



Issue Brief

Digital Destination – Texas Needs Broadband Connectivity for All Students & Families

By Thomas Marshall & Christina Muñoz, April 20, 2021

Student success depends on the quality of students' educational resources to learn, engage and grow. The abrupt shift to virtual remote learning in response to the COVID-19 pandemic disrupted learning for millions of Texas students, especially for those without reliable Internet access. The digital divide is not new. But in March 2020, it intensified and still presents an alarming barrier to student learning.

To keep up with digital needs for students and their families, the state of Texas must ensure all students, regardless of their zip code, have access to broadband.

This policy brief outlines recommendations for ensuring state policy decisions include plans to secure equitable access to broadband infrastructure and reliable connectivity for students in Texas' most vulnerable populations.

“For the past few months, I’ve had to drive to my aunt’s house to take my online classes since no Internet company could enter our neighborhood, making it difficult to me to even do assignments and homework every other day that I’m not able to drive to access the Internet.”

– Bill Ramiro, college student

We urge four key actions to address the digital divide:

- 1** Invest in sustainable broadband infrastructure within Texas communities;
- 2** Continue distribution of digital devices that are consistent, reliable and suitable for students' education needs;
- 3** Offer training and support to educators, students, and families in digital literacy and citizenship; and
- 4** Invest in robust community engagement programs, such as ongoing community-led digital equity studies and resources for school district capacity to support students and families.

This brief also includes student and parent testimonies from: IDRA's Seek Common Ground community participatory research project; the Texas Student Advocacy Convening facilitated by IDRA; and various Texas community members about their experiences navigating school and work life during the pandemic and how the digital divide impacted both.

The Texas Legislature's Past Steps to Expand Broadband

In 2019, during the Texas Legislative session, policymakers created the Governor's Broadband Development Council (GBDC) to study and identify ways to provide Internet access to underserved areas of Texas (HB 1960, 86th). Once the bills were signed into law, Governor Abbott appointed individuals to the council who were tasked with studying and identifying solutions to provide Internet access to the underserved areas of the state.

The council oversees the “progress of broadband development in unserved areas, identifies barriers to residential and commercial broadband deployment in [these areas]” (Texas Economic Development, 2021) and offers recommendations to the state to overcome barriers in instituting statewide access to broadband.

What is the Legislature Doing Now?

During the 87th regular Legislative session in 2021, Governor Gregg Abbott and Lieutenant Governor Dan Patrick made broadband access an “emergency priority.” Among the many bills filed related to broadband access, the most notable are House Bill 5 (by Rep. Trent Ashby) and Senate Bill 5 (by Sen. Robert Nichols). The two bills would establish a state broadband office, set up a federal grant program for broadband funds, and create a mapping system. IDRA supports adding a seat on the Governor's Broadband Development Council for a representative from an urban school district.

Other bills would establish Internet grant programs for school districts and a grant-matching program to help school districts gain Internet connectivity for future student assessments. A bill by Rep. Mary Gonzalez (HB 129) to create a digital citizenship course for all sixth-grade students would include media literacy and instruction for engaging with the digital world.

The Legislature this session needs to take an equitable approach to solving the digital divide. It can do this by assisting school districts to obtain funding for devices and Internet connectivity, directing federal funds to the new state broadband office, and working with local municipalities to create matching incentives for private companies to establish Internet access to students' residences to ensure that companies provide low-cost, high-quality Internet to the students who need it most.

“With slow Internet, we become anxious and stressed because the pages won't load fast enough. We have the constant thought that the Internet might crash at any moment and we won't be able to access the exam anymore. This is a constant fear of mine because most of my professors only allow us to access the exam once. If we exit the page without finishing, we can't access the page again.”

