

The Role of Public Libraries and Community Partnerships in Promoting Digital Adoption

Digital Empowerment and Inclusion Working Group Digital Inclusion Subgroup Report

Presented by:

Rudy Brioché, Comcast NBCUniversal, Chair, Digital Empowerment and Inclusion Working Group

Laura Berrocal, Charter Communications, Co-Lead, Digital Inclusion Subgroup
Harin Contractor, Joint Center for Political and Economic Studies, Co-Lead, Digital Inclusion Subgroup

Members:

Susan Au Allen, U.S. Pan Asian American Chamber of Commerce

Sindy Benavides, League of United Latin American Citizens

Shellie Blakeney, T-Mobile USA

Roy E. Litland, Verizon

Ian Skorodin, Barcid Foundation

S. Jenell Trigg, Lerman Senter PLLC, Representing Wireless Internet Service Providers Association

Felicia West, Public Service Commission of the District of Columbia

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Executive Summary

In the 21st century, broadband service has emerged as an essential element for full and equal participation in American life. Every facet of American life – including employment, workforce training and skills, education, health and wellness services, news and entertainment, recreational activities, e-commerce, family, and community interaction – is enhanced and enriched by broadband connectivity.

Broadband is changing the world faster than any technology in history. However, the faster the technology moves and the more benefits it provides, the greater the disadvantages for those who are left behind.

The COVID-19 pandemic has fostered a proliferation in remote work, distance learning, and online access to public and government information and resources across all parts of the country. As a result, broadband has emerged as a critical tool for navigating the many challenges Americans face as we continue to confront this public health crisis. Today’s circumstances have magnified the importance of broadband connectivity for many Americans.

As this report will highlight, however, far too many American households, for a variety of reasons, continue to live without the benefits and opportunities provided by broadband service. The factors contributing to low rates of broadband adoption in some communities, their effects and impact on communities where such low rates are still prevalent, and solutions to this persistent problem are all examined below. While access to broadband infrastructure is also a critical issue for unserved and underserved communities, the aim of this report is to identify obstacles that contribute to lagging use of broadband in areas where the service is available – particularly disadvantaged communities¹ – and to develop strategies for addressing those impediments.

A key focus of this report is the crucial role played by public libraries in fostering digital inclusion and digital readiness, particularly when elementary and secondary schools, as well as colleges and universities, were shuttered and forced to deliver services remotely. On their own, and in conjunction with digital readiness initiatives from nonprofit organizations and private companies, libraries are helping to drive what will be referred to here as “digital adoption” by providing digital skills training and resources to residents of their communities. Many libraries function as key anchor institutions for promoting digital adoption. The crucial roles played by public libraries – in both the delivery of broadband and broadband adoption – were highlighted by the ongoing COVID-19 pandemic.

Digital adoption is a critical component to achieving full digital inclusion and equity. To the Digital Empowerment and Inclusion Working Group (DEI Working Group) of the Advisory Committee on Diversity and Digital Empowerment (ACDDE), digital adoption is more than just the adoption of broadband at home; it is the use and participation in digital readiness, digital literacy, and skills training that goes beyond just the connectivity. It comprises a range of engagements with digital technologies, content, platforms, and services, including – but not limited to – broadband. More specifically, this report uses the term “digital adoption” to refer to: 1) adoption of broadband Internet service at home; 2) adoption of Internet-enabled devices that meet a user’s needs; 3) participation in digital readiness, digital literacy, or other online skills training; and 4) use of applications and online content designed to enable and encourage self-

¹ Under the federal Small Business Act, a “socially disadvantaged individual” is defined by social and economic indicators: “Socially disadvantaged individuals are those who have been subjected to racial or ethnic prejudice or cultural bias because of their identity as a member of a group without regard to their individual qualities.” Small Business Act, Pub. L. No. 85-136, § 8(a)(5), https://www.sba.gov/sites/default/files/2019-03/Small_Business_Act.pdf. “Economically disadvantaged individuals are those socially disadvantaged individuals whose ability to compete in the free enterprise system has been impaired due to diminished capital and credit opportunities as compared to others in the same business area who are not socially disadvantaged.” *Id.* § 6(A).

sufficiency, participation, and collaboration.² An individual who engages in digital adoption may participate in one or more of these activities, and libraries play a critical role in many respects, especially in promoting the adoption and use of digital technologies (e.g., providing access to computers, laptops and devices), digital skills training, readiness and education, and technology-related workforce development programs.

Libraries are critical to digital adoption, but they face considerable limitations, including a lack of technical training and expertise, and resource and budget constraints that hamper their ability to fully deliver the benefits of digital adoption to the communities they serve, be they urban, rural, low- or middle- income, or Tribal. Based on the DEI Working Group’s discussions with public libraries, we have concluded that libraries want other stakeholders to focus on connectivity, mapping, and coverage, so librarians can get back to what they do best, namely direct-to-community digital adoption and inclusivity work, such as digital literacy, training, and skills development.

We believe this report is a clarion call for the Federal Communications Commission (FCC) to leverage the experience and expertise of the Universal Service Administrative Company (USAC) to work with stakeholders like libraries to meet the needs of “opportunity communities.” An important goal of this report is to develop scalable strategies that build upon successful library-based digital adoption programs, integrate existing or new strategies with similar ongoing initiatives undertaken by community-based groups and private sector entities, and leverage new resources and support from Congress and the FCC.

Recommendations.

The recommendations provided in this report are designed to bolster and expand effective, community-based digital adoption programs undertaken by, or in conjunction with, local libraries. The steps set forth below are designed to improve coordination with existing library and other community-based digital adoption initiatives and support creation of new programs in communities that currently lack – but have a strong need for – such programs.

