to learn new digital skills or engage with technology.

“...the people of East Hartford have more hustle than anyone I've ever met... The hustle is indomitable. And so, personal bandwidth is a serious issue. You know, people are always saying, hey, I really want to learn this to help my kids, to help my family, to help my business. But I just don't have anything left in the tank” (FG9-Digital Navigators, 26:57)
4. **Lack of Resources and Assistance:** Access to resources and assistance is cited as a significant problem, with many clients not knowing where to look for help or falling prey to services that charge for doing tasks without teaching them how to do it themselves.
5. **Willingness and Resistance:** Some people express reluctance or resistance to adopting the Internet or technology, believing they do not need it. Overcoming this resistance and encouraging a balanced approach to using technology is important.

6. Bridging the Digital Divide: The conversation emphasizes the need to bridge the digital divide, closing the gap between those who are comfortable with technology and those who are not. The Digital Navigator program aims to invest in clients and improve their digital skills.

“I think in part, a lack of resources has widened the gap to the sense that clients don't necessarily know where to first look for resources or for help or for assistance. Very often there's a lot of services out there that will charge for services that are not legitimate, or they will charge for doing those things for clients without necessarily teaching them how to do those things individually. And I think the Digital Navigator program model is great because we're investing in the client and by extension, improving digital skills” (FG9-Digital Navigators, 29:56)

7. Educational Importance: Participants highlight the importance of digital literacy for education. Having a reliable internet connection and digital skills positively impacts students' performance in school.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. Affordability: Participants suggest addressing the cost-related barriers for people accessing the Internet and obtaining broadband connections at home. This includes making devices and internet services more affordable. One participant also talks about speaking to clients about ACP.

“... the other thing that we do a lot, and this is about how we push and pull and it's also specific to East Hartford, is that we at least speak to every single client about the Affordable Connectivity Plan. The reason for that in East Hartford is that we are a community eligibility provision district, which means all of our kids get free or reduced lunch, which translates into every single family that sends their kids to public school to qualify for ACP. And we're good at that. We know how to do it. We've worked hard at it and we a couple of times a year even push out to everybody who receives WIC and is covered by our WIC office in East Hartford to offer help for ACP sign ups” (FG9-Digital Navigators, 10:57).

Participants later comment on how the Affordable Connectivity Plan can be improved.

2. Digital Skills Training: To tackle the lack of digital skills, participants emphasize the need to provide training and education to individuals. Helping people develop digital literacy and proficiency is crucial to enable them to navigate the digital world effectively.

“I think we did the math on it at one point. It was like 1 in 4 people said, I want to learn how to type” (FG9-Digital Navigators, 10:57).

3. Public Programs such as Digital Navigator to Bridge the Digital Divide: Participants emphasize the importance of providing resources and assistance to individuals who may not know where to look for help or lack access to legitimate resources. The Digital Navigator

program is presented as a public program that focuses on bridging this gap (FG9-Digital Navigators, 29:56).

4. Meeting Clients Where They Are: Recognizing that personal bandwidth (i.e., time and energy) is a significant constraint for some individuals, participants suggest offering valuable and time-saving solutions. This includes providing them with essential information and resources to make the most of their time online. They also need to be flexible with scheduling and accommodating clients' availability is highlighted as an important approach. Offering personalized guidance and being flexible with schedules and learning styles are effective strategies (FG9-Digital Navigators, 06:24). East Hartford takes a slightly different approach but in the same spirit:

“So that differs in East Hartford. You come to us, which is not to say that we are opposed to being in community, in public spaces. It's just that we do not have the same kind of community in public spaces that would lend themselves well to digital navigation. We've done some digital navigation, for example, with clients who have kids, where it makes the most sense to meet them in a park so their kids can play and enjoy the park. And then we can do digital navigation. However, that can be really challenging. But it also we should note that the focus of our program in East Hartford in its conception was different in that we targeted families. So the library is actually well set up to meet with families. So for that reason, we've kind of stayed close to home” (FG9-Digital Navigators, 07:10).

“I think there's different variants of reading clients where they are. There's multiple meanings to it. Logistically, it could mean meeting clients where they are in terms of space. So a community space or something like that. Very often meeting clients where they are is meeting them at their skill set and knowing when in a broader sense, knowing when the skills that you're going to teach them, when you're going to need more time for” (FG9-Digital Navigators, 01:14:56).

5. Addressing Resistance and Willingness: Participants acknowledge that some people may express resistance to using the Internet. To address this, they focus on educating individuals about the benefits and importance of internet access, especially for education and personal growth.

“So I talk to them about that, hey, you know, your kids go to public school, we can help this be a \$0 thing that comes into your home. And we know from research that kids that have a wired Internet connection at home or high speed wired Internet, get one half of a GPA point higher, on average than their unconnected peers, and that the hardest hours to do something like rely on your phone as a hotspot or during those high peak times when everybody's trying to do their homework. So I often approach it from, Hey, I understand that it might not be a right now, but if you're ever in a day where you think to yourself, Gosh, it would be a lot easier if you come back and see me and we'll make Internet at home something that works for you” (FG9-Digital Navigators, 33:30).

Specific Barriers

A) Economic

Based on the conversations, we can identify several main barriers discussed by participants:

1. **Affordability of Internet Access:** The cost of internet service is identified as a significant barrier preventing people from using the internet. While the Affordable Connectivity Plan (ACP) has helped make it more affordable for some households, there are still concerns about hurdles and limitations in the program.
2. **Lack of Resources for Electronic Devices:** Participants highlight that some clients lack access to electronic devices like laptops and modems, which is crucial for digital inclusion. While the Digital Navigator programs have the capacity to provide select devices, there may be limitations in quantities and qualifications for eligibility.
3. **Language and Racial Disparities:** The conversation touches on alarming disparities based on language and race, particularly in terms of device ownership and affordability. These disparities need to be addressed to ensure equal access to digital resources. Some participants may experience difficulties in applying saving through the ACP when they speak to the internet provide with a strong accent.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Improving the Affordable Connectivity Plan (ACP):** While participants acknowledge that the ACP has helped many families and households to get internet or lower their bills, they also suggest addressing its flaws and hurdles to make it more effective and accessible to a wider range of people.
2. **Access to Private Programs:** Participants mention the success of private programs offered by specific internet service providers that offer affordable plans even without the ACP. They propose exploring and promoting more private programs to improve internet penetration.

“The thing that I have had the most success improving the Internet penetration with is Xfinity’s private program” (FG9-Digital Navigators, 36:05).

3. **Enhancing Language Accessibility and Providing Multilingual Support:** To help clients who are not confident in their English language skills and remove possible discriminations due to accents, participants recommend using features like chat exclusivity and providing multilingual support to help clients qualify for internet discounts and benefits.

“And the fact that you can chat in Xfinity and apply your ACP discount makes it a much easier thing for folks who don’t feel confident in their English language skills. ... I do use the official voice whenever I’d like to speak to the manager to help people qualify for Internet. And there are multiple instances where if the person who is calling the Internet provider has a strong accent, they have a hard time getting their savings applied. I can

call and say exactly the same words using the voice of I'd like to speak to the manager and get their savings applied.” “I'm like, please know that when we have a difference in access and we can't get somebody with an accent to apply their savings, we are then going and raising that concern to the FCC directly. So we also do that. Because part of this program is and part of what's good about ACP and you know why I think Comcast does such a nice job right now is that we've been pretty diligent about holding them accountable when they don't” (FG9-Digital Navigators, 37:09).

