



Access Denied

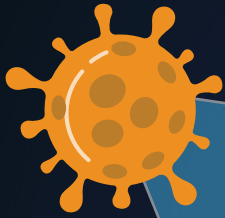
*Pandemic Exposes Urgency
of Closing Divide That Disconnects
Clevelanders From School, Work
& Health Benefits of Digital Age*



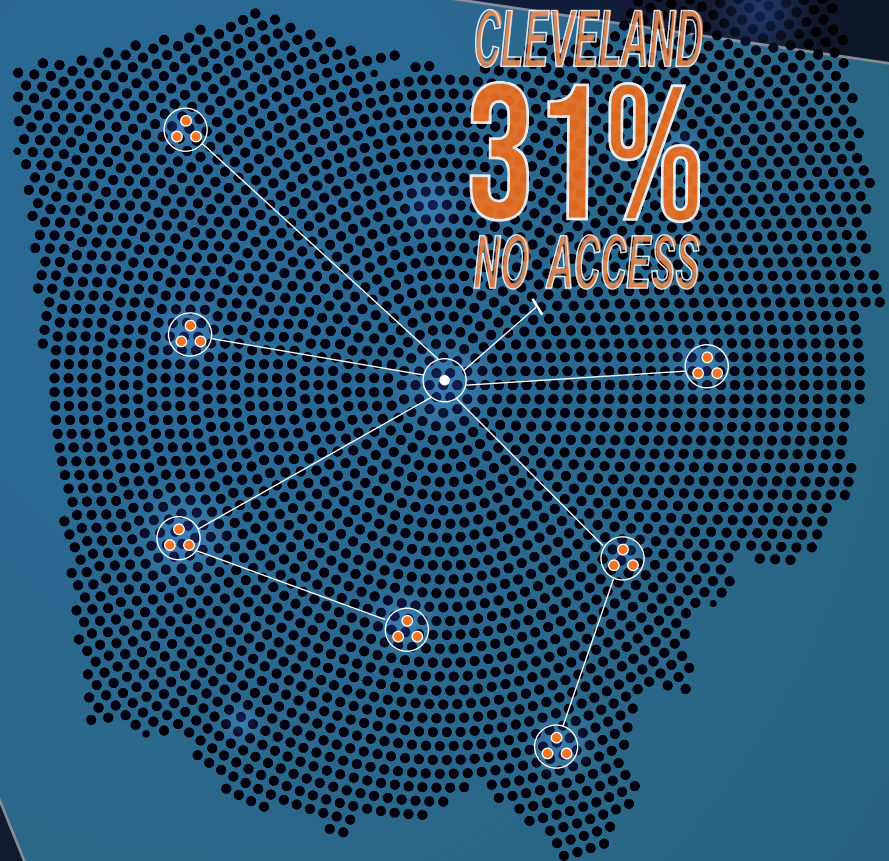
ACCESS DENIED

By Randell McShepard and Dr. Fran Stewart
Contributor: Gregory L. Brown

PolicyBridge
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In fall of 2020 Cleveland was named the worst-connected big city in the country, with 31% of households lacking internet access of any type, including cellular service.



The COVID-19 pandemic didn't create the digital divide; the pandemic merely made it "impossible to look away."

Such was the way Cleveland Metropolitan School District CEO Eric Gordon described the issue that has demanded so much of his attention over the past year. Schoolchildren—thousands in CMSD alone and millions across the country—suddenly sent home with no way to connect to online learning weren't the only ones to suffer; they were just the most visible. Disconnected kids went home to disconnected families who lacked the access and the digital devices that "most Americans take for granted, that are quite literally at our fingertips," Gordon told participants in a virtual Crain's Editorial Forum on the Digital Divide in early May.

PolicyBridge, founded in 2005, is a non-partisan 501 (c) 3 research and advocacy think and action tank. The mission of PolicyBridge is "To create and sustain high-quality discourse addressing public policy issues affecting African-Americans and other underserved communities, to enlighten citizens and catalyze action."



2930 Prospect Ave., Urban League Building, Suite 113, Cleveland OH 44115

The pandemic made clear that many have been cut off and left behind by the rapid technological transformation remaking learning, work, social interaction and even the provision of commercial and public services. The pandemic, and mandates to slow its spread, revealed technological differences in who could work and who couldn't. It exposed disparities in applying for unemployment benefits and federal relief funds for businesses, as well as registering for lifesaving vaccinations. It showed telemedicine to be useful in maintaining health but made plain that many residents of communities already underserved by hospitals and health care workers lacked access to this powerful tool. It forced many older Americans into prolonged isolation without the equipment and skills to remain connected to loved ones.

The events of the past 16 months have demonstrated that access to the internet no longer can be thought of as a luxury or novelty; fast, reliable and affordable internet has become a necessity for engaging in everyday activities of modern life. Addressing the "digital divide," the bland, alliterative euphemism for inequities that keep mostly poor rural and urban communities disconnected from the social and economic benefits of technological advancements, gained both urgency and advocates over the past year, with governments, nonprofit organizations, foundations, and businesses jumping in to provide funding and support for expanding access to broadband internet. The federal government has committed billions through pandemic relief measures, and an infrastructure deal could bring billions more. The state of Ohio has allocated millions, including \$250 million recently approved in the 2022-2023 budget to help connect more residents to the internet. Cities and communities across the country, including technology hubs Seattle and San Francisco, have made expanding access to the internet a priority.

The practical and moral imperative is particularly pronounced here in Northeast Ohio. In fall 2020, the National Digital Inclusion Alliance (NDIA) named Cleveland the worst-connected big city in the country. The 31% of households lacking internet access of any type, including cellular service, put the city in a particularly dire position heading into a once-in-a-century pandemic that made "remote" a way of life.

Gordon told the Crain's Forum participants that, in a city perennially ranked among the nation's most impoverished, we shouldn't have been surprised by the level of disconnect. "In our heart of hearts, we knew."

The digital divide is more than an issue of technology; it impacts a variety of challenges Cleveland has long struggled to address, including educational disparities, work-ready skills, employment opportunities, minority business creation and healthy communities. It's also worth acknowledging that the speed and complexity of technological advancements themselves make the challenge feel particularly incomprehensible and daunting to policymakers, community activists and others searching for solutions. (A 2016 book by "complexity scientist" Samuel Arbesman actually describes technological advancements as now beyond the comprehension of technology "experts.")

