

DIGITAL EQUITY TOOLKIT

Resources to Help Connecticut Communities
Ensure Access for Every Learner

A Publication of the



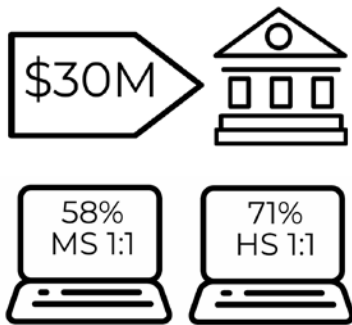
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Introduction

This document provides a set of recommended steps and resources to help communities get students of all ages online outside of school, with access to high-quality devices and the skills to make the best use of these learning tools. Even as schools, libraries, and universities increasingly leverage the power of technology to support teaching and learning, many students do not have access to the devices, broadband, or training they need to learn.

Connecticut has some of the best-connected schools in the nationⁱ, and over the past few years, our Governor has provided \$30 M in funds to support technology in public school districts. An

CT Technology Investments

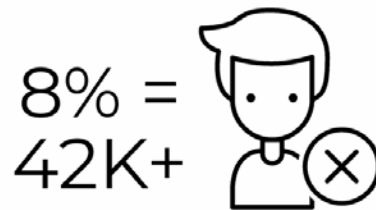


estimated 58 percent of middle schools and 71 percent of high schools have adopted 1:1 computing programs, providing a school-issued device to every student. Many schools are adopting online learning tools and practices such as blended and mastery-based learning, making technology part of the everyday fabric of our schools.

However, the most recent U.S. Census data show that **15 percent of Connecticut homes and 8 percent of residents under the age of 18 do not have a broadband connection.**ⁱⁱ

Nationwide, approximately 17 percent of homes with school-age children do not have access to broadbandⁱⁱⁱ, a serious problem when 65 percent of students need online access and a

Offline Public School Students



dependable device to complete their homework.^{iv} **And this digital divide further contributes to the existing achievement gaps along racial and socioeconomic lines.** Across the country and certainly in Connecticut, the percentages of "disconnected" individuals concentrate among the poor, minority, and elderly populations.

Communities can help close the digital gap in opportunity by using the ideas in this Toolkit to provide access to technology and encourage its meaningful use for learning. This guide stems from local, state, and national research in promising practices and rests on several underlying assumptions:

EQUITY PROGRAM CONSIDERATIONS

Community Challenge

Closing the digital divide at scale requires planning, coordination, and engagement at the community level, rather than leaving students and families to figure out how to connect.

Multiple Fronts

For learners of all ages to make use of the full range of educational resources – research platforms, learning-management systems, online training, e-books, etc. – requires four key components: a highly functional computing device; dependable and robust broadband connectivity; technical support; and digital literacy skills to enable research, collaboration, content creation, and protection of personal information.

Local Context

Addressing digital equity issues must take into account the community's assets and constraints, including cost and availability of service; resources already offered by anchor institutions and businesses; local, state, and federal funding; and geography. Because these factors can vary by location, the solutions outlined in this Toolkit will often look different across communities.

Compound Benefits

The benefits of connecting learners go beyond helping individuals to strengthening entire families and communities. For example, connecting a home often leads to students and parents teaching each other how to use online resources, as well as stronger parent connections to their children's schools, an important component in student success.

A Menu, Not a Formula

The outlines and resources below serve as a Toolkit, not a prescriptive formula for communities to follow. Consider all of the ideas presented before designing a plan, and revisit your plan on a regular basis. For example, measuring device, broadband, and training needs may not have to come before you identify and share existing connectivity resources with your community.

Identify Leaders and Stakeholders

Communities should start by considering the team of participants to plan the work of getting learners online. Doing so taps the insights and networks of leaders

who can define the local context of connecting students. Consider enlisting engaged representatives from the following groups and organizations:



- Adult and Continuing Education Centers
- Business Leaders (Especially Technology Companies)
- Chambers of Commerce
- Churches and Other Faith-Based Organizations
- Colleges and Universities
- Hospitals
- Housing Authorities
- K – 12 School District
- Local Government
- Local Internet Service Providers
- Non-Profit Organizations
- Parent-Teacher Associations
- Public Library
- Shopping Malls
- Social Services Departments
- State Legislators
- Workforce Development Centers
- YMCA, YWCA, JCC, and Other Community Centers

The above list includes organizations already invested in education (e.g., local district and board of education, library, community college). Also consider engaging leaders from other parts of the community, including private businesses and anchor institutions to leverage the full capacity of your city and town. For example, local technology companies may have a strong passion for equipping students

with college and career skills that would lead them to sponsor a mobile hotspot loan program through the local schools or libraries. Businesses and hospitals might have older computers to give away or sell at low cost to individuals and families. Having multiple voices at the table in planning and problem-solving can often reveal untapped resources that would benefit all learners in the community.

Engaging with a variety of organizations also helps ensure that any programs and initiatives undertaken address the needs of a diversity of sub-groups within a city or town.