4. Providing Devices and Building Sustainable Device Infrastructure: Participants emphasize the importance of providing electronic devices to clients in need. They propose creating a sustainable device infrastructure where clients can access devices easily and trade them in for new ones when needed. This approach aims to empower clients with ownership over their devices, leading to increased ownership over the associated digital skills.

“What we've noticed in Hamden is that providing devices to clients really helps in terms of building the digital skills, and it's step one in the confidence level that the clients start to feel in terms of picking up these skills” (FG9-Digital Navigators, 39:26).

“I think that we as navigators are not doing what we need to in terms of building a sustainable device infrastructure for our clients. ... And there's some alarming disparities based on language and also race in East Hartford on who has devices and who doesn't. And affordability is the major component. So I would like to be king of the Digital Navigator program, where I have devices to give to literally anyone who walks through the door, regardless of whether they belong to East Hartford or not. And if you come in and you tell me I need a device, I want to say, sounds good, here you go. And, you know, you ought to be able to trade that device in when it's reached its obsolescence and not limp along with the machine. ... there ought to be a space where you can trade that device in for another affordable device later. ... Ownership over a device creates ownership over the skill set associated with it. That's what we want long term. The device is as essential as the connection and the navigator” (FG9-Digital Navigators, 41:55).

5. Addressing logistical challenges: Overcoming logistical challenges, such as childcare, transportation, and limited time, requires creative solutions to make digital navigation accessible to everyone. The conversation acknowledges the importance of addressing logistical challenges that may hinder clients from seeking help or learning new skills, such as providing childcare options or choosing accessible community spaces for training. And the solution goes back to meeting clients where they are as a general approach, working around people's schedules, and being flexible (FG9-Digital Navigators, 01:26:19; 01:26:49).

B) Knowledge

The main barriers discussed by the participants are as follows:

1. Lack of Self-Confidence: Participants discuss how lack of self-confidence can be a barrier to learning internet and technology skills. They emphasize the importance of building clients' confidence in using technology (FG9-Digital Navigators, 39:26).

2. Varying Skill Levels: The participants work with clients who have varying levels of digital skills and knowledge. Some clients may be beginners, while others may be more advanced. This requires adaptability and personalized teaching styles to cater to individual needs (FG9-Digital Navigators, 09:49).

3. Difficulty in Measuring Progress: Tracking and quantifying progress in digital skills can be challenging due to the diverse range of skills clients possess. Participants discuss the need for specific metrics to measure progress effectively.

4. Challenges Faced by Different Vulnerable Populations: The participants mention that different vulnerable populations may face unique difficulties in learning digital skills. For example, elderly clients may require multiple repetitions, while English language learners may face language barriers. Individuals with vision or touch problems also face unique challenges (FG9-Digital Navigators, 53:06).

5. Technology Evolution and Adaptability: Technology is constantly evolving, and participants stress the importance of being adaptable to new technologies and preparing clients for changes that may occur in the future.

6. Interpersonal Skills and Learning from Clients: The role of digital navigators goes beyond just providing technical assistance; they also act as educators and learners. Participants mention the value of learning from clients and maintaining a willingness to explore new technologies together.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. Filling the Gap of Skill and Knowledge and Identifying Critical Needs: Digital navigators can assist clients in overcoming the lack of self-confidence by providing device, support, and training in internet and technology skills. They aim to fill the gap in knowledge and empower clients to become more confident in using digital tools. Participants emphasize the importance of teaching the clients skills rather than just showing the how-to; and providing an “immediate lift” for their work or life as they are learning a skill.

“If a working mom tells me, ‘Oh, so I need to use Excel for my for jobs that I’m interested in and like hoping to go back to work in the fall and I’m all these jobs need excel.’ I say, well, do you have a household budget right now? I have a template that will help you use Excel and make your life easier, right? So I always try to offer not just a skill but an immediate lift” (FG9-Digital Navigators, 01:16:50).

2. Quantifying Progress: The participants propose the implementation of specific goals and metrics to measure progress in digital skills (see Appendix FG9-Digital Navigators, 46:59). Similar to how speech language pathologists have specific metrics, quantifying progress can be helpful for both the teacher and the student. They also recognize that given the vast amount of skills (and different levels of difficulty) they are teaching, it will be hard to track progress or find

good metrics. One participant suggests keeping track of meeting notes and keeping a client card as a solution (FG9-Digital Navigators, 51:11).

3. **Adaptability in Teaching:** Participants stress the importance of being flexible in teaching styles and accommodating various learning preferences and skill levels (see Appendix FG9-Digital Navigators, 56:55). They employ different methods, such as voice-to-text or notes, to cater to individual needs. Even for individuals with disabilities, they are able to find other ways or technologies to help them do the same thing.

4. **Preparation for Technology Evolution:** Acknowledging the constant evolution of technology, digital navigators should be prepared to learn new tools and technologies alongside their clients. This adaptability allows them to stay up-to-date and effectively support clients in using emerging technologies.

“I think in terms of technology as a whole, it's very comforting knowing that eventually everyone's out of square one, that everyone has to learn something brand new. And technology evolves at a rate that inevitably we're going to be using new things as they're released or as the technology is created.” “I think as digital navigators, having an idea that we're exempt from that, that we know every question to technology that clients are going to ask, is not necessarily the case, because very often we're going along with what the clients are working on. In my personal experience, I've learned a lot about different applications and different platforms that I had no knowledge of prior. But essentially you meet the people where their need is, and part of building their self-confidence is showing that you, as the digital navigator, is also willing to learn and also willing to go into it” (FG9-Digital Navigators, 58:20).

5. **Building Confidence and Mindset:** The role of digital navigation goes beyond teaching technical skills; it involves building clients' confidence and mindset. By recognizing the accomplishments of clients and emphasizing their capabilities, digital navigators can foster a positive learning environment. One participant points out that building confidence is “the biggest thing across the board”, especially for English language learners (see Appendix FG9-Digital Navigators, 53:47).

“I never remember who said it... digital navigation is not a skill set. It is a mindset and it is a space where you can create radical learning and so much confidence for people” (FG9-Digital Navigators, 53:47).

6. **Collaboration and Learning from Clients:** Participants highlight the value of collaborating with clients and learning from their experiences. As digital navigators encounter various levels of expertise, they may also seek assistance from one another to provide comprehensive support.

C) Perceptions

Digital navigators emphasized similar barriers pertaining to individual perceptions of Internet and technology, namely information anxiety, trust, and cybersecurity concerns.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. Shifting perception and overcoming anxiety: To shift perception and to overcome anxiety when it comes to using technology and learning new digital skills, participants emphasize the role of leading by example and building confidence by showing clients how to access resources and learn on their own (FG9-Digital Navigators, 01:02:13; 01:05:35). Demonstrating skills and leading by example helps build trust with clients. Showing them how to navigate resources and find answers on their own instills confidence. Some mention being real and transparent in front of the clients, or show, even be a bit performative, how they make mistakes, can help the clients feel more at ease.