- The DEI Working Group encourages advocates, researchers, industry partners, and government agencies to broaden the term “digital adoption” to encompass home use of broadband, devices, digital readiness, digital literacy, and skills training.
- The DEI Working Group encourages advocates, researchers, industry partners, and government agencies to use the term “opportunity communities” rather than disadvantaged or

² National Digital Inclusion Alliance (NDIA), an organization that advocates for home broadband access, public broadband access, personal devices, and local technology training and support programs, defines “digital inclusion” as: “[T]he activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs). This includes five elements: 1) affordable, robust broadband Internet service; 2) Internet-enabled devices that meet the needs of the user; 3) access to digital literacy training; 4) quality technical support; and 5) applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration.” National Digital Inclusion Alliance, *Definitions*, <https://www.digitalinclusion.org/definitions/>. NDIA defines “digital equity” as “a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy and economy. Digital equity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.” *Id.*

low-income. The term should encompass communities that are traditionally underserved or face socio-economic barriers to mobility and equity.

- The FCC should convene public, private, and NGO stakeholders to develop a digital adoption program resource map to support library-based digital inclusion and digital training efforts.
- The FCC should encourage federal, state, and local governments to focus on alleviating connectivity and technology constraints for the public so that libraries can prioritize digital skills training.
- The FCC should support streamlining federal digital adoption efforts by more closely integrating and coordinating broadband access initiatives with broader digital adoption and digital skills training programs.
- The FCC should explore additional ways in which to leverage USAC's experience, resources, and expertise to complement the E-Rate program to support libraries' acquisition of technology and devices used in connection with their digital readiness and digital skills training initiatives.
- Once the COVID-19 pandemic recedes, the FCC, in collaboration with the ACDDE, should convene key stakeholders to review lessons learned and keys to success gleaned from emergency response measures, including the Emergency Connectivity Fund (ECF), and temporary policy changes utilized during the crisis to promote broadband awareness and adoption that can inform future policy initiatives at the FCC and across other federal agencies.
- Federal and state library programs should be updated to better represent Tribal libraries and their unique constructs, as well as to enhance their ability to access federal funds that help increase their capacity to advance broadband adoption and digital literacy. In addition, the FCC, including its Office of Native Affairs and Policy (ONAP), the USAC, and other relevant entities should explore additional ways to work collaboratively and gather additional inputs from Tribal leaders and relevant stakeholders, including librarians and library staff, to enhance Universal Service Fund (USF) program outcomes for Tribal libraries and communities.
- The FCC should consult with the Institute of Museum and Library Services (IMLS), as well as collaborate with IMLS in outreach efforts to Tribal libraries to potentially improve Tribal participation in the E-Rate program.

Introduction

Overview. Broadband has become an indispensable tool for improving the quality of life for residents and businesses in communities and neighborhoods across the country. Broadband provides access to employment and educational opportunities, health and medical information, community services and resources, and meaningful participation in civic and political discourse. Broadband is essential to the full and meaningful exercise of the fundamental rights and privileges of citizenship in the United States, providing residents, businesses, and community institutions countless opportunities to leverage technology to improve their day-to-day lives and operations.

There are several broadband building blocks needed to achieve comprehensive digital adoption, which extends beyond the use of home broadband, and supports digital literacy, equity and inclusion in the United States. Access, adoption, affordability, and digital skilling are all critical components to achieving meaningful results that bring digital adoption to all and can truly empower America's opportunity communities. In this report, digital readiness, digital literacy, digital skilling, digital equity and digital inclusion are all elements that fall under the rubric of the term "digital adoption." The term digital adoption encapsulates the skills, tools, and proficiencies that are a necessary precursor to enabling individuals to take full advantage of the array of opportunities and capabilities offered by broadband service. It is a critical gateway to regular and effective broadband connectivity and usage.

The previous DEI Working Group presented a set of key findings and recommendations to the FCC in June of 2019 that addressed ways to bridge the digital divide, as well as reinforced the important role that digital literacy and readiness services play within communities.³

The current DEI Working Group builds on the previous recommendations and takes the digital adoption conversation a step further by exclusively focusing on this issue. To achieve this, the Digital Inclusion Subgroup was created to examine the unique role that anchor institutions play in connecting opportunity communities. Specifically, the Subgroup chose to examine U.S. libraries and their role as facilitators and drivers of digital adoption.

Purpose of Report. This report from the Digital Inclusion Subgroup is focused on promoting and strengthening community-based digital adoption strategies. These strategies play a critical role in empowering libraries to bridge the digital divide for opportunity communities. In particular, the report presents a survey of ongoing community-based initiatives, with a particular emphasis on the role of U.S. libraries as local hubs for driving digital adoption and digital literacy. The purpose is to raise awareness of existing adoption and digital literacy resources – from libraries, as well as private, public, and nonprofit entities – with an eye toward fostering greater coordination and synergy among ongoing programs and initiatives that would broaden and increase their benefits to local communities. These programs are specifically aimed

³ FCC, *Advisory Committee on Diversity and Digital Empowerment Meeting* (Nov. 19, 2018), <https://www.fcc.gov/news-events/events/2018/11/advisory-committee-diversity-and-digital-empowerment-meeting-november> ("The Digital Empowerment and Inclusion Working Group reported on its assessment of access, adoption, and use of broadband and new technologies by under-resourced communities . . .").

at promoting and strengthening digital adoption and inclusion in underserved and under-resourced communities (i.e., opportunity communities) to enable residents to take full advantage of the panoply of digital resources and opportunities available online.