As part of the request to become involved in a digital equity initiative, ask potential participants about their interests in getting students online and equipped to make use of digital resources. These conversations may help identify underserved individuals, existing resources, and specific areas of concern. Those engaging in an equity

program should consider the scope of their involvement, from one-time information sharing to ongoing involvement in the form of designing governance structures and ensuring successful operations. Initial discussions should also help create an inventory of existing initiatives, such as low-cost residential broadband, digital “study hours” at the YMCA, digital literacy courses offered through the local library, and used computer donations.



Measure the Need

Virtually every city and town has students who do not have the device and connectivity resources they need to take full advantage of digital learning resources. Designing and using a survey can help identify and address the needs of these learners. Well-designed and simple-to-use questionnaires can help pinpoint the financial, logistical, and even attitudinal barriers to connecting learners. **Having data that point to specific needs provides a baseline for addressing these challenges.** This information should also inform the development of, or changes to, digital equity programs.

Surveys can help uncover these needs along with general attitudes and perceptions of technology. Any organization with a membership or enrollment list (e.g., K – 12 districts, library card holders, YMCA members) can ask those contacts about their device and

connectivity needs. Districts and other organizations can consider including a brief survey on an annual basis at the time of class registration or enrollment. They should also gather **device and connectivity needs from teachers, who need off-site access to digital resources to support their students.**

Survey questions and format can vary based on a community’s resources. As mentioned above, school districts can include questionnaires with “back-to-school” packets or through online registration tools such as [InfoSnap](#). They can even push out brief questionnaires through school district apps that do not require a broadband connection to use. Additionally, brief



in-person surveys at locations such as library circulation desks and town halls or conducted as part of parent-teacher conferences can provide useful feedback. Communities with volunteer or other resources could even conduct phone interviews to a sample of residents by neighborhood.

The ideal survey would gather enough data to help make informed decisions about the learning community's needs without becoming so lengthy and time consuming that people do not respond or leave the questionnaire incomplete. Communities may design different survey instruments for different venues and audiences, with short in-person or telephone forms and longer online or written questionnaires. The design should also take into account messaging around the survey, encouraging students and families to complete the form as an incentive to support the development of programs around digital equity.

In addition to formal surveys, consider research into existing data sources. For example, schools that send home computers with students can review logs of off-site usage. Students who show little or no history of completing assignments outside of school may not have the connectivity they need to do so. School administrators can encourage teachers to identify students who do not engage in online homework (e.g., watching instructional videos, participating in collaborative exercises with peers, etc.). They can also conduct internal surveys of teachers (K – 12) and professors (higher education) to determine the degree to which educators assign work outside of school that requires broadband-enabled devices.

Commercial Internet providers may also assist with identifying underserved populations or neighborhoods. These companies may be willing to share information about gaps in coverage by location to help identify areas of need.

In terms of survey design, communities do not need to create their own tools completely from scratch. Some of the excellent examples below also include historical survey data results and analysis tools to help understand and act upon responses.

JUMPSTART YOUR EQUITY SURVEY

The resources below will help you design a survey to measure Internet access and attitudes of your constituents:

- Consortium for School Network (CoSN) [Digital Equity Action Toolkit](#): Requires registration, with sample questions on pages 20 – 24.
- Institute of Museum and Library Services [Digital Inclusion Survey](#): Includes questions, response data sets, and detailed community profiles.
- Project Tomorrow [Speak Up Survey](#): Turnkey program for schools to promote among families, with detailed reporting at the school and district levels.
- U.S. Census Bureau [Computer and Internet Use](#): Survey questions and data tables searchable by year and ZIP code.

Leverage Existing Resources

While data collection can help pinpoint specific needs based on geography, age, education level, and other factors, communities do not need to wait for these results to begin communicating the availability of existing digital equity resources. The tools and programs listed below include national and regional programs. Local communities may

already address access needs through the loaning of wireless hotspots from schools and libraries, sale of low-cost computers, and other initiatives. Again, having a diverse team of participants to address digital equity as a community will help to identify a list of existing resources.

Broadband and Devices

Many commercial providers offer low-cost connectivity plans and devices to qualifying residents, though availability of the programs below varies by city and town. The national EveryoneOn site can help identify these programs based on ZIP code, and communities can engage directly with their local carriers

to identify options for students and other qualifying residents (recipients of Medicaid, NSLP, SNAP, etc.). Some of the programs below address specific K – 12 connectivity and content-filtering needs and require the support and engagement of local school districts.

SEARCH ENGINES

- [Digital Wish](#): Fundraising tools, search engine of low-cost wireless programs, and grants to provide wireless hotspots to schools.
- [EveryoneOn](#): Searchable list of broadband and device programs by ZIP, with a Knowledge Center to support digital, financial, and other literacy training.

HOME INTERNET AND DEVICES

- Comcast [Internet Essentials](#): Low-cost broadband, refurbished computers, and digital literacy training.
- Cox Communications [Connect2Compete](#): Low-cost Internet as well as online training and literacy resources.
- Frontier [Lifeline Program](#): As a federal Lifeline provider, offering low-cost broadband to qualifying residents.
- [Lifeline](#): Federal program expanded in recent years to provide cost offsets for broadband service to qualifying applicants.