2. Building trust and rapport: Trust is repeatedly mentioned as a crucial factor in the success of digital navigation programs. Building trust and having a human connection with clients is essential for them to feel comfortable seeking help and learning new skills. They emphasize providing resources and tools that empower clients to learn on their own and build their skills. One participant talks about the library as a safe known place to build trusting relationships, especially when people are skeptical about receiving free devices or free help (see Appendix FG9-Digital Navigators, 01:07:50). Having someone people trust to vouch for you makes a difference too.

“Very often, part of establishing trust and building connections with clients is in creating a safe space so people feel that they can be vulnerable and that they can ask you questions” (FG9-Digital Navigators, 23:47).

“And people skills is at the front and center of anything we're doing. Knowing how to connect to another person, knowing how to establish a rapport and how to build connections with people. That's really the central point of being a digital navigator. Knowing the tech skills is certainly helpful, but as we know from working with our clients, technology changes” (FG9-Digital Navigators, 01:10:48).

3. Addressing cybersecurity concerns: The topic of cybersecurity and online safety is raised, with a focus on educating clients about safe online practices and addressing their concerns about potential risks. Explaining online safety measures, safe passwords, and privacy settings helps alleviate fears (FG9-Digital Navigators, 01:23:44).

D) Infrastructure

Participants recognize that in East Hartford area, broadband mapping is quite robust and extensive. There is also public fiber; and in Connecticut in general, a lot of works has been done on improving infrastructure.

1. Sustainable device infrastructure: This is not precisely a barrier, but an area for future improvements. Participants point out that we are currently behind on building sustainable device infrastructure (FG9-Digital Navigators, 01:31:23).

Proposed Solutions from Participants

Sustainable Electronics Recycling: To address the issue of electronic waste and its impact on landfills, participants suggest promoting programs that recycle older electronics. This approach can reduce waste and encourage sustainable practices in device disposal.

“There is a big issue going on currently where electronics are being produced at such a rate that most landfills are ending up with large quantities of electronics, whereas people don't necessarily have resources for where they could sustainably recycle these components. So companies that we've used, such as HumanIT or other companies that do that kind of work, you can recycle older electronics that are then used to create new electronics. I think that's also a big component of clients who have devices that are no longer working, don't necessarily know what to do with them when they've reached the end of their usable life” (FG9-Digital Navigators, 43:41).

E) Other Barriers

In the concluding remarks, participants acknowledge the value of collaboration and sharing resources among digital navigator programs (FG9-Digital Navigators, 01:30:03). They emphasize the benefits of learning from one another and collaborating to achieve common goals in digital equity initiatives. One participant also mentions Digital Health Navigation as another example, to suggest that the navigator positions are influential in the communities (FG9-Digital Navigators, 01:34:00).

Proposed Solutions from Participants

Additional improvement:

Funding for Digital Navigator Programs and More Permanent Full-Time Positions: The participants emphasize the significance of funding for digital navigator programs. These programs play a crucial role in assisting community members in using digital technologies and accessing services. They advocate for funding and permanent full-time positions for navigators to ensure continuity and dedication to the work (see Appendix FG9-Digital Navigators, 01:31:23).

“Best advice” participants have given to their clients:

- Take advantage of all your resources.
- You are not by yourself.
- Have fun.
- “Going to reverse the question, actually... Advice that I've gotten from a client before, and this is a more funny bit of advice. It was... one day you're going to need a digital navigator” (FG9-Digital Navigators, 01:39:06).
- “(You are) not going to break it. Touch it and see what happens. Be curious. That’s how you learn. Just touch everything and see what happens” (FG9-Digital Navigators, 01:40:50).

4) Case Workers

Summary: General Barriers

General Barriers

The frontline case workers in the focus group mainly work at the job center. Some of the available programs and services include public computer access, access to cameras for interviews, computer basics classes, and individualized support.

In the conversation, the participants emphasize the willingness to adopt technology/Internet as one of the key barriers and noted that most of the clients they serve would be those who already have such willingness to use the Internet.

“It's not that they don't have access to Internet or they don't have opportunities to learn. Some of the career centers do have basic computer classes. You do have the public libraries. Um, I don't know how the public libraries are in the corner of Connecticut, right in the far northwest through the far northeast, but definitely in the cities there's digital navigators. They have one on ones, they have group classes. But again, the person has to be willing to put in the time and the effort” (FG8-Case Workers, 03:48).

“It's almost like coercion, right? They are coerced to go through it without. They're not consenting to the changing of times or to digital technology. They're not. They are coerced to learn or to ask or to push through” (FG8-Case Workers, 16:30).

Participants have identified several main barriers; similar to the digital navigators, they also suggested “meeting clients where they are” as a general approach (FG8-Case Workers, 10:46; 12:25). In the conversation, they share extensively on practical strategies they have used to help people adopt and learn new technology.

Specifically, on the main barriers:

1. Lack of Ability to Access: Some individuals lack the knowledge and skills to effectively use the Internet, which may be related to access, economics, or disability, both physical and cognitive. It may also include typing skills. Some individuals struggle with critical reading skills, making it difficult for them to navigate and understand online content. People may even experience multiple barriers, making it more costly and time-consuming to help them learn the skills (FG8-Case Workers, 21:30; 22:15).

2. Fear and Intimidation: Fear of making mistakes, fear of government involvement, and intimidation by technology can hinder individuals' willingness to use the Internet (FG8-Case Workers, 19:10).

“I think there's this idea, you know, with most of the stuff we work in unemployment specifically, there's this fear that they're going to make a mistake and owe the government

a ton of money or be reprimanded or be charged a fee or something. So there's I don't want to make mistakes, you know” (FG8-Case Workers, 23:57).

3. **Access to Adequate Support:** Individuals may experience difficulties in finding support for them to use the Internet, which could be from friends and family, or from public resources. Sometimes, due to understaffing, individuals in need may not have case workers who can spend enough time to provide assistance. Sometimes, over-reliance on family or friends would be a barrier in itself, because individuals can avoid learning digital skills themselves.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Providing Support and Patience:** Participants emphasize the importance of providing support and patience to individuals who are willing to use the Internet but may face difficulties in accessing technology or learning new skills (FG8-Case Workers, 22:48). They suggest having someone available to guide and assist them, creating a safe space for learning without fear of making mistakes.

2. **Highlighting Rewards, Benefits, and Simplicity:** To encourage those who are unwilling to use the Internet, participants propose emphasizing the rewards and benefits of gaining digital skills (FG8-Case Workers, 23:15). This could include showing how technology can make tasks easier, such as paying bills online or accessing job opportunities. For people experiencing fear of technology, it is important to break down the steps into small and simple parts.

3. **Building Empathy and Trust:** Participants stress the significance of empathy and building trust with individuals who are hesitant or apprehensive about using technology (FG8-Case Workers, 31:00). They suggest understanding their fears and challenges and providing reassurance and support to help them feel more comfortable and confident in learning new digital skills.

4. **Inclusivity and Diversity:** Several participants mention the importance of an inclusive approach to digital equity, where the focus is on inclusion regardless of individuals' backgrounds, abilities, or identities. By creating an inclusive peer-run learning environment, people from different walks of life can come together to learn and support each other in gaining digital literacy.