– Andrea Guzmán, college student

Defining Quality Connectivity

Broadband Internet connectivity refers to the bandwidth data transmissions that are transported through physical mediums. Generally, *broadband access* means having a fast, reliable and efficient Internet connection. *Bandwidth* is the download rate of your Internet service or the fastest rate that information data (also known as “bits”) can be downloaded to the device that is connected to the Internet (Daily Wireless, 2020). The greater the bandwidth, the faster the data can be downloaded to the device.

One major aspect of digital equity is making sure connectivity is functional. Knowing the various connection speeds available and their capacities is critical to setting standards that are appropriate and sufficient to engage in activities necessary for learning.

Devices alone do not solve the digital divide. While many school districts were able to distribute devices and hotspots to students pretty quickly to reduce instruction interruptions, hotspot speeds do not have the

bandwidth needed to provide enough Internet access to all students within a household. For instance, hotspots only have enough capacity for one student to be in a Zoom classroom at a time.

The Digital Gap: Connectivity and Device Disparities for Students of Color

An alarming number of students do not have access to the Internet or to computers to complete their schoolwork online. Before the pandemic, over 1.7 million households in Texas – about 18% – did not have broadband Internet access (U.S. Census Bureau, 2020a), while over 637,000 households in Texas did not have a computer (U.S. Census Bureau, 2020b).

Latino students are significantly less likely than their white peers to have access to the Internet (88% vs. 97% for white students), to computers (79% vs. 95%), to broadband (63% vs. 79%), and to both broadband and a computer (59% vs. 78%) (TSTA, 2020).

Similar disparities are prevalent for Black students or low-income students who report having less access to computers, basic Internet, and broadband access. Black students in Texas face substantial barriers, with a lower proportion of households with school-aged children having access to the Internet (90%), computers (81%), broadband (67%), and combined access for both broadband and a computer (63%) (TSTA, 2020).

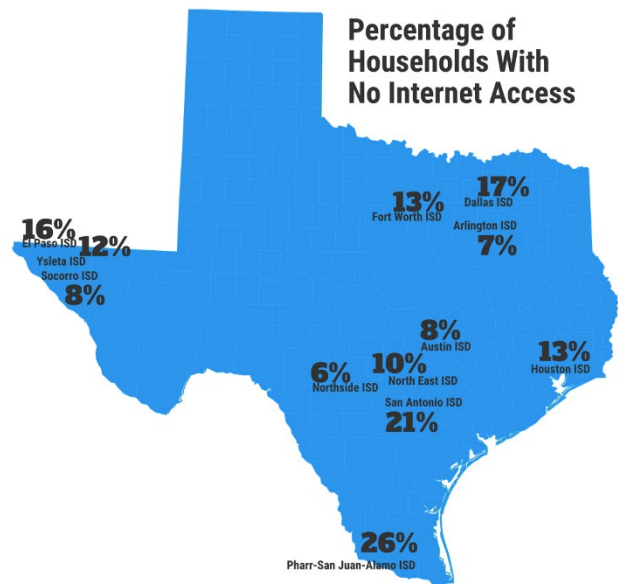
Texas needs a state broadband office that will plan to address these systemic issues that have affected students here in Texas for many years.

The Divide Spans Both Rural and Urban Areas

The digital divide is not limited to rural communities. While rural communities absolutely experience poor broadband infrastructure, urban students (particularly students of color) continue to bear the brunt of this systemic issue. The infrastructure in urban geographic areas may be established, but access is still an issue.

For example, even with a hotspot issued to a student residing in an area with adequate infrastructure, that student may not have access to a robust network to connect online.

Three-fourths of the 20 million U.S. households who still lack home broadband or mobile data connections live in urbanized areas, and they are very likely low-income (NDIA, 2019). Sizable gaps in broadband access occur in major urban school districts in Texas. Students who reside in urban communities, such as Dallas, Houston and San Antonio, lack access to good quality Internet.



The Digital Divide Involves Digital Citizenship and Digital Literacy

Solutions for solving the digital divide problem are more nuanced than providing devices and repairing connectivity issues. It also means ensuring community members can confidently navigate our ever-growing digital world. *Digital citizenship* refers to the responsible use of technology. This includes maintaining healthy relationships with peers, colleagues and other users in the digital community.