At the risk of exposing our own technological shortcomings, our goal with this report is to explore the breadth of the local divide, highlight some of the efforts that hold promise of helping to close it and lend our voice to the urgent call for action. Activists working to narrow the gap describe the digital divide as a three-legged stool of availability, affordability and adoption, which encompasses both willingness and ability to adopt technology. Although we heard the three-legged stool metaphor repeatedly in interviews for this report, it was clear from discussions, as well as resources designated and initiatives under way, that availability and affordability of broadband internet have commanded much of the heightened focus on the digital divide.

However, we focus particular attention on the third leg of the stool, specifically one formidable obstacle to technology adoption—digital literacy. Digital literacy refers to the ability and comfort of individuals to use computer equipment and electronic platforms. High poverty rates, low general literacy and numeracy rates, and even low-skill service work tend to be associated with low digital literacy. The fact that these are characteristics of many Cleveland neighborhoods presents a sobering reality check about foundational work needed to make significant gains in narrowing the divide and including disconnected Clevelanders in the benefits of the digital age.

The digital divide is a multifaceted problem requiring a multifaceted solution, consisting of both investment in technology infrastructure and support, as well as relationship and capacity building to develop the trust and resources necessary to engage with and educate those lacking computer familiarity and skills. Much good work is under way, but we believe what is sorely missing is a lead organization to provide a unifying vision and strategy. A “go-to” partner could establish priorities for the region, monitor progress and prevent inefficiencies of siloed projects. A lead partner would ensure that distractions and other challenges don’t cause us to “look away” and lose resolve as the crisis of the pandemic subsides.

Cleveland city leaders announced in May a goal of connecting 40,000 area households to high-speed internet by 2025. Yet, Cleveland’s disconnected ninth-graders of today will be graduating by the time that goal is reached. Four more years of being cut off from the evolving digital era puts them even further behind their connected peers. They deserve better.

Dorothy Baunach, chief executive of the nonprofit DigitalC, which is working to develop an innovative and low-cost option for providing high-speed internet service in Cleveland neighborhoods, described the challenge before us succinctly: “This is an all hands on deck crisis.”

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Why the Focus on Broadband Access?

The pandemic accelerated a trend that was already remaking modern life, where everyday activities, from shopping and banking to job hunting and socializing, have increasingly shifted from in-person to online. The pandemic forced learning, working, accessing medical care, registering to get vaccinated and even seeing loved ones to be part of that virtual list.

Broadband, or high-speed, internet access enables many of these activities, particularly the videoconferencing that was ubiquitous throughout the pandemic. The Federal Communications Commission estimates that some 21 million Americans live where high-speed internet service is unavailable or unreliable. Advocacy groups argue that the FCC overstates availability of broadband, particularly in low-income communities, because internet service providers are able to claim that a block has available coverage if only one structure is wired but no wired connection exists for other households. A 2019 study by Microsoft found that 162 million Americans lacked access to internet service at speeds that fit the FCC’s definition for “broadband.”

Since 2015, the FCC has defined broadband service as providing a minimum of 25 megabits per second download and 3 mbps upload speeds. The FCC estimates that typical virtual learning and telecommuting activities require 5 to 25 mbps download speeds, with each additional device or user increasing that need. For example, a home in which a parent and two children must be online videoconferencing at the same time for work and school needs internet service of more than 25 mbps to accommodate high-usage demands.



Broadband is defined as 25 megabits per second download and 3 mbps upload speeds

Understanding the scope of the availability challenge is critical given that multiple studies have shown disconnected communities to be at a disadvantage in terms of job growth and economic activity. This disparity has the potential to get even worse as new technologies and digital platforms demand even greater speeds.

Earlier this year, the National Urban League released the Lewis Latimer Plan for Digital Equity and Inclusion. The Latimer Plan provides a comprehensive exploration of the digital divide written by a host of subject matter experts, making it an important resource for decision makers engaged in tackling issues of the digital divide. Among its list of recommendations, the Latimer Plan points to the need for better data collection to understand the true nature of the technological divide. “Currently, the federal government has not gathered the necessary data to define and identify what constitutes an unserved area,” the report states, “nor does it have a good map of the locations where no networks are available.”

Beyond improving data collection and accurate mapping of availability, the Latimer Plan calls for a re-examination of performance standards to ensure that thresholds reflect and anticipate the needs associated with education- and work-related activities. Meeting this standard must be a requirement for networks receiving subsidy for capital projects. (In the five years leading up to the pandemic, ISPs received more than \$20 billion in subsidy to build out broadband networks, particularly in rural America, but the gap in availability persists.) The Plan recommends eliminating outdated barriers that disqualify many, often small, service providers and developing a set of best practices for time and cost in deploying networks.

Cleveland's Availability and Affordability Gap

The American Community Survey estimates that more than 100,000 Cuyahoga County households have no internet access to meet the demands of remote learning and working. Following the abrupt shutdown of schools, a survey of parents by the Cleveland Metropolitan School District revealed that 40% of its roughly 40,000 students had no internet access and two-thirds lacked an adequate device for online learning. For most Greater Clevelanders lacking high-speed internet access, the issue is affordability. Monthly costs for internet service that meets the FCC definition of broadband typically are at least \$50 and often considerably more. Yet, availability is also a problem, advocates say, particularly in low-income neighborhoods. "East Cleveland actually doesn't have an available [internet service] provider," said Peter Voderberg, chief of BroadbandOhio, an office Gov. Mike DeWine created last year to improve access to high-speed internet across the state.

Thousands of Cleveland families without the ability to access broadband internet may seem unfathomable given that the nation's fiber-optic infrastructure cuts through the city's center. Such exclusion of low-income, often minority, residents from accessing the benefits of the trunk cable beneath their feet recalls highway infrastructure projects of the past century that isolated poor, minority neighborhoods from opportunities and activities. Local advocates for broadband solutions have also noted how closely neighborhoods that lack access mirror those "redlined" by banks and federal housing agencies because of the presence of Black residents. It's an example, they say, of how barriers of structural racism erected decades ago continue to exclude Black people and other minority groups from vital pathways to quality education, good-paying jobs, and better health.

Exclusion, in fact, is how Bill Callahan, former director of Cleveland's Connect Your Community Institute, frames the digital divide. So much of the current focus on the digital divide casts addressing the challenge as an urgent mission of inclusion. In other words, governments, businesses, and society bestowing on the largely poor and disenfranchised something that they lack. Yet, Callahan, who serves as a research and policy adviser for the National Digital Inclusion Alliance, advocates closing the divide as an act of restoration.