“You put all the people from different walks of life in one room learning something. And then it's to me from my experience, it works out pretty well. Just the fact you have a common like to say that common you know objectives to learn a computer class. Everyone's happy because they're learning something, and they meet new people in the process. Different countries, different race, ethnicity, cultures, etc” (FG8-Case Workers, 28:14).

Specific Barriers

A) Economic

Based on the conversations, we can identify several main barriers discussed by participants:

1. **Funding and Resource Allocation:** The conversation highlights the need for increased funding and support for public libraries and career centers to better assist individuals in overcoming the digital divide. Some participants suggest making access to the internet a human right and increasing government subsidies for internet access.
2. **Tailoring Support for Different Populations:** The conversation acknowledges the need for tailored support for specific population groups, such as veterans, non-English speakers, and youth. Understanding the unique challenges faced by each group and providing specialized assistance is considered essential in promoting digital inclusion.
3. **Policy and Regulation:** Participants discuss the need to assess agency policies and regulations to enable the safe provision of digital assistance to those with limited digital skills. Policies may need to be adjusted to accommodate the certification and training of individuals who can provide support. Participants believe that some solutions require top-down approaches, where government departments, like the Department of Labor and library commissioners, collaborate to implement effective programs and policies (FG8-Case Workers, 01:16:29).

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Specialized Support for Vulnerable Populations:** Consideration was given to vulnerable populations, such as the elderly, people with disabilities, and youth (Appendix FG8-Case Workers, 56:43), who may have unique needs and require tailored assistance.

“I get a lot of youth who have grown up with a cell phone that does everything for them, or the apps that are really simple and easy to use, but their technical skills [for things] that are a little bit more advanced, they just don't know how to do them. Or the critical reading skills are poor because they dropped out of school. So being able to reach some of that youth is important too” (FG8-Case Workers, 56:43).

2. **Referral and Quality of Information:** The quality of information and referrals provided to individuals seeking digital assistance is discussed, emphasizing the importance of safe and reliable sources.
3. **Funding and Resource for Public Agencies:** The conversation highlights the need for increased funding and support for public libraries and career centers to better assist individuals in overcoming the digital divide. Drop-in centers, including job centers, homeless centers, and mental health centers, are seen as essential places for individuals in the digital divide to seek assistance and support (FG8-Case Workers, 46:17). Participants propose providing funding and resources to these centers, including trained technology navigators, to help bridge the digital gap.

Some participants suggest making access to the internet a human right and increasing government subsidies for internet access (FG8-Case Workers, 47:32).

B) Knowledge

The main barriers discussed by the participants are as follows:

1. **Lack of Digital Literacy and Skills:** The conversation highlights the challenge faced by vulnerable populations, including people with disabilities, the elderly, and youth, in acquiring digital literacy and skills. The lack of digital skills and familiarity with technology poses a significant barrier in accessing the internet and its benefits. The transition from analog to digital technology poses challenges for certain populations. While the majority may be comfortable with digital tools, there is still a significant group that struggles with digital literacy and access. Bridging the digital divide and ensuring equitable access to technology resources and assistance are important barriers discussed.

“We're trying to move away from people and going into the digital universe. But we have to consider that these shifts in technology have occurred quite drastically and COVID did that to us, right? We went from analog to digital right off the bat. And so when we talk about equity in accessing digital technology, yeah, one could say, oh, maybe we can run a line of 5G or whatever fiber optic cables to the northeast side of Connecticut, or maybe we can improve the cell phone towers... As you could tell, we're really speaking of humanity and its transition forward. Right. And we didn't give people that time of day to fully transition... our government is going into the digital realm or the electric car realm right off the bat. And so that's where the gap is in terms of providing services, transition, transitioning people off of a person and into the hands of artificial intelligence and a computer” (FG8-Case Workers, 36:47).

2. **Need for Digital Assistance and Support:** Participants mention the need for designated individuals or programs, such as technology navigators, to provide personalized assistance to those who struggle with technology. This kind of support is particularly crucial for individuals who cannot use computers or digital devices on their own. In-person support is thus regarded as critical, since some individuals require such support due to learning disabilities, limited digital skills, or other barriers. Drop-in centers and public libraries are seen as essential places where trained technology navigators or digital support specialists can help individuals navigate technology and build their digital literacy.

3. **Funding and Outreach:** The conversation touches upon the importance of funding digital literacy programs and outreach efforts, especially in rural and underserved areas. Public libraries and organizations like job centers can be key partners in providing technology assistance and training.

4. **Additional Barriers:** Various barriers are mentioned throughout the conversation, such as lack of transportation, caregiving responsibilities, and limited access to technology. These barriers hinder individuals' ability to access resources and services, and finding solutions to address these challenges is important (FG8-Case Workers, 01:02:22).

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Digital Literacy and Skills Training (especially one-on-one):** To address the digital divide, participants suggest providing digital literacy and skills training to individuals who may struggle with technology use. This includes in-person support and assistance, especially for those with learning disabilities or limited digital skills (FG8-Case Workers, 42:56). Participants propose the idea of having designated individuals or programs, such as digital navigators, who can provide one-on-one assistance to individuals with disabilities or limited technology skills. These navigators would help bridge the digital divide and make digital resources more accessible.

2. **One-Stop Information Hub and The Role of Public Libraries:** To reach individuals in rural or underserved areas, participants recommend focusing funding efforts on public libraries. Libraries can become centers for digital navigators and technology courses, making it easier for people to access assistance and training. The concept of creating a one-stop information hub, such as public libraries, is discussed as an inclusive approach to address the digital divide. The library can serve as a central location for various resources, training, and assistance for individuals seeking help with digital access and skills (FG-Case Workers, 55:57).

“...they may not be able to come from Sharon, Connecticut, all the way down to Waterbury, or they may not be able to drive from Woodstock to Mountville. And the lack of transportation in eastern Connecticut is a big deal. And so if you can concentrate that funding to the libraries and make sure that they have digital navigators, they have technology courses are one-to-ones or whatever it is, assistive technology” (FG8-Case Workers, 47:32).

3. **Enhance Outreach Programs:** Participants emphasize the importance of outreach programs to inform people about available services. Instead of relying solely on digital means like flyers and pamphlets, they suggest having physical materials, such as brochures or posters, available in public spaces like libraries to reach a broader audience, because “what good is marketing online if they're unable to get online” (FG8-Case Workers, 53:51).

4. **Recognizing Population Diversity and Building Inclusive Communities:** The conversation emphasizes the importance of inclusivity and building a sense of community for all individuals, regardless of their background, age, or abilities. Participants stress the need for public spaces, like libraries, to be welcoming and supportive of everyone; public and nonprofit organizations also should make an intentional effort to build trust at the community level. For vulnerable populations, it is important to tailor solutions to meet their specific needs. Meanwhile, some also argued for avoiding excessive segmentation and instead promoting a unified, inclusive approach to serving the community (FG8-Case Workers, 58:16).

5. **Hybrid Approach:** While recognizing the benefits of the digital transition, participants also emphasize the importance of a hybrid approach that accommodates individuals who may struggle with full digital integration. In-person services and support should be available alongside digital solutions.

6. Additional Trainings for Case Workers: When providing technology assistance to vulnerable populations, there are concerns about privacy, safety, and adherence to state regulations (FG8-Case Workers, 49:33). In particular, those less tech-savvy clients lack a reliable method to keep track of sensitive information such as passwords. Proper training and establishing protections for both service providers and clients are essential to ensure safe and effective assistance.

