

Closing the Digital Divide: *Strategies to Connect Students & Families*

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Background

Over the past [few decades](#), internet use, broadband adoption, and smartphone ownership [have grown rapidly](#) for all Americans. However, despite technology’s presence in daily life, access remains markedly different across demographic groups. In fact, for many Americans [across racial groups, income tiers, and geographic regions](#), differences in access to internet connectivity and technology resources – also known as the “digital divide” – remains a critical barrier for many students and families, especially during the COVID-19 pandemic.

The digital divide has been a central topic in tech circles for decades, with researchers, advocates, and policymakers making efforts to examine this issue and bridge access gaps. This topic gained special attention during the pandemic, as many workplaces and schools moved online. Specifically, families with lower incomes were [more likely to face obstacles](#) in navigating this increasingly digital environment. According to a 2020 Pew Research Survey, [59 percent of parents with lower incomes](#) who had children participating in remote learning due to the pandemic said their children would likely face at least one of three digital obstacles to their schooling, such as an unreliable internet at home, no computer at home, or needing to use a smartphone to complete schoolwork.

Challenges with digital access has translated into [students missing lessons](#), being unable to access materials, and struggling to complete assignments. For example, the [Zearn math app](#) found that during COVID-19, low-income students [accessed lessons significantly less](#) compared to students in wealthier households. Even as students have returned to the classroom, school curricula will continue to become increasingly digital, and it will be critical for policymakers at all levels to leverage the

momentum surrounding the digital divide to ensure that no student is left offline.

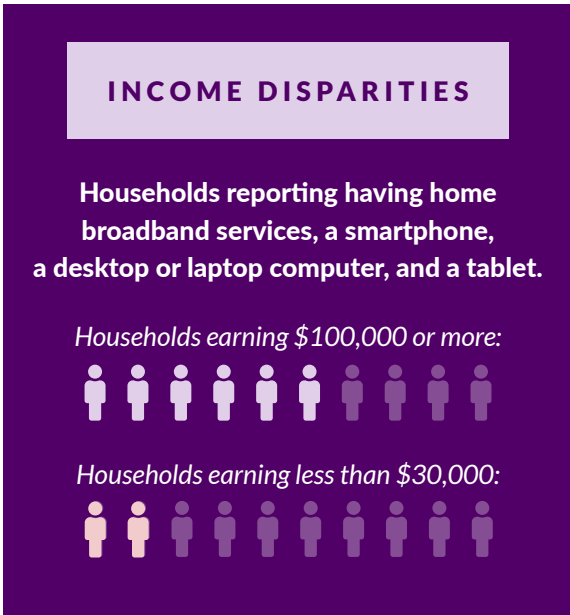
Digital Access Disparities Across Groups

Survey research shows significant differences in household internet and technology access across income levels, racial groups, and geographic settings.

Income Disparities

[Pew Research Center](#) found that roughly a quarter of adults with annual household incomes below \$30,000 (27 percent) say they are [smartphone dependent](#) for accessing the internet at home. [About half of adults with lower incomes](#) do not have home broadband services (57 percent) or a desktop or laptop computer (41 percent). By comparison, each of these technologies is nearly ubiquitous among adults in households earning \$100,000 or more a year. [Roughly six in ten adults living in households earning \\$100,000 or more a year](#) (63 percent) report having home broadband services, a smartphone, a desktop or laptop computer, *and* a tablet, compared with two in ten lower-income households earning less than \$30,000 a year (23 percent).

6 in 10 parents with lower incomes who had children participating in remote learning during the pandemic said their children would face at least one of three obstacles: unreliable internet, lack of computer, or needing to use a smartphone to complete schoolwork.



Racial Group Disparities

Black and Hispanic families in the United States remain less likely than white families to own a traditional computer or have high-speed internet at home. Eight in ten white families (80 percent) report owning a desktop or laptop computer, compared with less than seven in ten Black families (69 percent) and Hispanic families (67 percent). Eight in ten white families (80 percent) also report having a [broadband connection](#) at home, while smaller shares of Black and Hispanic families say the same – 71 percent and 65 percent, respectively.

Geographic Disparities

Rural communities have made large gains in adopting digital technology over the past decade, with local governments making efforts to narrow digital access gaps. While broadband adoption has not significantly increased for urban and suburban Americans over the last five years, [rural residents have seen a nine percentage point rise in home broadband adoption since 2016](#), to roughly seven in ten Americans (72 percent) in 2021. [However, adults in rural areas remain less likely than those in suburban areas to have home broadband and to own a smartphone, tablet computer, or traditional computer.](#)



How States are Using Federal Relief Dollars to Address the Digital Divide

With school closures and remote work during the COVID-19 pandemic underscoring major gaps in technology access across the U.S., many states have passed policies aiming to bridge the digital divide. The most common strategy for addressing access has been expanding temporary or permanent internet access points for students and families. Throughout the pandemic, many states have also allocated funds to districts to purchase and distribute digital devices to students, while other states are providing device and connectivity support directly to families. To assist educators and promote high-quality remote instruction, several states also expanded their statewide online learning platforms.

To facilitate the execution of such policies, some states have created a “digital equity office” to lead efforts to close the digital divide. North Carolina recently established the [Office of Digital Equity and Literacy](#), which is dedicated to executing the state’s plan to expand

digital access and partnerships, focusing on infrastructure, affordability, and digital literacy.

The following table offers other state examples of policies to improve internet access, device availability, and online learning resources.