K – 12 WIRELESS PROGRAMS

- [Kajeet](#): Provider of wireless hotspots for students to use for out-of-school learning as well as connectivity solutions for school busses.
- [Sprint 1 Million Program](#): Initiative to provide free Internet-enabled smart phones and tablets to students.
- [T-Mobile EmpowerED Program](#): Provides off-campus devices and data plans to students at eligible schools and districts.

Digital Literacy

In addition to devices and broadband, students and families need the skills to leverage online research and learning resources. In addition to the instructional components in the programs listed above, the following resources provide details about digital and information literacy courses, curricula, and tools for educators and learners.



- [Common Sense Media](#): Extensive library of resources and [curriculum](#) addressing digital citizenship, digital teaching, and privacy, geared toward the K – 12 community but useful for all ages.
- [DigitalLearn](#): Collection of self-directed tutorials for end-users to increase their digital literacy, from basic computer skills to protecting personal information. Libraries can customize and white-label the collection for their local community's needs.
- [Local Libraries](#): Most town libraries offer courses in computer and digital literacy, covering topics from navigating the Web and e-mail to cyber security and even programming.

Other Options

In addition to the programs and resources mentioned above, some

communities may have interest in exploring other connectivity solutions.



- **Network Locators:** A number of Web sites and mobile apps provide information on nearby wireless networks. Students can leverage these tools to find a nearby location to get online outside of school. Examples include [OpenSignal](#), [WiFi Free Spot](#), and [Wi-Fi Space](#).
- **Public Transportation and School Busses:** Some cities and towns have purchased mobile broadband hotspots for public and school busses. Given that some students can spend an hour or more to and from school each day, connecting them in transit extends the school day by providing them with an opportunity to continue learning online. Some studies also reveal secondary benefits from such initiatives, such as a reduction in discipline incidents on school busses.
- **Outdoor Broadband:** Communities with their own fiber networks may consider offering wireless access from public lights, telephone poles, and other easily accessible points of distribution. Piloting such initiatives in highly populated, downtown areas may inform plans to expand the network into other areas.
- **Mesh Networking:** Communities can create decentralized, interconnected networks shared by schools, libraries, hospitals, businesses, and other local institutions. Proprietary solutions exist from many of the major wireless networking providers, as do open-source technologies from groups such as [Commotion Wireless](#).

Additional Resources

In addition to the resources mentioned above, the following organizations and initiatives may help with aspects of data gathering, community outreach, program design, and operations.

- [Next Century Cities](#): Provides community-based broadband solutions to support education, economic development, and open markets.
- [National Digital Inclusion Alliance](#): Develops and shares financial and operational resources for digital inclusion programs while serving as a bridge to policymakers and the general public.
- [Schools, Health, and Broadband \(SHLB\) Coalition](#): Promotes policies and programs that enable schools, libraries, health care providers, and other anchor institutions to obtain open, affordable, high-speed broadband connections to the Internet.

Your Feedback

As you address the digital divide in your town or city, please send us your own case studies, challenges, and successes (e-mail doug.casey@ct.gov) so that we can strengthen this Toolkit and share lessons learned and best practices to help other communities.



Acknowledgements

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About the Commission

The Connecticut Commission for Educational Technology was established in 2000 by Public Act 00-187 to serve as the State's educational technology policy advisor and includes the following members:

Name and Position	Representing or Appointed By
Mark Raymond, CIO, Chairman	Department of Administrative Services
Catherine Smith, Commissioner	Department of Economic and Community Development
Michael Mundrane, CIO	University of Connecticut
Ken Wiggin, State Librarian	Connecticut State Library
Ellen Cohn, Deputy Commissioner	Connecticut State Department of Education
Scott Zak, Senior Director of Learning Technologies	CT Board of Regents for Higher Education
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Bill Vallee, State Broadband Policy and Program Coordinator	Office of Consumer Counsel
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Rich Mavrogeanes, President, Discover Video	President Pro Tem of the Senate
Charles Dumais, Superintendent, Region 5 (Amity) Public Schools	Governor's Office
Tom Dillon, Founder, Flagship Networks	Minority Leader of the House

Notes

ⁱ Especially for K – 12 public education, with high-speed broadband connections to every district in the state (see Education SuperHighway State Progress Report, <http://bit.ly/ESH-CT>).

ⁱⁱ US Census Bureau. "American Community Survey (ACS)." 2016 Types of Computers and Internet Subscriptions. Accessed September 19, 2017. <https://www.census.gov/programs-surveys/acs/data.html>.

ⁱⁱⁱ Horrigan, John B. "The Numbers behind the Broadband 'Homework Gap.'" Pew Research Center, 20 Apr. 2015, www.pewresearch.org/fact-tank/2015/04/20/the-numbers-behind-the-broadband-homework-gap/.

^{iv} Horrigan, John, Ph.D. "Broadband Adoption and Use in America." FCC OBI Working Paper Series Number 1, February 23, 2010. February 23, 2010. Accessed September 19, 2017. https://apps.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf.

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