C) Perceptions

Based on the conversations, we can identify several main barriers discussed by participants:

1. **Building Trust:** Trust is highlighted as a significant barrier when it comes to shifting people's perceptions towards using the Internet, leading them to avoid using technology. Vulnerable populations, such as those with disabilities, trauma, or language barriers, may face challenges in trusting organizations, especially when it comes to accessing government services or technology-related assistance.
2. **Lack of Knowledge and Fear:** Many individuals, particularly the elderly and those with limited digital literacy, expressed fear and hesitation when it comes to using technology. Bad past experiences or lack of knowledge about how to use devices and the internet can be significant barriers. Individuals may also fear that they reveal their lack of digital skills in a public setting.
3. **Privacy Concerns:** Cybersecurity and privacy barriers are identified as a possible concern for people who are hesitant to use the Internet, especially the elderly (FG8-Case Workers, 01:03:40). Previous negative experiences or lack of knowledge about safe internet practices can deter individuals from accessing online resources.

Proposed Solutions from Participants

Some solutions suggested by participants are the following:

1. **Building Trust and Utilizing Credible Messengers:** Participants acknowledge the importance of building trust with vulnerable populations, especially those who have experienced trauma or have language barriers (FG8-Case Workers, 35:03). Building trust can be achieved through personal connections, understanding cultural backgrounds, and providing a safe and supportive environment. Some participants also discuss the potential benefits of having credible messengers, such as someone from a similar background or with similar experiences, to assist individuals who may be more apprehensive about using technology.
2. **Providing Private Assistance:** Participants propose providing private rooms for one-on-one and face-to-face assessment and assistance in libraries or job centers (FG-Case Workers, 01:00:07).
3. **Certification and Trained Support:** There is a need for certified professionals or trained individuals who can provide technology support, help with online applications, and assist people in using digital tools without violating privacy and security (01:09:30).

D) Infrastructure

Main barriers discussed in this part of the conversation include:

1. Access and Infrastructure: Participants discuss the importance of ensuring access to high-speed Internet and technology in both urban and rural areas. They emphasize the need for government subsidies and investments to make Internet access more affordable and accessible.

Proposed Solutions from Participants

1. Ensuring Access to High-Speed Internet: Participants suggested making access to the Internet a human right and ensuring that high-speed Internet is available at least downtown or in the center of the town. Government (state or federal) subsidies can come in to push out cables in rural locations and to provide free or reduced cost broadband access.

“I would make access to the Internet a human right. I think nowadays it's necessary. I think you can't really do anything without the computer nowadays... it just should be one of the basic foundations of what you need to survive nowadays” (FG8-Case Workers, 01:07:22)

“...everyone has the right to have access to one method of Internet. That's free and government subsidized” (FG8-Case Workers, 01:13:57)

E) Other Barriers

1. Interoperability and Communication Among Public Agencies: One of the main barriers discussed is the need for better communication and interoperability between different public agencies, such as public libraries, career centers, and nonprofit organizations. Participants suggest that improved coordination and information sharing among these entities could help make resources more accessible to the population in need.

2. Legality and Privacy Protection: Participants mention the importance of policies, procedures, and protections to ensure the safety and privacy of individuals when accessing and using the Internet. However, people lacking necessary digital skills may need assistance to enter sensitive personal information including the passwords to their various accounts (FG8-Case Workers, 12:25).

Proposed Solutions from Participants

1. Improve Interoperability and Communication Among Agencies: Participants suggest the need for better communication and interoperability between different agencies, such as public libraries, career centers, and nonprofit organizations. This would help people easily access information about available resources without having to visit multiple places. One participant mentioned the example of 2-1-1 (FG8-Case Workers, 54:28).

2. Legality and Privacy Protection: The importance of policies, procedures, and protection to ensure the safety and privacy of individuals when accessing and using the internet is highlighted (01:17:48). Keeping certain tasks within government staff is considered useful to ensure reliability. For people who need assistance to enter personal information, some participants hope

that there would be a program or an authorized “access representative” that people can turn to for help with entering personal information by a third-party legally.

“I always think of a magic wand if there is a way that there would be like a program or some sort of access representative, you know, that's accessible in a community somewhere, they could take drop ins where they can be that person can that they can type for them when they can't. Yes. It would be like a safe outlet for them. But it would also be legally, legally okay for that” (FG8-Case Workers, 12:25)

APPENDIX

Appendix A. Questionnaire for Covered Populations

Focus Group Facilitation Questionnaire *General*

- Date:
 - Time:
 - Location:
 - Moderator:
 - Other team members present:
-

I. Notes

Use of the Questionnaire. These questions serve to facilitate discussions rather than a strict list to follow. The facilitator will use these as a guide, with the expectation that the initial questions of each section will naturally generate an open discussion on all other key topics identified below.

Session Sequence (Aprox. duration: 1hr 22 mins – 1hr 46 mins)

- A. Introduction and Consent (8-10 mins.)
- B. Icebreaker Questions (10-15 mins.)
- C. Ground Rules (1 min.)
- D. General Questions about Internet Use and Access (8-10 mins.)
- E. Core Questions (50-60 mins.)
- F. Closing Questions (5-10 mins.)

Goals

- *Identify* the key barriers to internet adoption/usage by the covered populations.
 - *Recognize the existing efforts* to remove the barriers (and possibly the efficacy of these efforts).
 - *Understand why* the identified barriers are impediments to internet adoption/usage for the covered populations specifically, and for digital equity more broadly.
 - *Uncover the mechanisms* through which these barriers prevent internet adoption/usage by the covered populations.
 - *Obtain insights* from service-providing organizations and the covered populations themselves for a full picture of the barriers to digital equity.
 - *Obtain insights* about what unconnected clients and individuals are missing by not having an adequate connection.
-

II. Questionnaire

A. Introduction and Consent (8-10 mins.)

- [Moderator:] Introduce yourself and the team.
- Thank you so much for participating in this meeting.
- This is a study conducted by the University of Connecticut upon request of the State of Connecticut, to learn about barriers to internet and technology access in the State. Your insights and experiences may shape the approach to future policies to improve access to the internet and technology.
- We will audio record the meeting [so that we can revisit the conversation and try not to misinterpret your words]. But anything shared here will not be linked to you personally to protect your privacy and the confidentiality of what you share with us. We will carefully clean our transcriptions from any names.
- Please take a few minutes to go over the “Consent Form/Information Sheet.” [Give about 5 minutes.]
- **Are you willing to participate in one focus group?**
- [If they agree:] Thank you, we appreciate that very much.
- Before we get started, could you please fill out the form we will distribute now? It does not ask for any names, so please do not write your name. It is mainly to know the general characteristics of the group participating in this session.
- [About the gift cards] We will distribute the gift cards at the end of the session: Please note that, for UConn’s internal administrative process and to activate the cards, we need to ask you for your address and date of birth. This information will only be kept with us for this purpose, it will not be shared with the State of Connecticut, to protect your privacy and confidentiality. We will stop by your seat, one by one, to ask for this. With this information, we will activate your cards so you can use them tonight or tomorrow morning at the latest.