Digital citizenship also encompasses *digital literacy*, which refers to an individual's ability to find, identify, evaluate and apply information using technology. Digital literacy skills exist on a spectrum. A common assumption is that, since younger generations grew up in the age of digital technology, they naturally already know how to use computers and the Internet appropriately. This is false. Such thinking undermines the institutional responsibility to equip students with knowledge of how to access resources, connectivity and appropriately navigate online spaces. Just as children today grow up around cars, they still need to learn how to drive before getting behind the wheel. Students develop digital literacy skills as they interact with tools and resources. And some students have less access to these resources.

“We are outside the city limits, and we have not had a Wi-Fi connection to work better. We cannot all connect at the same time. The connection is very slow for live class calls, for downloads and Google searches. Before the pandemic, we went out to find a better connection to the city library, but due to the pandemic it is no longer available.”

– Marina Lizama, parent

IDRA Policy Recommendations

Action 1: Invest in a sustainable broadband infrastructure within Texas communities

Adopt a state broadband plan that accounts for equity in education

Creation of the Governor's Broadband Development Council in 2019 was an important first step in addressing gaps within broadband connectivity and infrastructure. State leaders must now create a statewide broadband plan for rural and urban communities while addressing immediate and long-term K-12 and college education needs to close the digital divide for students of our most underserved populations: students with disabilities, English learner (emergent bilingual) students, students from households with low incomes, and students of color.

Change the current curriculum standards for the digital environment

We recommend that the Texas Legislature codify access to the Internet at home as critical to what students need to be prepared for college and career. This would facilitate requiring a good quality Internet connection be available for every student in Texas to participate in education activities.

Collect data equitably to assess digital divide

Texas needs accurate data collected equitably to track the digital divide. The Governor's Broadband Development Council must go beyond relying on census block data to determine connectivity issues for households across Texas. Unfortunately, the Federal Communications Commission only counts broadband data by census block. This methodology grossly undercounts communities of color and households with limited incomes. Census blocks are map regions that the government uses for reporting population. A census block can be anything from one city block to hundreds of square miles in rural areas (U.S. Census Bureau, 2020).

This means that one person can count as an entire census block. IDRA recommends the council integrate data collection methods that capture more accurate, more precise granular-level data to identify the correct number of households who lack broadband Internet access and connectivity.

Action 2: Continue distribution of digital devices that are consistent, reliable and suitable for students' education needs

Support intergenerational digital literacy and address family connectivity problems

Families need dependable strong Internet access within their homes so that they can support their students' virtual instruction. This means that the FCC's recommended 25/3 megabits per second is not enough to have students to be productive over the Internet. In this case, 50/5 megabits per second or even 100/1 would be more adequate. Texas must make strides toward a more equitable Internet access plan so that Texans in larger households can establish a reliable connection, which is to student's academic success.

Action 3: Offer training and support to educators, students and families in digital literacy and citizenship

Increase financial support and training resources for digital literacy programs

Financial support for digital literacy would make sure students and families have the knowledge to use computer devices, particularly to support virtual and remote learning. HB 129 filed by Rep. Mary Gonzalez would add a one-credit class to school curriculum focused on digital citizenship. It would include media literacy, digital ethics, etiquette, safety, and identification of hate speech, racism and discrimination. We recommend the state make funds available to school districts to provide digital literacy training to students, teachers and families.

Action 4: Invest in robust community engagement programs

Institute student and family engagement plans across all school districts and open-enrollment charters

Texas policymakers must invest in sustainable, long-term family and student engagement programs that strengthen communication between schools and families, rebuild positive relationships among students and families with their schools, and work to overcome the digital divide. The state should promote the revamping of schools' student and family engagement plans so they serve to strengthen relationships between stakeholders, such as campus leadership, educators, teachers, students and families; reinforce positive family attitudes about education and school-family engagement; and invest in students' social-emotional and academic success.