This report will illustrate best practices and offer examples of effective, ongoing, and scalable community-based digital inclusion and digital readiness programs. In addition, the report outlines recommendations designed to spur new efforts, improve coordination, and identify and leverage synergies with existing initiatives.

There are, of course, other factors affecting the ability of opportunity communities to reap the benefits and opportunities that flow from broadband connectivity, including challenges associated with infrastructure deployment. Those challenges are being addressed through programs established through Congressional appropriations, initiatives undertaken by the FCC, the National Telecommunications and Information Administration (NTIA) and state governments, and public-private partnerships aimed at fostering broadband deployment and infrastructure investment in unserved and underserved communities. The focus of this report, however, is on encouraging and bolstering digital inclusion in opportunity communities – where broadband connectivity is available, but households are subscribing at lower rates than in other communities.

COVID-19 Underscores the Urgency of Facilitating Digital Adoption and Digital Literacy. The COVID-19 pandemic gripping this country over the past year has magnified the importance of ensuring that all Americans have the ability to not only access broadband, but also to take full advantage of the opportunities and capabilities provided by the service. The sudden shutdowns across the country that began in March 2020 left opportunity communities without physical access to anchor institutions, such as libraries, that serve as a lifeline for broadband access and digital literacy training. The challenges created by the public health emergency for community members without home Internet access were aggravated by new, pandemic-related difficulties in accessing support and training from libraries that could help local residents access the most current public health information, social support services, jobs, and telehealth services. The unprecedented pandemic scenario exacerbated existing disparities for those already without broadband at home.

The COVID-19 pandemic accelerated many of the ways that broadband is rapidly changing nearly all facets of American life. As more services and resources are deployed electronically, the urgency of ensuring everyone has access to broadband and related digital literacy services cannot be overstated. Now, more than ever, it is critical that Americans have ready access to the skills and training necessary to take full advantage of the broad spectrum of opportunities and resources available through broadband connectivity. As broadband technology continues to evolve, the breadth and depth of its benefits expand – but so too do the concomitant disadvantages experienced by those who are left behind.

The upheaval created by COVID-19 in work and school routines and in obtaining critical necessities like food, health care, and various home goods and services posed particular challenges for Latino, Black, Asian American and Pacific Islander (AAPI), Tribal (American Indian and Alaska Native), and other racial and ethnic communities. Due to pre-existing disparities in income and educational opportunities, many people in these communities could not adapt to the heightened reliance on broadband connectivity and digital services for virtually all their everyday activities. Consequently, accelerating efforts to expand broadband adoption – and digital adoption, more generally – is a vital piece of the effort to promote digital empowerment and inclusion.

Responses to the COVID-19 Pandemic Highlight the Critical Role of Libraries in Delivering Digital Skills Training to Opportunity Communities. The COVID-19 pandemic mobilized private companies, nonprofits, associations, and local, state, and federal governments to seek critical and timely solutions to the disruptions that resulted from the lockdowns. Congress recognized the importance of libraries in the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) in March 2020.⁴ The Act included \$50 million in funding to IMLS for libraries and museums, as well as for Native American, Alaskan, Hawaiian, rural, and Tribal communities.⁵ The funding was designed to enable these institutions and communities to bolster local pandemic preparedness and response efforts by expanding broadband connectivity, technical support, and digital literacy efforts to help localities address various issues created by the public health emergency. Below are some examples of services supported with CARES Act funding:

- The public library in Evanston, Illinois received IMLS CARES Act funding for its “Ready to Work: Bridging the Digital Divide for Tomorrow’s Workforce” program. The program will help the library provide digital literacy, job-readiness training, and access to online tools and resources to residents that cannot afford them.⁶
- The IMLS funding, along with other resources, allowed the public library in Kansas City, Missouri to deploy four mobile device labs to help patrons access vital electronic services and get assistance with job searches and skills training.⁷
- The public library in the Pueblo of Zuni, New Mexico, will apply the IMLS funds to support its “Solutions for the Future” project. Among other things, the funding will help the library develop more online library programming and offer online services as an educational lifeline for students during school closures.⁸

⁴ CARES Act of 2020, Pub. L. No. 116-136, 13 Stat. 281.

⁵ *Id.*, 13 Stat. 571.

⁶ Evanston Public Library, *IMLS Grant Award to EPL Will Help Serve Evanston’s Unemployed*, <https://www.epl.org/imls-grant-award-to-epl-will-help-serve-evanstons-unemployed/> (last visited June 29, 2021).

⁷ Kansas City Public Library, *Library’s Mobile Services Are Rollin’ ... Literally* (Sept. 29, 2020), <https://kclibrary.org/blog/library%E2%80%99s-mobile-services-are-rollin%E2%80%99-%E2%80%A6-literally>.

⁸ Press Release, Institute of Museum and Library Services, \$1.2 Million in IMLS CARES Act Grants Awarded for Native American and Native Hawaiian Museum and Library Services (Aug. 31, 2020), <https://www.imls.gov/news/12-million-imls-cares-act-grants-awarded-native-american-and-native-hawaiian-museum-and-library>.

The American Rescue Plan Act (ARPA), signed in March 2021,⁹ includes the \$7.17 billion ECF to be administered by the FCC. For eligible schools and libraries, the ECF will cover reasonable costs of connected devices and broadband access. Importantly, ARPA also includes \$200 million for pandemic response programs and initiatives for IMLS. This funding will further aid in advancing the essential digital literacy services provided by libraries. Funded activities include support for greater access to technology (through expanding digital networks and connectivity and purchasing hotspots and computers), establishing mobile digital labs, enhancing workforce development programs, and ensuring training and technical support for libraries. This report will illustrate how program beneficiaries of this funding can maximize benefits by coordinating with existing programs, identifying synergies, and evaluating remaining programmatic needs.