B. Icebreaker Questions (10-15 mins.)

- Please tell us how you would like to be called today? [First name, nickname, or pseudonym only.]
- We want to know a bit more about you before we start. So, could you please tell us what you think about the following? [Shuffle cards each time. Let them **pick one or two, randomly.**]
 - a) If you could have a superpower, what would it be and why?
 - b) If you had to teach a class on one thing, what would you teach?
 - c) What’s the best piece of advice you have ever been given?
 - d) Teleportation or flying? Why?
 - e) How do you like your eggs?
 - f) What is the weirdest food you have ever eaten?

***** **We will now start recording.** *****

C. Ground Rules (1 min.)

- Before we begin, we have some simple ground rules to make sure we have a supportive and respectful environment for our discussion:
 - a) Everyone has a right to their opinions and will be heard with respect.
 - b) We will avoid dominating the conversation and will allow time for everyone to share.
 - c) The moderator will guide the timing and flow as appropriate.
 - d) And again, please avoid making any reference to participants' names during the session. This is to help us protect your identity and keep it confidential after the meeting.

D. General Questions about Internet Use and Access (8-10 mins.)

1. Do you have a broadband connection at home?
2. How often do you use the internet? What for?
3. What devices do you use to get connected?
4. How would you feel about living without an internet connection?
5. Have you received help from anyone or any organization to use or connect to the internet?

E. Core Questions (50-60 mins.)

General barriers

6. What do you think are your key barriers or difficulties for using internet services? Please name 1-3.

Specific barriers

Economic

7. Would you say your *financial situation* influences your use of internet services?
8. What do you think can be done to overcome these difficulties, and help improve your use of internet services? [Use the below points in case these are not brought up, and to help structure responses.]
 - a. Providing electronic devices (i.e. modem, laptop, smartphone, other)?
 - b. Providing financial support (i.e. voucher, subsidy, other)?
 - c. Providing free or subsidized training programs (i.e. on digital literacy)?

Knowledge

9. Would you say that your knowledge about computers and/or the internet influences your use of internet services?
10. What do you think can be done to overcome these difficulties, and help improve your use of internet services? [Use the below points in case these are not brought up, and to help structure responses.]
 - a. Providing training (i.e. on digital literacy, baseline knowledge)?
 - b. Providing technical support (i.e. to solve their hardware or software issues)?
 - c. Advising you on issues related to digital content (i.e. privacy protection, cybersecurity, accessibility, other)?

- d. Providing logistical support (i.e. childcare, elderly care, transportation, scheduling accommodations)?
- e. Providing language assistance?
- f. Providing accessibility assistance?
- g. Are there specific types of knowledge that would support your use of internet services?

Culture and Perception

11. Would you say that individual or cultural perceptions influences your use of internet services?
12. What do you think can be done to overcome these difficulties, and help improve your use of internet services? [Use the below points in case these are not brought up, and to help structure responses.]
 - Critical factors for using (or not) internet services:
 - a. Trust?
 - b. General awareness of the digital world?
 - c. General awareness of their eligibility for internet access benefits?
 - d. Cyber security concerns?
 - e. Values regarding the internet and/or technology?
13. If you were from a low-income household, how would your perceptions vary?
14. What other personal conditions would affect your perceptions for using internet services? [i.e. being a minority, elderly, veteran, have disabilities, have language barriers, live in a rural area?]

Infrastructure

15. Do you think that living in an urban area influences your use of internet services, compared to living in other locations (i.e. less urban or more rural ones)?
 - If yes, what are potential infrastructural issues you can identify:
 - a. Service availability?
 - b. Services reliability?
 - c. Remoteness?
 - d. Provider competition/choices?

F. Closing Questions: Final Thoughts and Recommendations (5-10 mins.)

It's about time to wrap up our discussion.

16. What else would you like to share with us about barriers to using internet services?
17. What are your final thoughts about factors we have not discussed that may be ***complicating*** your use of the internet?
 - a. What would you *recommend* doing to help address all these *barriers*?
18. What are your final thoughts about factors we have not discussed that may be ***facilitating*** your use of the internet?
 - b. What would you *recommend* doing to further improve these *strengths*?

***** **We will now stop recording.** *****

[Continues on next page]

[Read] *Thank you very much for your time. As we said, your participation in the focus group, as part of the research, will help provide critical information to the State and will likely lead to a large federal investment in the State connectivity infrastructure to improve access to the internet and technology.*

We will now distribute the gift cards as a way of thanking you [provide one gift card per participant].

Appendix B. Questionnaire for Frontline Workers

Focus Group Questions for Librarians and Frontline Workers

- Date:
 - Time:
 - Location:
 - Moderator:
 - Other team members present:
-

I. Notes

Use of the Questionnaire. These questions serve to facilitate discussions rather than a strict list to follow. The facilitator will use these as a guide, with the expectation that the initial questions of each section will naturally generate an open discussion on all other key topics identified below.

Session Sequence (Approx. duration: 1hr 22 mins – 1hr 46 mins)

- G. Introduction and Consent (8-10 mins.)
- H. Icebreaker Questions (10-15 mins.)
- I. Ground Rules (1 min.)
- J. General Questions about Internet Use and Access (8-10 mins.)
- K. Core Questions (50-60 mins.)
- L. Closing Questions (5-10 mins.)

Goals

- *Identify* the key barriers to internet adoption/usage by the covered populations.
 - *Recognize the existing efforts* to remove the barriers (and possibly the efficacy of these efforts).
 - *Understand why* the identified barriers are impediments to internet adoption/usage for the covered populations specifically, and for digital equity more broadly.
 - *Uncover the mechanisms* through which these barriers prevent internet adoption/usage by the covered populations.
 - *Obtain insights* from service-providing organizations and the covered populations themselves for a full picture of the barriers to digital equity.
 - *Obtain insights* about what unconnected clients and individuals are missing by not having an adequate connection.
-

II. Questionnaire

A. Introduction and Consent (8-10 mins.)

- [Moderator:] Introduce yourself and the team.
- Thank you so much for participating in this meeting.
- This is a study conducted by the University of Connecticut upon request of the State of Connecticut, to learn about barriers to internet and technology access in the State. Your insights and experiences may shape the approach to future policies to improve access to the internet and technology.
- We will audio record the meeting [so that we can revisit the conversation and try not to misinterpret your words]. But anything shared here will not be linked to you personally to protect your privacy and the confidentiality of what you share with us.
- Please take a few minutes to go over the “Consent Form/Information Sheet.” [Give about 5 minutes.]
- **Are you willing to participate in one focus group?**
- [If they agree:] Thank you, we appreciate that very much.

B. Icebreaker Questions (10-15 mins.)

- Please tell us how you would like to be called today? Please change your name shown in Webex accordingly [First name, nickname, or pseudonym only.]
- We want to know a bit more about you before we start. So, could you please tell us what you think about the following? [Shuffle cards each time. Let them pick one or two, randomly.]
 - g) If you could have a superpower, what would it be and why?
 - h) If you had to teach a class on one thing, what would you teach?
 - i) What’s the best piece of advice you have ever been given?
 - j) Teleportation or flying? Why?
 - k) How do you like your eggs?