"Essentially businesses and institutions have decided for their own reasons ... to move a huge number of social and economic processes that require participants to be online with no particular thought to the number of people who can do that," said Callahan, a longtime champion of digital empowerment for low-income people. "In that sense, the digital divide is a process of exclusions."

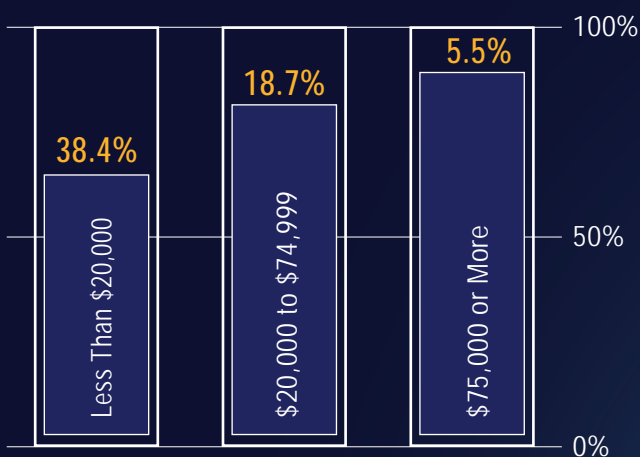
Callahan describes the decisions of businesses, government agencies and even schools to move activities online, usually in the name of progress, convenience, cost savings or all three, as "imposed" on lower-income households. "People pony up \$70 a month or they can't play," he said. Low-income households "now have additional costs the equivalent of a gas bill in order to apply for a job, for kids to do homework and increasingly to have access to health care and to have a social life."

Data from the 2019 American Community Survey show that, among U.S. households with annual earnings of less than \$20,000, 35.6% had no internet subscription. Another 15.6% of U.S. households earning between \$20,000 and \$74,999 did not have an internet subscription. It's important to note that the ACS counts mobile data plans among broadband subscriptions. Among U.S. households earning \$75,000 or more, only 4.3% did not subscribe to the internet.

In the Cleveland urbanized area, which includes all of Cuyahoga County and parts of surrounding counties, 38.4% of households earning less than \$20,000 annually, some 48,000 households, did not have an internet subscription of any kind. Among middle-income households, 18.7%, or nearly 64,000 households, had no internet subscription. Only 5.5% of high-income households in the Cleveland urbanized area had no internet subscription.

The 2019 data on computer and internet use collected by the ACS actually indicates marked improvement. In 2015, more than half (53%) of Cleveland-area households earning less than \$20,000 annually had no internet service. In terms of actual numbers, that's 26,000 more low-income households with internet access in 2019 than in 2015.

Significant progress was also made in terms of devices. In 2019, only 8.3% of Cleveland-area households had no computer, smartphone or tablet, compared to 15.1% in 2015. That means 50,000 fewer Cleveland-area households were without the tools necessary to access the modern digital world. However, it still means that more than 60,000 Cleveland-area households had no computer, tablet, smartphone or other device just as a pandemic was hitting that would make such tools a vital lifeline.



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"People pony up \$70 a month or they can't play."

Cleveland-Area Households Without Internet Access Based On Annual Income

Source: 2019 American Community Survey



Extending a Lifeline

Lifeline is actually the name of the FCC's program for helping make internet service affordable for low-income households. The program offers a \$9.25 monthly subsidy for wired or wireless communications services. To be eligible, households must earn less than 135% of federal poverty guidelines, or they must take part in other federal assistance programs, such as Medicaid, public housing, or the Supplemental Nutrition Assistance Program.

Although the FCC waived some requirements and streamlined the process to help expand access during the pandemic, the Latimer Plan reports broad agreement that the subsidy is insufficient to make the \$50-a-month average cost, plus taxes and equipment fees, for high-speed internet affordable for low-income families. Given that funding for the program comes from a tax on traditional fixed-line telephone service and the number of U.S. households with landlines continues to decrease, Lifeline is also unsustainable, the report argues.

The Latimer Plan proposes a retooled Lifeline program to ensure that low-income households that qualify for federal health care, housing, employment or education benefits also receive support for broadband internet access and devices. Funding, the report recommends, should come from direct congressional appropriation instead of the regressive tax on phone service, outdated barriers that exclude certain providers that don't meet current telecommunications standards should be removed, and beneficiaries should receive the subsidy in the form of a voucher to allow for greater choice among providers.

In May, qualifying households became eligible to receive \$50 monthly toward high-speed internet connection. The Emergency Broadband Benefit was part of the \$900 billion COVID-19 relief package passed by Congress in December 2020; the FCC received \$3.2 billion to administer the program. Eligibility is similar to the Lifeline program although it includes families of students receiving free or reduced lunch, as well as Pell Grant recipients and households that suffered a job loss or furlough during the pandemic as long as income levels were below established thresholds. The program also provides up to \$100, with a contribution of \$10 to \$50 from qualifying households, to purchase a laptop, desktop computer or tablet from participating providers. Hundreds of wired and wireless high-speed internet providers are participating in the program, including AT&T, Spectrum, T-Mobile, Verizon, Windstream, and WOW. Within the first month of the program, more than 2.5 million households had signed up for the internet subsidy.

As with much of the federal COVID-19 relief spending, the Emergency Broadband Benefit is a welcome stopgap measure to address the critical need families have to access education, employment and health care remotely. Unfortunately, the benefit comes too late to benefit students who have spent all or much of the past year learning at home. It's worth noting that if the \$3.2 billion benefit went toward monthly internet service exclusively, it would cover the costs of just one year of access for well less than half of the low-income and moderate-income U.S. households currently without internet service.