Defining the Digital Adoption Challenge – A Review of Existing Research and Findings

A Digital Adoption Gap Persists in the U.S. According to census-block-level data in the FCC’s 2020 Communications Marketplace Report, while fixed terrestrial broadband service with speeds of at least 25/3 Mbps is unavailable to only about 4% of the U.S. population as of December 2019, about 31% of U.S. households with access to such service do not subscribe to it.¹⁰ A Pew Research Center study released in April 2021 found that only 57% of American adults surveyed earning less than \$30,000 annually subscribe to broadband at home.¹¹ The same study found that 7% of adult Americans surveyed do not use the Internet at all.

The Broadband Deployment Advisory Committee (BDAC) Report Highlights Adverse Consequences for Non-Adopters. BDAC released a December 2020 report from its Increasing Broadband Investment in Low-Income Communities Working Group that examined issues affecting those that do not have broadband service.¹² BDAC’s report highlights significant adverse consequences for households that do not subscribe to broadband, spanning core elements of American life. These include:

⁹ Pub. L. No. 117-2.

¹⁰ See *2020 Communications Marketplace Report*, GN Docket No. 20-60, [FCC 20-188](#), ¶¶ 103 (Fig. II.B.12), 126 (Fig. II.B.23) (FCC Dec. 31, 2020). The FCC has recognized the limitations of census-block-level data and is in the process of implementing more granular broadband reporting requirements in the Digital Opportunity Data Collection proceeding, WC Docket No. 19-195. See *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, 34 FCC Rcd. 7505 ¶ 6 (2019), [FCC 19-79](#) (“[C]ensus-block based fixed deployment data have limitations—providers report whether or not fixed broadband service is available in at least some part of each census block, but not whether there is availability at all areas within a block”); *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, 36 FCC Rcd. 1126 ¶ 1 (2021), [FCC 21-20](#) (summarizing the Commission’s previous actions to “collect precise, granular data on the availability of fixed and mobile broadband” and adopting additional measures).

¹¹ Pew Research Center, *Internet/Broadband Fact Sheet*, <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/> (last visited June 29, 2021).

¹² Broadband Deployment Advisory Committee, FCC, *Report of Increasing Broadband Investment in Low-Income Communities Working Group* (Dec. 2020), <https://www.fcc.gov/sites/default/files/bdac-low-income-communities-approved-rec-12172020.pdf>. Common Sense Media et al., *Closing the K–12 Digital Divide in the Age of Distance Learning*, (2020), (Common Sense Media 2020 Report) https://www.common Sense Media.org/sites/default/files/uploads/pdfs/common_sense_media_report_final_6_26_7.38am_web_updated.pdf.

- Employment. The majority of employment opportunities available today are publicized through online sources. Those without a home broadband connection may have difficulty accessing and applying for online job openings, communicating with prospective employers, and making use of employment networking sites like LinkedIn that could aid in their job search. More recently, the pandemic has demonstrated that individuals without home broadband are particularly disadvantaged by their inability to work from home.
- Education. Broadband has become an essential educational tool, as more resources become digital-only, and schools rely increasingly on broadband-enabled technologies. Children and adults pursuing educational opportunities often need a broadband connection to complete assignments or attend classes remotely, particularly during the last year. However, between 12 to 15 million school-aged children lack a home broadband subscription, and hence are at risk of falling behind their peers – widening the education gap.¹³
- Health Care. Those without home broadband have less control over, and less flexibility around their health care. They lack access to health technologies, tools, and health and wellness-related resources provided by broadband connectivity, while missing out on what has emerged as a critical tool for communicating directly with their health care providers. In the last year, Americans without broadband had little or no ability to utilize remote checkups and visits with their doctors, leaving many having to choose between the COVID-19-related risks of in-person visits to doctors’ offices and medical facilities versus faltering on their medical care and treatment. According to a report from AARP, lack of access is also a barrier to deployment of public health services including information on vaccinations – particularly for the priority demographic of older adults who were most impacted by COVID-19. Black and Latino seniors are more than 2.6 and 3.4 times more likely, respectively, than White seniors to be offline.¹⁴
- Commerce. The portion of commercial activity taking place online continues to grow rapidly, with a surging number of businesses and individuals using broadband to buy and sell goods electronically and research product and service availability and pricing. In the last year, shopping online transformed from a time- and cost-saving convenience into a health and well-being best practice, enabling Americans to obtain food, consumer goods, services, and entertainment online while avoiding the risks to their health from being in public settings during a pandemic. Those without a home broadband connection may endure more time and greater health risks acquiring the goods and services needed for their homes and families.

¹³ U.S. Congress Joint Economic Committee, *America’s Digital Divide* at 4 (Sept. 2017), <https://www.jec.senate.gov/public/cache/files/ff7b3d0b-bc00-4498-9f9d-3e56ef95088f/the-digital-divide-.pdf>.

¹⁴ Humana Foundation, *AGINGconnected*, at 11 (Feb. 2021), <https://agingconnected.org/wp-content/uploads/2021/02/Aging-Connected-Exposing-the-Hidden-Connectivity-Crisis-for-Older-Adults.pdf> (finding, in a survey of people 62 years of age and older, that “Black people were 2.6 times more likely to be offline, and Latinos were 3.4 times more likely to be offline than White people. And living in areas of high concentrations of poverty was associated with a 6.7 times higher likelihood of lacking home broadband, while living in Census tracts with over 50 percent African-Americans corresponded to a 3.7 times higher likelihood.”).