***** **We will now start recording.** *****

C. Ground Rules (1 min.)

- Before we begin, we have some simple ground rules to make sure we have a supportive and respectful environment for our discussion:
 - e) Everyone has a right to their opinions and will be heard with respect.
 - f) We will avoid dominating the conversation and will allow time for everyone to share.
 - g) The moderator will guide the timing and flow as appropriate.
 - h) And again, please only make reference to your or other participants’ first names, nicknames, or pseudonyms during the session. Your identity will be kept confidential after the meeting.

D. General Questions about Internet Use and Access (8-10 mins.)

- Which of the following populations do you mostly work with: elderly/veteran/have disabilities/have language barriers/racial/ethnic minority/rural
- In what capacity/How do you help these populations to access the Internet? (What programs do you provide? Are they offered on a regular basis or ad hoc?)

- Do you work with any other public agency or nonprofit organizations to provide such assistance?

E. Core Questions (50-60 mins.)

General barriers

- Based on your experience, what do you think are the key barriers or difficulties for these population groups to use internet services (or get broadband connection at home)? Can you name 1-3?
- If believed that individuals in this group do not need the internet:
 - a. How do you imagine their life if they had internet access? How better or worse would it be?

Specific barriers

Economic

- Would you say that financial situation has a role in the degree to which they use internet services?
- (You mentioned that financial concerns are one of the key barriers.) What do you think we can do to overcome these difficulties? [Use the below points in case these are not brought up, and to help structure responses.]
 - a. If were provided with electronic devices (i.e. modem, laptop, smartphone, other)?
 - b. financial support (i.e. voucher, subsidy, other)?
 - c. a free or subsidized training program (i.e. on digital literacy)?

Knowledge

- Would you say that knowledge about computers and/or the internet has a role in the degree to which they use internet services?
- (You mentioned that knowledge about computers or the Internet is one of the key barriers.) What do you think we can do to overcome these difficulties? [Use the below points in case these are not brought up, and to help structure responses.]
 - a. If were provided with training (i.e. on digital literacy, baseline knowledge)?
 - b. technical support (i.e. to solve their hardware or software issues)?
 - c. If were advised on issues related to digital content (i.e. privacy protection, cybersecurity, accessibility, other)?
 - d. logistical support (i.e. childcare, elderly care, transportation, scheduling accommodations)?
 - e. language assistance?
 - f. accessibility assistance?
 - g. Are there specific types of knowledge that would support this specific group's use of internet services?

Culture and perception

- Would you say that cultural background and/or perceptions has a role in the degree to which they use internet services?
- (You mentioned that your cultural background or perceptions is one of the key barriers.) What do you think we can do to overcome these difficulties? [Use the below points in case these are not brought up, and to help structure responses.]

- a. Is trust a critical factor? What actors or organizations that have this type of influence do they trust or distrust the most? Why?
 - b. General awareness of the digital world?
 - c. general awareness of your eligibility for internet access benefits?
 - d. cyber security concerns?
 - e. values regarding the internet and/or technology?
- How does all this vary across socioeconomic groups? Do you think if they were from the low-income population, these perceptions may affect them differently?
 - What other personal conditions would affect the perceptions for using the Internet services? [What if they are also elderly/veteran/have disabilities/have language barriers/racial/ethnic minority/living in a rural area]?

Infrastructure

- Would you say that infrastructure has a role in the degree to which they use internet services?
- (You mentioned that infrastructure is one of the key barriers.) What do you think we can do to overcome these difficulties? [Use the below points in case these are not brought up, and to help structure responses.]
 - a. Service availability?
 - b. Services reliability?
 - c. Remoteness?
 - d. Provider competition/choices?

F. Closing Questions: Final Thoughts and Recommendations (5-10 mins.)

It's about time to wrap up our discussion.

- What else would you like to tell me about?
- What are your final thoughts about factors we have not discussed that may be ***precluding*** any of the population groups from using the internet for their own different purposes?
 - a. What would you ***recommend*** doing to help address all these *barriers*?
- What are your final thoughts about factors we have not discussed that may be ***facilitating*** any of the population groups from using the internet for their own different purposes?
 - What would you ***recommend*** doing to further improve these *strengths*?
- What are your final thoughts about effective or ineffective programs aiming to improve digital equity?

***** **We will now stop recording.** *****

Thank you very much for your time. As we said, your participation in the focus group, as part of the research, will help provide critical information to the State and will likely lead to a large federal investment in the State connectivity infrastructure to improve access to the internet and technology.

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Appendix L: Defining and Measuring Covered Populations

Covered Population	Definition in the Digital Equity Act	Census ACS Data	Resident Survey Data	Focus Groups
Aging Residents	Residents who are 60+	Residents who are 60+	Residents who are 60+	Residents who are 60+
Residents with a Disability	Residents who have one or more disabilities	Residents who reported one or more difficulties	Residents who reported one or more difficulties	Residents who self-identify as having a disability
Residents in Covered Households	Residents living in households making less than 150% of the Federal Poverty Level	Residents who reported a household income at or below 150% of the Federal Poverty Level	Residents who reported a household income at or below 150% of the Federal Poverty Level	Focus Group Participants were not asked to provide their income levels, but were recruited from low-income areas
Black/African American Residents	Residents who are members of racial/ethnic minority groups	Residents who said that they were Black/African American and no other race	Residents who self-identified as Black/African American	Residents who self-identified as Black/African American
Hispanic/Latino Residents	Residents who are members of racial/ethnic minority groups	Residents of any race who said that they were ethnically Hispanic/Latino	Residents who self-identified as Hispanic/Latino	The Language Barriers focus group included only Hispanic/Latino participants
Residents with Language Barriers	Residents who do not read, write, or speak English well, including individuals with low literacy	Residents who said they spoke English "not well" or "not at all"	Residents who said they did not read and write English well, or at all	Residents who spoke Spanish as their primary language and did not speak English well
Residents in Rural Areas	Residents who live in towns that have less than 50,000 residents and are not adjacent to any towns with over 50,000 residents	Residents from census-defined sampling areas that are composed only of rural towns ²⁰⁰	Residents from towns the Notice of Funding defines as rural	Residents from towns the Notice of Funding defines as rural
Veterans	Residents who served in the military and were discharged ²⁰¹	Residents who said they were on active military duty in the past but not now	Residents who self-identify as U.S. Veterans	Residents who self-identify as U.S. Veterans
Currently Incarcerated Residents	Residents who are currently incarcerated in a state correctional facility	N/A - currently incarcerated residents are not permitted to respond to the survey	N/A - the resident survey could not be distributed to currently incarcerated residents	Focus Groups were conducted with recently incarcerated residents about their experiences in and transitions out of state facilities