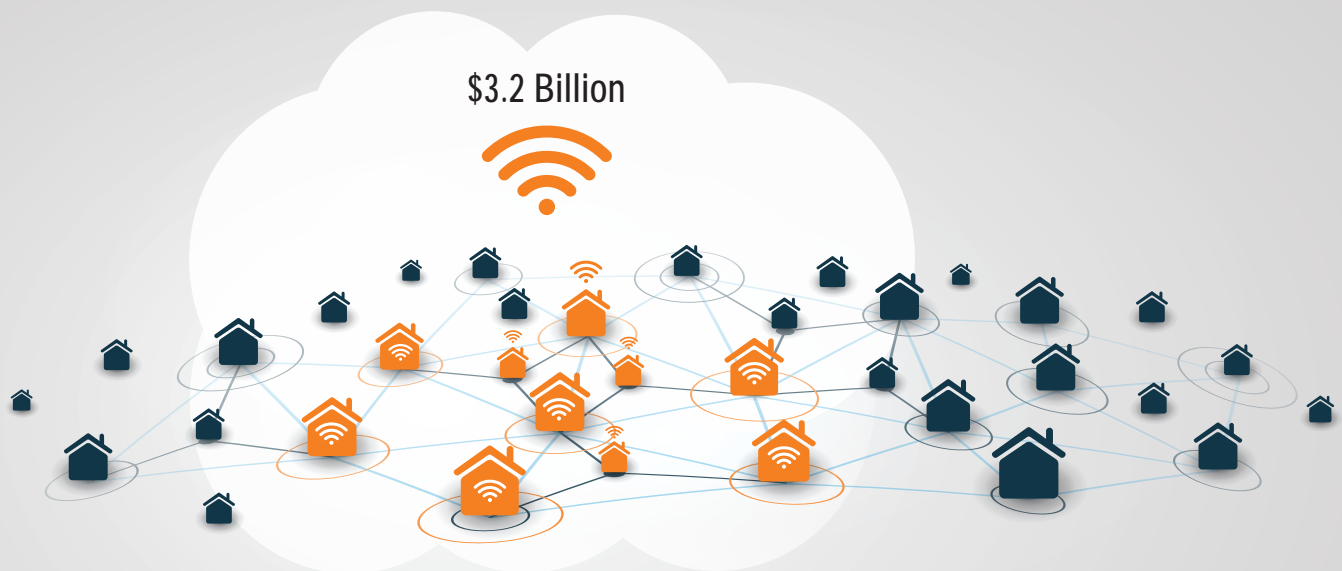
As a temporary program, the Emergency Broadband Benefit should provide the state and local access-related projects under way or in planning stages a year to build out and test their services. However, if the benefit were to become an annual congressional appropriation, similar to the recommendation in the Latimer Plan, that could potentially change the calculations behind efforts to provide lower cost, community-based options for unserved and underserved neighborhoods. The question would be whether the \$50 monthly subsidy would be enough to entice the limited number of internet service providers into communities they have otherwise neglected.

Northeast Ohio businessman and candidate for the U.S. Senate Bernie Moreno sees such federal subsidy as the optimal path toward creating a market, empowering low-income consumers and ensuring access to a future-proof network. Moreno, who has convened discussions on the digital divide, agrees with the Latimer Plan's conclusion that the \$9.25 Lifeline subsidy isn't enough and that the regressive tax on declining landline telephone service means funding for the program is unsustainable.

Moreno believes a means-tested program that provides consumers choice of provider has the best chance of achieving the goal of connecting the unconnected and ensuring that the connection does not become obsolete due to rapidly changing technology. “Philosophically, I would subsidize 100% of internet access,” he said, because “without access, you’re not going to get out of poverty. ... It’s essential infrastructure. It’s no different than roads and waterways and bridges. You can’t say one group has access to roads, waterways and bridges and another doesn’t.”

Lev Gonick, chief information officer at the Arizona State University who held a similar position at Case Western Reserve University from 2001 to 2013, counters Moreno’s market-based approach by questioning whether the subsidy would be enough to lure ISPs into some of Northeast Ohio’s extreme poverty neighborhoods. He said the transience of residents creates a barrier to sales and service that would keep commercial carriers from making the type of infrastructure investments necessary. “This isn’t about serving a market. It’s not market failure. There is no market,” Gonick said. He doubts that even the federal government totally subsidizing the cost would be enough, and he questions what accountability there is for companies that have failed to serve specific segments of society in the past. “What assurances do we have that this policy will actually positively impact the group intended?” Large ISPs are “basically going to get paid \$50 a month for every household [they] can sign up in the city.” He points out that the service providers largely benefiting from the program are the same ISPs that have failed to invest in underserved communities. “No one is verifying that poor people are actually getting internet access.”

He believes community-based organizations are better situated to address the issue of access. “If there is no market, then the job of the local community is to help establish one.”



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Stopgap Fixes and Two Community-Based Solutions

In the early months of the pandemic, the Cleveland Metropolitan School District scrambled to fill identified gaps in time for the start of the 2020-2021 school year, purchasing about 27,000 laptops and tablets and providing some 13,500 Wi-Fi hotspots for disconnected households. The equipment and year of data for the hotspots came at an expense of roughly \$14 million. Other school districts found themselves in a similar scramble. Even some middle-income and affluent districts were surprised to learn of a significant share of students lacking the equipment and access necessary for remote learning.

As Gordon told Crain's Forum participants, CMSD has announced plans to cover the cost of broadband connection and monthly fees for households with at least one district student living there. Partnering with the Cleveland nonprofit DigitalC, the district set a goal to connect 9,400 households by June 2021 and the remaining households by the start of the 2022-2023 school year. CMSD will pay a discounted monthly fee of \$16 per household.

The Cleveland Foundation and Cuyahoga County partnered to launch the Greater Cleveland Digital Equity Fund in July 2020 and has since distributed more than \$4.1 million to cover the costs of 4,000 laptops and 5,000 mobile hotspots with two years of unlimited data. The Greater Cleveland Digital Equity Coalition brings together a diverse group representing more than 70 area organizations to address immediate needs, such as providing internet access and low-cost computers for job seekers and offering technology support for seniors. More than half of Clevelanders age 65 and over have no computer or internet access. The coalition also aims to identify and support long-term solutions for closing the region's technological divide.

Advocates we spoke to described the Wi-Fi hotspots distributed during the crush of the pandemic as temporary, make-do, solutions. They also were skeptical that anticipated corporate investments in building out 5G networks would do much to connect disconnected neighborhoods. "Hotspots aren't cheap," said Leon Wilson, the Cleveland Foundation's digital innovation and information chief. They were the best solution at the time, but "it was a band-aid." Wilson added: "For basic needs, broadband fiber is the holy grail."