- *Civic and Government Participation.* A home broadband connection increases the ways in which individuals can engage with their communities. Many neighborhoods have online listservs that enable the sharing of useful information such as emergency information, news about local events and activities, such as street clean-ups and garage sales, and other types of community notifications. Moreover, home broadband connections allow community members to understand and engage with local governments more easily. Lack of home broadband connectivity makes such civic engagement more challenging.
- *Community Inclusion.* The Internet has increasingly become one of the most common forums for people to connect with one another. Individuals communicate online via email, social media, and through other online platforms for a variety of purposes, such as maintaining friendships and familial relationships, sharing photos, dating, and connecting over shared interests. A broadband connection can be a critical lifeline for individuals who may feel isolated or excluded from the broader community, such as the elderly, recent immigrants with language barriers, individuals with disabilities, LGBTQ individuals, and those living in remote areas. These benefits have been especially acute during COVID-19-related lockdowns. As a greater portion of the population gains access to the Internet, additional activities and services will become digitally available, and in some cases may become online-only, which will further disadvantage those who lack a home broadband connection.

Digital Literacy and Training Programs Are Critical to An Effective Digital Adoption Strategy. U.S. Census Bureau data released by NTIA showed that, as of November 2019, approximately 60% of households that lack a home broadband connection cite lack of interest or necessity as the primary factor for declining to subscribe. More recent data as of February 2021 from Pew Research Center found that over 70% of U.S. adults without a home broadband connection are not interested in subscribing.¹⁵ Taken together, it is clear that the barriers keeping households from subscribing to broadband are more complex, and significant obstacles to increasing adoption still remain. The report from BDAC’s Increasing Broadband Investment in Low-Income Communities Working Group noted that in many instances “individuals simply lack the proper technological training or ‘digital literacy skills’ to feel like they can successfully use and benefit from an internet connection or may harbor a generalized fear of going online.”¹⁶

In a forthcoming paper, ACDDE member and economic researcher, Harin Contractor, notes that the presence of low-cost broadband did not positively affect math or literacy test scores for Black and Hispanic students, according to an analysis based on Stanford Education

¹⁵ Andrew Perrin, *Mobile Technology and Home Broadband 2021*, Pew Research Center at 4 (June 3, 2021), https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2021/06/PI_2021.06.03_Mobile-Broadband_FINAL.pdf.

¹⁶ Broadband Deployment Advisory Committee, FCC, *Report of Increasing Broadband Investment in Low-Income Communities Working Group* at 35 (Dec. 2020), <https://www.fcc.gov/sites/default/files/bdac-low-income-communities-approved-rec-12172020.pdf>.

Opportunity Project data.¹⁷ He concludes that additional training and support is needed beyond just access to low-cost broadband to support upskilling and economic mobility for minority communities. Dr. John Horrigan, of the Technology Policy Institute, uses the term “digital readiness” to connote an individual’s ability to execute online tasks efficiently and accurately and determine the trustworthiness of online material.¹⁸ Dr. Horrigan recommends expanding digital readiness outreach, noting that community anchor institutions, such as libraries, community centers, religious institutions, and schools are leading the charge in digital skills training.¹⁹

The Role of Libraries in Digital Adoption: Research and Findings

Libraries Play a Key Role in Driving Digital Adoption. The Digital Inclusion Subgroup finds that the role of libraries in fostering greater digital inclusion in communities is an area that does not always receive the attention it deserves. Today, the role and purpose of libraries is very much tied to driving digital adoption efforts within opportunity communities. As libraries continue to evolve to address new technology trends and meet changing demands, these community institutions are ripe for further exploration and analyses. With the proper support and resources, libraries are poised to play a bigger role in helping to bridge the technology gap within their communities. Full knowledge of the different ways to support and scale library programs, while being mindful to *meet individual libraries where they are*, will be critical to ensuring a sustainable and efficient 21st century library model.

During the course of the ACDDE charter, the COVID-19 pandemic took hold, and with it, brought an onslaught of concern regarding America’s digital inclusion challenges, particularly within opportunity communities. The pandemic continues to challenge all communities, including Tribal communities, many of which are also opportunity communities. This prolonged health crisis is also raising many questions about anchor institutions such as libraries and the role they play as community hubs to drive digital adoption and literacy – before, during, and after COVID-19. Our research not only addresses the role of libraries as anchor institutions and drivers of digital adoption, but also considers the role of community and public-private partnerships and their engagement and collaboration with libraries. In addition, we have factored in the unique and unexpected impact of COVID-19, and how this pandemic may ultimately redefine how libraries support local communities, particularly as we get closer to fully transitioning civil society back to in-person work and school.

Conversations with Subject Matter Experts. A significant component of our work included meetings and interviews with subject matter experts (SMEs),²⁰ including from nonprofit and community organizations, state library associations and libraries, grant-making institutions,

¹⁷ Forthcoming paper, “Digital Skills Divide,” by Harin Contractor, looking at the presence of low-cost broadband and its impact on literacy and numeracy test scores for fourth and eighth graders via Stanford Education Opportunity Project.

¹⁸ John Horrigan, *Reaching the Unconnected: Benefits for kids and schoolwork drive broadband subscriptions, but digital skills training opens doors to household internet use for jobs and learning* at 22 (Aug. 6, 2019), https://techpolicyinstitute.org/wp-content/uploads/2019/08/Horrigan_Reaching-the-Unconnected.pdf.

¹⁹ *Id.* at 26.