Appendix M: Baseline Data by Covered Population

Covered Population	Access & Affordability of Internet % of respondents with no broadband connection % of respondents with no internet connection	Access & Affordability of Devices % of respondents with no Internet-enabled device % of respondents with no laptop or personal computer % of respondents not meeting digital connection benchmark	Digital Literacy % of respondents not meeting Digital Literacy Benchmark	Privacy and Security Use and Awareness % of respondents not meeting Digital Security Benchmark # Categories with 3+ average score / 9
State (overall)	Broadband: 17% Internet: 6%	Computer: 15% Device: 5% Benchmark: 27%	36%	59% 4/9
Aging	Broadband: 24% Internet: 13%	Computer: 22% Device: 13% Benchmark: 41%	42%	62% 3/9
Disability	Broadband: 30% Internet: 17%	Computer: 30% Device: 17% Benchmark: 49%	53%	68% 1/9
Incarcerated	Institutions with (limited) wi-fi: 1/13	# institutions with 1:1 laptops: 1/13 # institutions with computer labs: 2/13 # institutions with tablet kiosks: 11/13	Institutions offering computer science courses: 1/13	Security/ Firewalls in place on 100% of connections
Language	Broadband: 37% Internet: 16%	Computer: 38% Device: 12% Benchmark: 51%	76%	83% 0/9
Poverty	Broadband: 32% Internet: 15%	Computer: 32% Device: 13% Benchmark: 49%	59%	71% 1/9
Black/African American	Broadband: 24% Internet: 9%	Computer: 23% Device: 7% Benchmark: 37%	45%	63% 3/9
Hispanic/ Latino	Broadband: 26% Internet: 9%	Computer: 26% Device: 6% Benchmark: 38%	47%	67% 1/9
Rural	Broadband: 18% Internet: 7%	Computer: 16% Device: 6% Benchmark: 30%	34%	59% 4/9
Veteran	Broadband: 21% Internet: 10%	Computer: 18% Device: 10% Benchmark: 38%	47%	62% 1/9

Appendix N: Outreach and Events Ledger

Outreach & Events Ledger	
Date	Host Organization
Thu, Mar 16	DAS-BITS
Wed, Mar 22	Adult Education
Fri, Mar 24	Department of Housing
Tue, Mar 28	Department of Education
Tue, Mar 28	Department of Labor
Wed, Mar 29	Department of Correction
Wed, Mar 29	Department of Veterans Affairs
Fri, Mar 31	AARP
Fri, Mar 31	Conn-NAHRO
Mon, Apr 3	CHRO
Mon, Apr 3	CHRO
Tue, Apr 4	CGA Black and Puerto Rican Caucus
Tue, Apr 4	CT Technical High School System
Tue, Apr 4	CT Technical High School System
Wed, Apr 5	Department of Public Health
Wed, Apr 5	Department of Aging and Disability Services
Thu, Apr 6	Department of Social Services
Wed, April 12	New Haven Dept. of Economic Development
Thurs, April 13	United Way Meriden Wallingford
Fri, April 14	Social Services
Fri, April 14	City of Norwalk: Human Services
Wed, April 20	Charter Oak Community College
Wed, April 21	Board of Paroles
Mon, April 24	Social Services
Tues, April 25	Community Roundtable on High-Speed Internet Programs
Thu April 27	Waterbury American Job Center
Thu, Apr 27	Jobs First Employment Services
Mon, April 24 & Tues April 25	Connecticut Library Association Conference - In-person Event
Wed, May 3	Department of Corrections

Thu, May 4	Spanish Community of Wallingford
Thu, May 4	Old Lyme
Mon, May 8	Hartford Public
Fri, May 12	Uconn Hartford
Fri, May 12	East Hartford Library
Tues, May 9	CT Libraries & Partners for Digital Equity Meeting
Tue, May 16	AARP
Wed, May 24	DDS Assistive Technology
Sat, May 20	Focus Group: Racial or ethnic minority groups
Mon, May 22	Focus Group: Aging populations (65+)
Thu, May 25	Focus Group: People with disabilities
Tue, May 30	Focus Group: Veterans
Wed, May 31	Focus Group: Individuals with language barriers
Thu, Jun 1	Focus Group: Rural area residents
Wed, Jun 7	Requested Meeting: Department of Consumer Protection
Tue, Jun 13	Norwalk- Human Services
Tue, Jun 13	East Hartford Library
Tue, Jun 20	East Hartford Public Library
Tue, Jun 20	Secretary of the State
Wed, Jun 21	BITS: Data Intro
Wed, Jun 21	Hispanic Federation
Thu, Jun 22	Adult Ed: Data Meeting
Thu, Jun 22	United Way - CT
Fri, Jun 23	ADS
Mon, Jun 26	CT Council for Philanthropy
Tue, Jun 27	Veterans Affairs
Thu, Jun 29	Adult Ed
Fri, Jun 30	DSS
Wed, Jul 5	CHCAC: Community Health Centers
Fri, Jul 7	DSS
Mon, Jul 10	Charter Oak
Mon, Jul 10	Secretary of the State: Communications
Wed, Jul 12	Norwalk: Human Services
Fri, Jul 14	Maine
Fri, Jul 14	Ohio

Tue, Jul 25	DDC & ADS
Wed, Aug 2	East Hartford Library
Wed, Aug 2	YPEI (Yale)
Wed, Aug 9	HUD
Mon, Aug 14	HUDCT
Thu, Aug 17	United Way - CT
Wed, Aug 23	RESC Alliance (In person - Doug)
Thu, Aug 24	CT Commision for Educational Technology; East Hartford Public Library
Tue, Sep 5	Corrections (DOC)
Tue, Sep 5	Mashantucket (Tribal)
Fri, Sep 8	GoNetSpeed
Tue, Sep 12	UR Community Cares
Thu, Sep 14	Northwest Hills COG Meeting
Wed, Sep 20	CEEJAC: Connecticut Equity and Environmental Justice Council
Thu, Sep 28	DOC - Unified School District 1
Tue, Oct 3	City of New Haven: ACP Outreach
Tue Oct 3	DAS Town Hall Meeting
Tue, Oct 3	New London Library

Appendix O: Public Comment Activities

Engagement Title/Description	Engagement Date	Engagement Type	Engagement Location
Announcement Email to Contact List	12/22/2023	Email	
Lamont Administration Releases Draft Digital Equity Plan	12/29/2023	Other	Article
CT Congress members call for more internet access funding	1/8/2024	Other	Article
Everyone Connected.' Gov. Lamont rolls out 5-year plan to expand internet access	1/8/2024	Other	Article
Press Conference	1/8/2024	Meeting/Presentation	Hamden Public Library
RESC (CES) Teacher In-Service Session	1/9/2024	Listening Session (In-person)	CES- Trumbull
RESC (CES) Aspiring Admin Session	1/9/2024	Listening Session (In-person)	CES- Trumbull
RESC (LEARN) Parent Committee	1/9/2024	Listening Session (In-person)	Friendship School Waterford
Public Comment Session	1/11/2024	Listening Session Virtual	Virtual Event
Interview and Article: News 8	1/11/2024	Other	TV and Streaming
Adult Education	1/12/2024	Listening Session Virtual	Statewide Leadership Virtual Meeting
WINY: Radio Station	1/15/2024	Other	Radio Station
2024 ESF-15 Diverse Communities Taskforce Quarterly Meeting Series	1/16/2024	Meeting/Presentation	Virtual
RESC (LEARN) Virtual Presentation	1/17/2024	Meeting/Presentation	Virtual
RESC: Aces Presentation	1/18/2024	Meeting/Presentation	In Person
Hartford NEXT	1/18/2024	Meeting/Presentation	Virtual
Connecticut Metropolitan Council of Governments	1/23/2024	Meeting/Presentation	In Person
2024 National Educational Technology Plan	Jan-24	Other	Document

WE ARE BETTER
**WHEN WE ARE
CONNECTED**