Currently, two different Cleveland organizations have proposals promising more-lasting solutions to the area's availability and affordability gaps: PCs for People and DigitalC. PCs for People is a nonprofit based in Minnesota but with an office in Cleveland that has spent the past 20 years addressing the technological gap by providing refurbished computers at a modest price. DigitalC, which grew out of the former OneCommunity efforts to build broadband capacity, launched EmpowerCLE+ in 2018 to provide high-speed internet access to Cleveland's least-connected neighborhoods at an affordable but ultimately sustainable cost. Baunach, the group's chief executive, testified before the Ohio Senate Energy and Public Utilities Committee in February that DigitalC currently provides basic internet service to 850 households in six neighborhoods at speeds of 50 mbps download and 20 mbps upload for \$18 plus tax, or roughly \$20 a month. Technology has been added in two neighborhoods allowing speeds of up to 200 mbps. At this point, Baunach said, the cost to subscribers is heavily subsidized.

DigitalC has an ambitious plan to raise more than \$40 million to build the citywide infrastructure needed to connect 40,000 households. In an interview following her testimony before the Ohio Senate committee, Baunach told us that DigitalC has so far raised \$2.5 million of its fundraising goal, half of it coming from Cleveland Metropolitan School District. Baunach said DigitalC had also already invested \$4.4 million in the EmpowerCLE+ initiative.

In April, DigitalC was awarded a \$300,000 grant from the National Science Foundation and US Ignite to expand high-speed internet service to 277 households in the Lexington Village apartment complex in Cleveland's Hough neighborhood. The grant was part of \$2.7 million awarded through the Project OVERCOME initiative to seven organizations offering "novel broadband technology solutions" to the technological divide. In May, DigitalC announced that it planned to expand its service capacity to 6,000 households in the Fairfax, Hough, Central, Clark-Fulton, Glenville and Buckeye-Woodhill neighborhoods by the end of 2021 by adding new wireless technology.



Started in July 2020

The Cleveland Foundation and Cuyahoga County partnered to launch the Greater Cleveland Digital Equity Fund

- 4,000 Laptops
- 5,000 Mobile Hotspots
- 2 Years of Unlimited Data
- Over \$ 4.1 Million

2020-2021 School Year

- The Cleveland Metropolitan School District
- 27,000 Laptops and Tablets
- 13,500 Wi-Fi Hotspots
- 1 Year of Data
- \$14 million

April 2020

Governor DeWine announced a public-private partnership to extend broadband infrastructure and access to up to 2,000 households in East Cleveland. Support for the project has come from local businesses, including GE Lighting and Eaton Corp., the Greater Cleveland Partnership, Cuyahoga County and the Microsoft AirBand Initiative.

Two Organizations	
DigitalC	PCs for People
<p>CMSD Partnership: To connect 9,400 households by June 2021; the remaining households by the start of the 2022-2023 school year. CMSD will pay a discounted fee of \$16 per household.</p> <p>Raise \$40 million to build a citywide infrastructure to connect 40,000 households.</p> <p>To expand its service capacity to 6,000 households in the Fairfax, Hough, Central, Clark-Fulton, Glenville and Buckeye-Woodhill neighborhoods by the end of 2021 by adding new wireless technology.</p>	<p>Will act as the internet service provider, building out the fixed wireless network of 15-foot rooftop towers and at-home modems used to receive broadcast signals to low-income neighborhoods at a monthly cost of \$15.</p> <p>Up to 2,000 households may be connected through the project, some will pay \$120 for the modem.</p>

The foundation for DigitalC’s residential fixed wireless service is a 5-year agreement it has with for-profit business internet provider Everstream. DigitalC and Everstream each have assets of the former OneCommunity network. DigitalC taps into fiber that Everstream has running to buildings throughout Cleveland and uses antenna towers on the tops of 35 buildings to create what Baunach calls a “fiber ring in the sky.” Millimeter wave technology allows DigitalC to send a signal below the tree canopy to residential devices. Baunach said DigitalC plans to make use of Citizens Broadband Radio Service to reach homes lacking line of sight to towers. DigitalC’s mix of technology allows it to serve households where extending fiber directly is cost-prohibitive, Baunach said.

DigitalC has entered an agreement with CMSD to lease its buildings for 20 years for \$10 each. It also has agreements with Case Western Reserve University, Cleveland Metropolitan Housing Authority, and MetroHealth for rooftop access, Baunach said. The MetroHealth project is in partnership with Dollar Bank to bring subsidized internet service to 350 homes in Cleveland's Clark-Fulton neighborhood.

In early April, Governor DeWine announced a public-private partnership to extend broadband infrastructure and access to up to 2,000 households in East Cleveland. Support for the project has come from local businesses, including GE Lighting (bought by Savant Systems in 2020) and Eaton Corp., the Greater Cleveland Partnership, Cuyahoga County and the Microsoft AirBand Initiative, which aims to bring broadband connectivity to 3 million people in the United States and another 40 million throughout the world by July 2022. PCs for People will act as the internet service provider, building out the fixed wireless network of 15-foot rooftop towers and at-home modems used to receive the broadcast signal. Case Western Reserve University, University Hospitals, and East Cleveland Schools are allowing access to buildings to install five antennas, which will tap into available fiber to broadcast to neighborhood households. The network makes use of 4G LTE technology, similar to that used by large cell phone companies, to offer internet speeds of 50 mbps download and 10 mbps upload, more than double the FCC's requirement, to low-income neighborhoods at a monthly cost of \$15.

Bryan Mauk, chief innovation officer for PCs for People, said the \$650,000 in funding for the pilot project will cover the towers and make hundreds of modems free to subscribers. Up to 2,000 households may be connected through the project, but some of those subscribers may need to pay \$120 for the modem, which will be mailed to homes. Mauk described the modems as easy to install, simply needing to be plugged in.

"Solutions like ours are not intended to blanket a whole city," Mauk said. "The name of the game is to fill in gaps." And to fill them relatively quickly. "How do we build that infrastructure to scale? Fiber is important, but it takes a long time, five to 10 years, to build out." PCs for People's interest is in "solutions that can be deployed right away," Mauk said, indicating that thousands of households could gain access within a matter of months. The community-based efforts under way are in addition to, and perhaps in competition with, investments recently announced by some of the nation's largest internet providers and technology firms. Microsoft announced in June that it would expand its AirBand broadband initiative, which was primarily targeted toward rural areas, to Cleveland and seven other cities in an effort to provide low-cost internet service and refurbished devices.