²⁰ See Appendix for a full list of SMEs.

governmental entities, and the private sector. We used these meetings as an opportunity to gather information and organize workshops with the goal of better understanding the role that libraries and public-private partnerships play in bridging the digital divide, especially in light of the pandemic.

Library and Community Partnership Workshop. The DEI Working Group hosted a *Workshop Examining the Role of Libraries on Broadband Adoption and Literacy* on August 3, 2020.²¹ The workshop was organized in an effort to learn specific information about the role of libraries in urban, suburban, and rural parts of the U.S., understand the challenges and successes that libraries experience, and identify opportunities to duplicate and scale what is working well. The workshop included two panel discussions: 1) Local Libraries and State Library Association Perspectives, and 2) Libraries and Community Partnerships.

The first panel represented libraries serving a cross-section of U.S. communities. Panelists discussed their digital equity and inclusion efforts, both before the COVID-19 pandemic and after pivoting to remote services to meet their communities' needs during the pandemic. It is apparent that, even before the pandemic, libraries were pulled in many directions to perform technical connectivity-related tasks for which they might require access to additional training and expertise, and the pandemic has served to intensify these demands. Panelists representing libraries in rural and Tribal areas raised persistent concerns about broadband access, noting that there are still too many areas where broadband has not been deployed.

The second panel addressed the role that community partnerships play in advancing the work of libraries, particularly as it relates to promoting digital adoption and digital literacy training. In a wide-ranging discussion, the panel discussed community partnerships as drivers of digital inclusion; challenges to implementing, growing, and scaling programs, especially during the COVID-19 pandemic; and capacity building. In particular, panelists stressed the need to meet program participants where they are – including offering programs at convenient locations and ensuring that training materials are relevant to the participants' needs. The League of United Latin American Citizens (LULAC) closed the second panel discussion by underscoring the importance of digital literacy, mentorship, and workforce development while highlighting how LULAC's successful technology center model and library partnerships within communities are advancing digital inclusion in communities.²²

Digital Adoption Learnings and Findings. Through workshops, discussions with experts, leading thinkers, and civil society organizations involved in promoting broadband adoption, and drawing upon existing studies and resources, the DEI Working Group examined in

²¹ ACDDE, FCC, *Workshop Examining the Role of Libraries on Broadband Adoption and Literacy* (Aug. 3, 2020), <https://www.fcc.gov/news-events/events/2020/08/workshop-examining-role-libraries-broadband-adoption-and-literacy>. The biographies for workshop participants are available at https://www.fcc.gov/sites/default/files/bios_for_library_and_broadband_workshop_participants_7.31.20.pdf.

²² ACDDE, FCC, *Workshop Examining the Role of Libraries on Broadband Adoption and Literacy* (Aug. 3, 2020), <https://www.fcc.gov/news-events/events/2020/08/workshop-examining-role-libraries-broadband-adoption-and-literacy>. LULAC highlighted its nearly two-decade program “Empower Hispanic America with Technology Centers” and the program’s 68 technology centers.

detail the role of U.S. libraries as community hubs to drive digital adoption and literacy. With over 17,000 libraries and bookmobiles (some of which serve as mobile Internet access points) in local communities, public libraries serve as key anchors for promoting digital inclusion and digital readiness.²³

U.S. libraries are key to addressing the digital divide and finding ways to work collaboratively with community-based organizations to tackle this challenge. Examining how libraries and their partners make broadband more relevant to their patrons will help drive broadband usage, particularly within opportunity communities.

For many years, public libraries have led the way in supporting and promoting digital inclusion in a variety of critical ways. They offer free access to computers, wired and wireless Internet connectivity, and the array of digital content available over the Internet. Libraries also have expertise to help patrons understand technology and Internet-enabled services and resources. They offer a wide range of free technology and skills development instruction, including programs and services in areas of key community need, such as employment and workforce development, education, health and wellness, and civic engagement. They also provide digital literacy services that help with navigating, understanding, evaluating, and creating digital content. Significantly, libraries assist community residents with completing immigration, citizenship, social service, emergency benefit, and other online forms; and help job-seekers search and apply for jobs online.

Findings from the Public Library Association's (PLA) 2020 Public Library Technology Survey²⁴ show that public libraries small and large continue to be committed to technology training and support. The survey, administered for PLA by the American Institutes for Research (AIR), asked a nationally representative sample of public libraries about a range of technology services, including technology training, offered during the previous year (October 2019-October 2020) in at least one of the library's branches.

While the comprehensive report is not yet final, preliminary survey data show that most libraries offer Internet and/or technology training. Specifically:

- 83% of all public libraries offer informal or formal training for general Internet use;
- 82% offer training for general computer use;
- 76% offer training for general computer software;
- 73% offer training related to research resources (e.g., databases);
- 58% offer training related to safe online practices;
- 50% offer training related to social media use; and
- 88% of all public libraries offer *some* kind of informal or formal technology training.

²³ See Press Release, Institute of Museum & Library Services, People Visited Public Libraries More Than a Billion Times in One Year (July 16, 2020), <https://www.imls.gov/news/people-visited-public-libraries-more-billion-times-one-year>.

²⁴ Public Library Association, "2020 Public Library Technology Survey Report." Publication pending as of June 29, 2021. Report to be published in July 2021 at <https://www.ala.org/pla/data/plasurveys>.

As in the past, urban libraries are far more likely to offer formal classes, with 81% of city public libraries reporting that they offer some kind of technology training class, contrasted with 32% of rural/town public libraries (and 61% of suburban libraries).

Even while facing growing budget and resource constraints, libraries are committed to improving their use of technology to better serve communities. There is a clear link, however, between effective digital literacy services and the financial resources available for renovations or upgrades, since programs that offer the community greater familiarity with new technologies require new hardware, increased bandwidth, and upgraded internal networks.