The state should help ensure school districts' student and family engagement plans have the capacity to support distance learning, including virtual, online and remote options; support digital communications, including devices, connectivity and user-knowledge that promotes digital literacy; and target resources to state geographic areas and households with limited and no access to broadband Internet. Rep. James Talarico worked closely with IDRA to author HB 4391 to make sure student and family voices are at the forefront.

Construct a community reinvestment plan

Communities must be empowered to create their own systems of identifying who needs access to broadband. This includes a community reinvestment system to put the power of establishing access networks back into

the hands of community stakeholders. It would be a strong economic development tool to increase the opportunity for jobs, include allowing local municipalities to apply for grant program funding to establish equitable mapping for communities to identify the lack of broadband access in their area and help resolve the inaccuracy of the census block data used in current broadband mapping.

Digital equity studies are a key component of ensuring community voice is a part of broadband conversations. Such studies must survey students' and families' broadband access issues through in-person and digital surveys. Additionally, digital equity studies must be community-led, so all stakeholders are involved in assessing their own connectivity needs.

Schools bear the obligation of protecting and ensuring the physical, mental and emotional wellbeing of their teachers and students, and they need, now more than ever, state leadership to support their efforts. The prevailing digital divide that has amassed much of the state must be taken head-on by Texas lawmakers this session to help close academic gaps for communities and families of color.

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Thomas Marshall and Christina Muñoz are IDRA Education Policy Fellows. For more information see: <https://www.idra.org/idra-fellows>

The Intercultural Development Research Association is an independent, non-profit organization. Our mission is to achieve equal educational opportunity for every child through strong public schools that prepare all students to access and succeed in college. IDRA strengthens and transforms public education by providing dynamic training; useful research, evaluation, and frameworks for action; timely policy analyses; and innovative materials and programs.

Broadband-Related Definitions

Bandwidth is the total download rate of Internet service, meaning the fastest that an individual will be able to download information (data) to their computer or Internet-connected device.

Broadband access refers to an individual’s ability to connect to broadband Internet physically. It is defined by the Federal Communications Commission as 25 Megabits per second (Mbps) download speed and 3 Mbps upload speed (25/3 Mbps) (Connected Nation Texas, 2020).

Digital citizenship refers to the responsible use of technology by anyone who uses computers, the Internet, and digital devices to engage with society on any level (Zook, 2019). It typically refers to those who use the Internet regularly and are part of one or more online communities.

Digital divide refers to the barrier that some people face due to their lack of access to Internet service, devices or the literacy of how to use those services and devices.

Digital equity is “a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy.”

Digital inclusion is what communities do to increase digital equity involving “the activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of information and communication technologies” (National Digital Inclusion Alliance, 2021). Sample activities include helping people learn basic computer skills in small groups or one-to-one, helping them find the most affordable Internet services and devices available, and providing technical and social support as they gain confidence and find uses for their newfound skills.

Digital literacy is the ability to navigate various digital platforms and understand, assess and communicate through them (Common Sense Media, 2021).

Mbps stands for “megabits per second” and refers to download and upload speeds. It represents the speed an Internet plan is offering. The higher the number, the higher the speed possible.

MBps stands for “megabytes per second.” A megabyte is equal to 8 bits (like in Mbps above). The term megabytes refers to the size of a file an individual is downloading or the amount of data that has been transferred to the computer or device over the Internet.

Basic Internet Speed Guidelines for Common Activities	
Activity	Bare Minimum Download Speed
Streaming standard definition music	<0.5 Mbps
Browsing email and social media	1 Mbps
Streaming standard-definition video	3-4 Mbps
Online multiplayer games	4 Mbps
Stream high-definition video	5-8 Mbps
Video calls	6 Mbps
Streaming 4K video	15-25 Mbps

Federal Communications Commission, 2020

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