In April, AT&T announced a \$2 billion, 3-year commitment to help bridge the digital divide. The company described the commitment as on top of \$1 billion invested over the past 3 years. The investment appears to be largely a continuation of AT&T's discounted wireless service for educational institutions and its Access program that offers wired residential internet service to qualifying low-income households for \$10 a month.

T-Mobile announced last fall that it would be piloting a \$50 monthly residential high-speed internet service with no caps on data to roughly 30 million households in unserved and underserved communities. Ohio is one of the 27 states covered by the program. T-Mobile described the price as including taxes and coming with no hardware or hidden fees. To facilitate its merger with mobile competitor Sprint, T-Mobile had committed to expanding capacity, providing coverage for 90% of rural America and accelerating rollout of faster 5G speeds. Within months of the merger, T-Mobile announced it would lead the world in launching a standalone nationwide 5G network, making fiber-like internet speeds available wirelessly for roughly 250 million Americans, many in previously unserved rural areas.

Tackling the Adoption Challenge

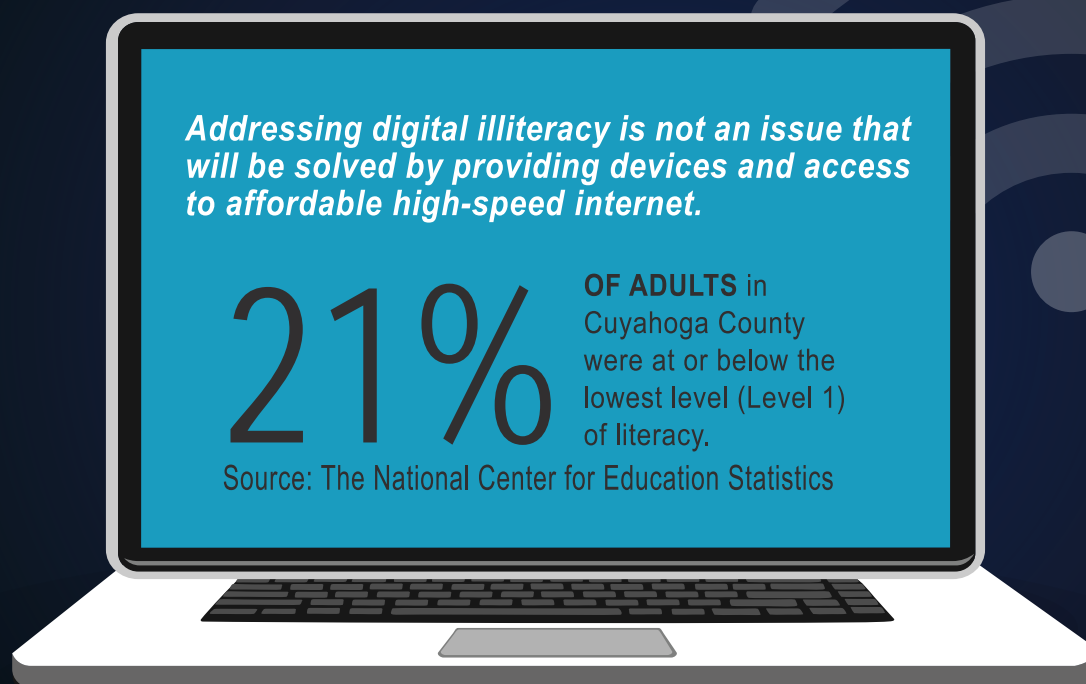
As the above discussion makes clear, a variety of efforts and approaches are under way, led by nonprofit, government and private entities, to address affordability and availability gaps locally and nationwide. These efforts will likely be sped along by the passage of a federal infrastructure bill. As part of a proposed \$2.3 trillion package, President Biden would allocate \$100 billion for building out broadband networks in unserved and underserved areas and developing future-proof infrastructure that anticipates changing technological demands. A bipartisan \$1.2 trillion infrastructure bill currently under consideration by Congress includes \$65 billion for broadband.

Yet, the final, and perhaps most difficult, barrier to bridging the digital divide is adoption. “It’s hard to reach families,” the Cleveland Foundation’s Wilson said. “There’s a trust issue.”

“I CAN’T FIND THE FILE I DOWNLOADED”

“I CAN’T LOGIN TO MY KID’S LAPTOP”

“THE SOFTWARE IS NOT WORKING”



There is also widespread unease and unfamiliarity with technology, said a principal at a CMSD elementary school. “People have made so many assumptions about what parents can do,” the principal said. “They assumed that if they could work a cell phone, they could use a laptop, but it’s very different.” Instead, she was surprised to find that she needed to talk parents through basics, such as how to press the shift key to make a capital letter. Teachers tried to help students and parents with connection issues, the district provided technical support, and she even went to homes to show parents and students what to do.

“Most of the phone calls were ‘I can’t log my kid into this laptop,’” she said. “It’s just a lack of experience with using technology.”

Yet, parents were being asked to perform unfamiliar tasks, such as downloading and uploading documents and getting on platforms. Then there were issues with the functioning of devices. It was difficult to discern software problems, hardware issues and user errors. Or sneaky sabotage to avoid schoolwork. "I had one kid who purposely was doing things to the computer. His mom thought it was broken."

Many didn't want to ask for help and reveal their deficiencies, she said, or reveal the difficulties they faced at home. Some parents just gave up out of frustration.

Her school serves an overwhelmingly Black neighborhood. Roughly 43% of all households in the neighborhood had a median income of under \$30,000 in 2019. The neighborhood tends to be older than Cleveland as a whole, and nearly a third of its households are headed by single mothers, a rate significantly higher than for Cleveland overall. Roughly a third of all adults in the neighborhood never completed high school, and another 15% have only a high school education, lower educational attainment than Cleveland overall. Workers in the neighborhood tend to be employed in lower-skill service occupations.

Characteristics of the neighborhood fit those that a 2018 report by the U.S. Department of Education associates with digital illiteracy. The report presents results of U.S. participation in an international assessment that seeks to understand how well-equipped adults are with 21st century skills. Findings are somewhat dated, relying on a nationally representative sample of 5,000 adults between the ages of 16 and 65 in 2011-2012. Of those taking the assessment of digital problem-solving skills, 16% were found to lack digital literacy. That would translate into some 31.8 million American adults lacking 21st century skills.