Resource constraints on library programs that promote inclusion and digital literacy manifest in other ways. For example, libraries around the country have been working with local after-school programs to promote science, technology, engineering, and math (STEM) opportunities and activities, but these programs are not as widespread or resource-supported as they could be. In addition, using libraries to bring more and better STEM opportunities to students requires additional resources to develop and deliver curricula, content expertise, training of staff, and acquisition of necessary technology and materials.

As discussed more fully below, local libraries have demonstrated that they can serve as model hubs for community-based digital literacy and digital readiness programs. Key challenges are scaling up existing library programs in communities where they are lacking or limited today, and addressing staffing, resource, and budgetary challenges so that such programs have the means to be optimally effective.

A Review of Tribal Communities, Digital Adoption, and Libraries. Libraries are not homogenous. Libraries come in all sizes and serve diverse communities across the United States. There are 574 federally recognized Tribes and Alaska Native Villages in the U.S.,²⁵ and Tribal libraries are considered part of the U.S. library system. For this reason, understanding the unique circumstances of Tribal libraries is integral to understanding how libraries as a whole support digital adoption within all U.S. communities. Tribal libraries offer a unique and important approach for assessing Tribal communities' broadband needs and capabilities. Tribal libraries can also serve as "culture keepers" for Tribal information and history, which makes these institutions uniquely significant and important to Tribal communities. Gaining greater insight into how Tribal libraries are faring will help inform steps that can be taken to better position libraries to meet the unique needs of Tribal communities as they relate to digital adoption and inclusion.

Tribal communities are being left behind in digital adoption when compared to the rest of the country. As previously described, broadband is critical to participation in a variety of important facets of American life. However, many members of Tribal communities have yet to realize these benefits. Historically, Tribal communities throughout the country have contended with systemic inequalities that, still to this day, continue to complicate everyday life for Tribal members. For example, Tribal communities struggle with some of the highest levels of financial

²⁵ U.S. Department of Interior, Indian Affairs, *About Us*, <https://www.bia.gov/about-us> (last visited June 29, 2021).

insecurity in the country.²⁶ Despite significant strides in self-governance, Tribal communities still face challenges in securing relevant information on – and qualifying for – federal programs and services created to uplift and support them.

The COVID-19 pandemic has tested all communities, but for Tribal communities, the test has been exacerbated given the already pervasive challenge with historical lack of access to fundamental communications technologies and digital services. According to the latest FCC data on fixed broadband deployment, as of June 2020, while 96% of Americans have access to fixed terrestrial broadband at speeds of at least 25/3 Mbps, only 82% of the population of Tribal communities have access to such service.²⁷ As a result, the impact on Tribal students has been even more acute than on students in non-Tribal communities. The pandemic-induced abrupt closings of community centers, schools, and libraries have spotlighted the broadband access challenges with which many Tribal communities continue to grapple. A report published by the American Indian Policy Institute (AIPI) examining the impact of COVID-19 on Native students underscores the inaccurate assumption that “Native students have constant access to affordable and reliable internet options.”²⁸ For Tribal students, many were very quickly forced to deal with the harsh reality of not having Internet access in their home communities.²⁹

The DEI Working Group’s conversations with the FCC’s ONAP and the Native Nations Communications Task Force (NNCTF) reaffirmed that barriers to Tribal broadband deployment are varied. The DEI Working Group learned that addressing these challenges would require improved coordination and communication with Tribal leadership and policymakers at the state and federal levels, which the NNCTF discussed in a December 2020 report titled “Recommendations for Improving Required Tribal Engagement Between Covered Providers and Tribal Governments.”³⁰ The U.S. Department of the Interior’s (DOI) Office of Indian Energy and Economic Development (IEED) reports seven barriers to deployment – ranging “[f]rom a lack of financial investing in Tribal communities and the immense geography in question to complex and burdensome regulatory environments.”³¹ Despite broadband access challenges, even where Internet connections are available, digital adoption disparities still exist for Tribes and reservation residents. This fact reinforces the well-known understanding that gaining access

²⁶ Center for American Progress, *Systemic Inequality: Displacement, Exclusion, and Segregation* (Aug. 7, 2019), <https://www.americanprogress.org/issues/race/reports/2019/08/07/472617/systemic-inequality-displacement-exclusion-segregation/>.

²⁷ FCC, *Fixed Broadband Deployment*, <https://broadbandmap.fcc.gov> (click “Comparison;” change settings to show all technologies except “Satellite”) (last visited June 29, 2021).

²⁸ Arizona State University, American Indian Policy Institute, *COVID-19: The Impact of Limited Internet Access and Issues with Social Distancing for Native Students* at 1, https://aiipi.asu.edu/sites/default/files/indigenous_digital_divide_policy_brief.pdf.

²⁹ *Id.*

³⁰ Native Nations Communications Task Force, FCC, *Recommendations for Improving Required Tribal Engagement Between Covered Providers and Tribal Governments* (adopted Dec. 30, 2020), https://www.fcc.gov/sites/default/files/nnctf_tribal_engagement_report_12.30.20.pdf.

³¹ U.S. Dep’t of Interior, Indian Affairs, *National Tribal Broadband Strategy*, at 1 (Jan. 15, 2021), <https://www.bia.gov/sites/bia.gov/files/assets/as-ia/doc/2020.%20December.%20National%20Tribal%20Broadband%20Strategy%20FINAL-cover%20change.pdf>.

does not necessarily guarantee adoption.³² Digital literacy training and skills are essential components to incentivizing greater digital adoption, which makes anchor institutions such as libraries critically important for Tribal communities.