State Policies

	STATE	POLICY
INTERNET ACCESS	Georgia, West Virginia	Added broadband extenders to school and community sites
	Arkansas, Oklahoma	Distributed wireless hotspots to school districts across the state
	Alabama	Invested \$10 million to equip all school buses with Wi-Fi capabilities
	District of Columbia, Connecticut	Used Governor’s Emergency Education Relief (GEER) funds to cover at least 12 months of internet bills for eligible families
	Arizona	Investing \$40 million to install broadband conduit and fiber to reach rural communities
	Maryland	Pledged \$210 million to construct a “ wireless education network ” for students in its rural areas, with \$10 million dedicated to rural broadband

State Policies (Cont.)

	STATE	POLICY
DEVICE AVAILABILITY	Illinois, North Carolina, and Tennessee	Distributed funding for districts to purchase hardware for online learning
	Alabama	Allocated \$100 million for Alabama Broadband Connectivity for Students , a public-private partnership that subsidizes internet equipment and high-speed internet service for families
	Maine	Bought nearly 15,000 internet service contracts, most of which are through Wi-Fi-enabled tablets that can be used as hotspots
ONLINE LEARNING RESOURCES	Virginia	Spent \$3.5 million to expand its online learning platform, Virtual Virginia , which will allow teachers to create and share content, provide personalized instruction, and facilitate professional development
	Montana	Expanded its learning platform, called the Montana Digital Academy , which increases middle and high school course enrollment opportunities for students and extends remote proctoring services for credit-recovery students
	Oklahoma	Invested \$12 million in Learn Anywhere Oklahoma , which allows schools to access high-quality digital content, including Advanced Placement courses
	Pennsylvania	Established plans to invest in real-time instruction to improve remote learning and support for students with complex learning needs

Policy Considerations

A multi-level approach incorporating forward-thinking policy solutions must be implemented to fully close the digital divide. The following recommendations offer actionable policies at the federal, state, and local levels.

Federal Policies

The bipartisan Infrastructure Investment and Jobs Act allocates [\\$65 billion](#) to states to expand broadband across the U.S, create and subsidize low-cost service options for low-income households, and provides funding to address digital equity issues in communities. While this policy is an essential first step, additional policies need to be put in place at the federal level to increase the effective adoption of digital tools while building the necessary infrastructure. Congress should [leverage](#) growing bipartisan support on closing the digital divide to move proposed legislations forward.

- The [Federal Communications Commission](#) (FCC) should consider focusing on encouraging private investment in innovative broadband and telecommunications solutions, especially in high-needs areas.
- The FCC could also [expand their E-Rate Program](#) – a [program](#) that currently connects schools and libraries to broadband internet – to include students and families in broadband deserts.
- Similarly, the federal government should consider [increasing the subsidies](#) provided by the [Lifeline Program](#) so that more individuals can pay for phone and broadband services. The Lifeline Program provides a discount on phone service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings.





State Policies

States have played a [critical role](#) in minimizing the digital divide, taking [creative and strategic](#) measures to draw on the resources already available in communities. State governments should continue to build on this momentum and expand effective programs, as well as [support](#) local municipality initiatives and needs. More importantly, state governments should continue to fund projects that [focus](#) on encouraging digital literacy, ensuring data privacy and security, and increasing the speed of connectivity for students and households.

- **Stakeholder outreach and engagement.** States with broadband programs should consider engaging stakeholders at both the state and local levels to align strategies and goals. At the state level, this may include organizing broadband task forces and councils, as well as developing partnerships among state agencies. At the local level, it includes supporting broadband committees and educating local stakeholders to promote digital literacy.
- **Policy framework.** Some states have created a policy framework for broadband deployment by setting well-defined goals and a clear policy direction in legislation, as well as tasking agencies or setting up separate offices to lead statewide broadband programs. Doing so helps state and local governments in identifying and addressing barriers to facilitate broadband deployment in unserved and underserved areas. Additionally, connecting broadband to other policy priorities, including economic development, transportation, health care, and agriculture, can help states build partnerships and leverage more funding for expansion efforts.
- **Local planning and capacity building.** States can support local and regional planning efforts that help educate community members and build local capacity for successful broadband infrastructure projects. Local and regional planning efforts can help communities identify their needs and goals, start conversations with providers, evaluate options, and move toward implementing infrastructure projects.

- **Funding and operations.** States are providing grant funding to subsidize the cost of broadband deployment in unserved and underserved areas. These grants have built-in accountability measures by requiring that grantees demonstrate they are providing the service they were funded for while also providing the state with the data needed to evaluate the program.
 - **Program evaluation and evolution.** States that are supporting planning efforts and funding infrastructure projects should consider building robust data systems to evaluate program performance and incorporate lessons learned. States should continue to update program goals and activities as their programs mature, addressing broadband adoption and working to help communities make full use of their broadband infrastructure.
- devices for families
 - Advocates for and effectively distributes funding
 - Understands and represents community interests
 - Coordinates accessible digital skills programs

Additionally, digital equity offices could serve as critical points of contact between local and state governments and school districts, as they directly survey and implement local needs. For instance, these offices could connect schools with nonprofit organizations or vocalize city and county needs to the state. Finally, these offices should also collect, analyze, and report data specific to their communities to assess program impact, benchmark progress, and avert additional access inequities.

Local Policies

Local municipalities are set to become important players in the effort to bridge the digital divide as they have the most immediate access to individuals and families and are better positioned to recognize and target efforts than the state and federal government. Each local government could consider establishing a “[digital equity office](#)” that achieves the following:

- Addresses network gaps across demographics
- Acquires more affordable subscriptions and

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