Presumably, some gains have been made in the near decade since the assessment, but the findings make clear that certain groups are far more likely to lack digital literacy. In the United States, Blacks, Hispanics, those with low educational attainment, those not participating in the labor force, and those who work in low-skill service occupations are considerably less likely to be digitally literate. Among the U.S. adults assessed who lacked a high school diploma, 41% were digitally illiterate. More than a third of Hispanics in the sample group were digitally illiterate and 22% of Black participants were, compared to 11% of whites. Although a higher share of Hispanics and Blacks lacked comfort and competence with computer technology, it's important to remember that, given national demographics, whites made up nearly half (46%) of all those assessed as digitally illiterate. A third of workers in low-skill occupations were digitally illiterate, and 26% of those in semi-skilled blue-collar occupations, such as construction and transportation jobs, were. Nearly a third of all adults not participating in the labor force (meaning those not employed nor looking for work) were assessed as digitally illiterate.

The report revealed that, although a higher share of U.S. adults were digitally literate compared to other nations participating in the assessment, Americans who lacked computer problem-solving skills actually scored considerably lower on the assessment than those in other countries. Roughly one-third of U.S. participants in the assessment reported not using a computer at work, and nearly 20% did not use a computer in their daily lives.

Addressing digital illiteracy is not an issue that will be solved by providing devices and access to affordable high-speed internet. The National Center for Education Statistics offers a map that makes clear how difficult the challenge is: In Cuyahoga County, 21% of adults were at or below the lowest level (Level 1) of literacy and 34% had the most basic numeracy skills. Cuyahoga's share of adults possessing the lowest level of literacy and numeracy skills ranked it among the worst counties in Ohio. Level 1 literacy means adults likely have difficulty understanding printed material and may have limited vocabulary. Drawing inferences and assimilating information from multiple sources are likely challenging tasks. Those at or below Level 1 numeracy skills may be able to perform only basic arithmetic functions. Digital competencies rest on literacy and numeracy proficiency.

"We live in a place that wasn't tech-savvy to begin with," the Cleveland principal said.

Tech-Savvy Students as Bridges to Tech-Using Parents

Although the pandemic has been a stressful and frustrating disruption to learning that may have lasting effect, the principal is hopeful that the experience also brought lasting benefits, particularly regarding the technological gap.

“There are tons of bright spots,” she said. “Every [CMSD] kid has a computer.” Computers distributed by the district are to be returned at the end of the academic year. Although broken devices and other issues have been frustratingly common—over the first three semesters, “we cycled in about 80 to 110 laptops to be fixed,” out of a student population of roughly 270 and there have been some incidents of deliberate destruction and even families moving away without returning school-issued devices—the principal envisions classrooms in the fall with laptops that can be used to enhance instruction. “Kids are going to be able to take laptops out of their desks and do assignments.”

She hopes the availability of devices will lead to the embedding of technology use into curriculum. “That would begin the process of closing the gap.” Students have learned much over the past year about how to use computers, log onto the internet and upload files. They need to continue doing those activities regularly when they return to in-person classroom experiences, she said. “Now it’s becoming muscle memory. To me, that’s the start.”

As students gain proficiency in using technology, they can help their parents, she said. She also sees an important role for schools in helping to educate parents, using access to district-issued devices as the incentive. She suggests requiring parents to attend one or two sessions on technology use basics in order for their students to receive a laptop that can be taken home during the school year. She said adults who struggle with digital literacy, or literacy in general, need to feel comfortable and trusting of the training source. That is why schools and libraries are important partners in addressing the digital literacy gap in adults as well as students.

Across the country, public libraries are important resources for computer and internet access, as well as digital skills training. A 2020 American Library Association report indicates that nearly 90% of the nation’s 16,000 public libraries offer digital skills training, and nearly all (98%) provide Wi-Fi internet access, making libraries key job search resources and workforce development partners. The Cleveland Public Library, the Cuyahoga County Public Library, East Cleveland Public Library and other community resources have joined together as Digital Inclusion Anchors to help empower area residents with the skills and access to improve their lives and seize on economic opportunities.

Beyond community partners, the Latimer Plan calls for establishing a national Office of Digital Equity to coordinate training targeted toward populations with low adoption rates. The plan recommends creating a “Digital Navigators” corps to help address skill and knowledge barriers. The Cleveland Foundation recently announced a plan to provide funding to embed several Digital Navigators at area libraries and other community agencies to provide technical assistance as well as information on resources available to help with broadband access, devices and training.

The need for digital skills training isn’t limited to those without broadband access. A 2015 survey by the Pew Research Center found that more than half of all American adults, particularly those who are low-income, minority and have lower educational attainment, are unable or reluctant to use the internet to expand their skills and knowledge. This disconnect or discomfort means they may be further shut off from job opportunities and everyday activities as technology continues to evolve.

Gonick noted that trust is vital for overcoming digital illiteracy and bridging the technological divide. Community organizations such as DigitalC build trust by their understanding of and presence in low-income neighborhoods. It’s an awareness and relationship that the ISP giants lack, he said. “DigitalC is an excellent community-based program with block captains,” he said. “If block captains don’t know what’s going on, then who does? Certainly not a Spectrum salesman.”

Instead of facing the all-too-familiar challenge of lean coffers and pressing needs, Cleveland and Cuyahoga County governments are receiving an infusion of roughly \$750 million in federal stimulus money that is to be spent within two years. This provides not only the wherewithal to act but a mandate to act quickly to address a divide that gets worse with each passing year. As the pandemic has made clear, students for whom high-speed internet access is unaffordable or unavailable can't wait years for a solution.



Recommendations

Narrowing the digital divide will take a layered approach, Gonick said, that is a combination of policy framework, community engagement and direct provision of services. “It can’t just be about bringing internet to households.” Interagency coordination, at the local, state and federal levels, is critical. For example, federal agencies such as Health and Human Services, Housing and Urban Development, and Transportation should work together to support broadband as a “smart health, smart education, smart employment” plan for comprehensive poverty alleviation. For years, Gonick said, he had tried to spotlight the value of telemedicine for low-income communities underserved by health care providers, but he gained no traction among policymakers. During the pandemic, telehealth became an important component of care provision—but only for those with the ability to use it.

The federal resources that have been allocated in the wake of the COVID-19 pandemic and the potential for some agreement in Congress on infrastructure spending put Cleveland in a position to be bold in envisioning a connected community. Instead of facing the all-too-familiar challenge of lean coffers and pressing needs, Cleveland and Cuyahoga County governments are receiving an infusion of roughly \$750 million in federal stimulus money that is to be spent within two years. This provides not only the wherewithal to act but a mandate to act quickly to address a divide that gets worse with each passing year. As the pandemic has made clear, students for whom high-speed internet access is unaffordable or unavailable can’t wait years for a solution.

Cleveland has proposals from two nonprofits with a focus on narrowing the digital divide. Neither has an extensive track record as an internet service provider. Neither plan addresses the entirety of the challenge wrought by decades of disinvestment and neglect of Cleveland neighborhoods. But they hold promise of an admirable start.

DigitalC has proposed developing a network for broadband internet access with download and upload speeds that can accommodate future technologies to cover some 40,000 Cleveland households at a price tag of some \$40 million. PCs for People proposes a different technological solution promising slightly slower but still future-proof speeds to reach 20,000 Cleveland households at a price tag of roughly \$7 million. Just months ago, limited resources would have likely forced the choosing of one path over another. The federal resources put the region in the fortuitous position to fund each as a pilot project.

In a city that has long-standing, pressing needs—high poverty, disinvested neighborhoods, low educational attainment, unemployment, lead exposure, rising homicides, policing problems, underperforming schools, higher rates of infant mortality and other health concerns—some might question whether high-speed internet access warrants such a huge investment when money is needed elsewhere. But the pandemic made clear that the digital divide makes existing educational, health and economic disparities worse. Lack of proficiency in 21st century skills disadvantages individual workers, as well as local businesses and local communities. These realities make narrowing the digital divide a regional priority for all of us, not simply those in underserved communities.

Restoring access to services many Greater Clevelanders have been denied and including them in the benefits of the Digital Age will require action that addresses immediate needs while also looking toward the longer term. It also will require better coordination among the many groups now working to build bridges across the digital divide. Specifically, the region should:



Establish a backbone organization to lead digital divide efforts

While there are many organizations and robust coalitions doing excellent work to address this issue, there needs to be a lead organization whose sole purpose is to provide a guiding vision, align activities and monitor the rapidly changing environment of technologies, regulations, resources, and approaches. This backbone organization should be charged with setting community metrics, collecting pertinent data, monitoring progress, advocating for public policy and building coalitions. A “go-to” lead partner would ensure that key priorities get the proper attention and would bring cohesion and efficiency to fragmented, siloed efforts.



Continue to provide support for devices

The region responded admirably to meet the gaping need schools and students had for laptops and tablets to engage in remote learning. But devices break and quickly become functionally obsolete, especially older, refurbished ones. The federal Emergency Broadband Benefit promises temporary help in the form of a voucher for devices. This benefit needs to be promoted widely to area residents. But the need for new and refurbished devices will continue, and it is unlikely that relying on businesses to donate used office computers will be sufficient to meet the need.



Develop a digital learning plan for adults

As was outlined in the report, many area parents are unfamiliar with the internet or lack the understanding and skill to respond to the virtual needs of their children. Many Clevelanders also lack the digital skills to benefit from telemedicine or to apply for jobs, even those that may not require computer proficiency. A countywide learning plan, with libraries, churches and schools as key partners, would create a broad network of resources for providing easily accessible skills training in comfortable, trusted settings.



Invest in innovative pilots

Myriad programs and initiatives aimed at addressing aspects of the digital divide have been launched by the FCC, ISPs, state and local governments, corporations and philanthropy. While many of them hold promise and will certainly provide best practices or lessons learned about what doesn't work, there are also local organizations that have solid plans in place to demonstrate possible solutions. These include PCs for People and DigitalC. As such, we should invest in these projects (and potentially others) to allow them to test out their models for effectiveness and impact. The digital divide is a complicated issue; as such, no silver bullet or singular approach is likely to solve it.



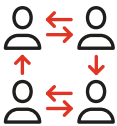
Create a city/county Office of Digital Equity

Given the complexity of the challenge and the speed at which technology continues to evolve, the digital divide is likely to present a barrier for many area residents for years to come. Resources from stimulus dollars should be used to launch an office that ensures that city and county services are accessible for all residents and that the issue of digital equity and inclusion remains “top of mind” for elected officials and policymakers. The office could evaluate the use of technology to better serve constituents while also improving internal efficiencies. As was called for in the Latimer Plan, a Digital Navigator Corps of city and county workers deployed into communities would provide residents with help in using the internet to access public services and would help troubleshoot where barriers exist. These barriers may include the digital skills of users or poorly executed web-based services.



Promote federal and state interagency cooperation

As Gonick and the Latimer Plan made clear, bringing federal departments, such as HUD, HHS, Transportation and Labor, together to share resources, capacity and reach would be a beneficial approach to addressing the digital divide. Similarly, relevant state agencies, including the Department of Education, Ohio Means Jobs, the Department of Transportation and BroadbandOhio, could amplify efforts by joining together to test models, make investments and monitor impact. No one department or agency has the capacity and reach to solve this issue alone. Interagency collaboration would encourage innovative thinking and a much more comprehensive approach.



Continue the work of local coalitions

Because the digital divide affects so many facets of community, the need for coalitions will remain critically important to ensure that all voices are heard and all perspectives are considered. The Greater Cleveland Digital Equity Fund and the Greater Cleveland Digital Equity Coalition are excellent examples of how community partners can come together to share information and develop winning strategies that lead to impact. Establishing a backbone organization will help guide the process, but coalitions are needed to build the trust necessary to move forward in connecting the region—and quickly.



Remain open to alternate solutions

Proposals to provide longer term solutions to Cleveland’s access and affordability challenges should not distract from the understanding that the deployment of portable Wi-Fi hotspots—a temporary, stopgap measure during the height of the pandemic—may continue to be the best available solution to connect a population that tends to be relatively transient. Wired access and fixed equipment may not be a solution that works for the many area students and their families on the move each year.

As Cleveland Schools’ CEO Eric Gordon so eloquently stated, the COVID-19 pandemic laid bare a chronic disparity and made it impossible, unconscionable for us to look away. The pandemic also made clear that we can make substantial—and quick—gains in closing the divide that disconnects far too many Greater Clevelanders, especially those in poor, minority neighborhoods, from the school, work and health benefits of the Digital Age. As the pandemic subsides, we can’t allow our focus and our will to weaken. We need regional resolve to put an end to unequal access permanently.

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2930 Prospect Ave., Urban League Building, Suite 113, Cleveland OH 44115
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