Leveraging Libraries as Community Hubs for Digital Adoption in Tribal Communities. As libraries across the U.S. work to gain a better footing and maximize opportunities to improve business models and better serve patrons, there are several steps that can be taken to improve outcomes for Tribal libraries, which are outlined below.

Federal Funding Matters. Federally recognized Tribes are eligible for federal funding and typically work through the Bureau of Indian Affairs (BIA) in some capacity to navigate federal funding opportunities. USAC and ONAP are the FCC’s external-facing entities for informing and engaging with Tribal communities regarding USF and other FCC programs. USAC also administers all USF programs.

Since federal funding makes up a significant portion of support for many libraries’ digital inclusion initiatives, access to federal funding is critical for Tribal libraries. In addition, federal funding is more likely to reach Tribes than state funds, as states have no jurisdiction over Tribal communities. This reality can reduce a state’s incentive to allocate, much less prioritize, state dollars to support Tribal communities – a concern that was expressed to the DEI Working Group in a meeting with members of the FCC NNCTF. In addition, since public libraries are defined by state law,³³ a Tribal library’s inability to meet the library definition for the state in which it resides can result in ineligibility for state funding support.

Grant-making institutions like the IMLS also offer funding opportunities for Tribal communities. IMLS has two standing Tribal library programs that offer a streamlined application process and have high rates of grant making success with Tribal libraries. These programs include:

- ***Native American Library Services: Basic Grants Program.*** The Basic Grants program seeks to help Tribal libraries improve core library services, including services that can support education, workforce development, digital literacy skills development, and other services that can advance digital inclusion.³⁴ In addition, funding can be used to improve library workforce skills, including leadership training and opportunities for the professional development of library staff.³⁵ This grant period is one year, and grant support can range from \$6,000 to \$10,000.³⁶
- ***Native American Library Services: Enhancement Grants Program.*** Similar to the Basic Grants program, this program seeks to improve core library services spanning various

³² Arizona State University, American Indian Policy Institute, *COVID-19: The Impact of Limited Internet Access and Issues with Social Distancing for Native Students*, https://aipi.asu.edu/sites/default/files/indigenous_digital_divide_policy_brief.pdf.

³³ National Center for Education Statistics, *Public Library Structure and Organization in the United States* (Mar. 1996), https://www.imls.gov/sites/default/files/publications/documents/publiclibrarystructureorg3-1996_0.pdf.

³⁴ Institute of Museum & Library Services, *Native American Library Services: Basic Grants*, <https://www.imls.gov/grants/available/native-american-library-services-basic-grants>.

³⁵ *Id.*

³⁶ *Id.*

skills development areas, including digital skilling.³⁷ In addition, the Enhancement Grant program provides greater flexibility in its program support by funding library programs that uniquely support local Tribal communities and/or “[e]nhance the preservation and revitalization of Native cultures and languages.”³⁸ This grant period is up to two years, and grant support can range from \$10,000 to \$150,000.³⁹

IMLS’ other discretionary grant programs often have more competitive grant application processes and tend to fund larger-scale programs and projects.⁴⁰ The Native American Library Services grant programs offer an entry point and can build the capacity of an organization to apply for the other grant opportunities.

Federal and State Definition of Libraries. While Tribal libraries possess the basic elements similar to any public library, they are as unique as they are diverse in nature. Unlike the standalone institutions generally seen across the United States, Tribal libraries often provide more than standard library services. They often operate as stewards of the tribe – responsible for preserving cultural artifacts and sacred materials and functioning as a community center where events and ceremonies take place. For example, community centers or schools often play the role of a library, or libraries are housed within such institutions. Because of these features, Tribal libraries often struggle to meet the definition of a “library” for the purposes of federal or state funding. The nature of how resources are shared in these instances and the unique “cultural center” role that libraries play in Tribal communities can disqualify these institutions from qualifying for federal and state library support due to their inability to meet the federal library definition.⁴¹

Congress passed the Museum and Library Services Act of 2018⁴² to expand the definition of “library” to include Tribal libraries. This amendment was important because it made clear that Tribal libraries are eligible for support from a state library agency under the Library Services and Technology Act (LSTA).⁴³ However, a similar update has not been instituted for E-Rate program rules, although the updated LSTA definition was adopted for the ECF Program.⁴⁴ With

³⁷ Institute of Museum & Library Services, *Native American Library Services: Enhancement Grants*, <https://www.imls.gov/grants/available/native-american-library-services-enhancement-grants>.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ Institute of Museum & Library Services, *National Leadership Grants for Libraries, FY 2020 Notice of Funding Opportunity*, <https://www.imls.gov/sites/default/files/fy20-ols-nlgl-nofo.pdf>; Institute of Museum & Library Services, *IMLS Opens Library Grants for National Leadership, Laura Bush 21st Century Librarian Programs* (July 2, 2020), <https://www.imls.gov/news/imls-opens-library-grants-national-leadership-laura-bush-21st-century-librarian-programs> (“National Leadership Grants for Libraries support projects that enhance the quality of library and archives services nationwide by advancing theory and practice.” “The Laura Bush 21st Century Librarian program invests in developing a diverse workforce of librarians to better meet the changing learning and information needs of the American public . . .”).

⁴¹ Association of Tribal Archives, *Libraries, and Museums, Digital Inclusion in Native Communities: The Role of Tribal Libraries* (2014), <https://www.atalm.org/sites/default/files/Report%20for%20Printing.pdf>.

⁴² Museum and Library Services Act of 2018, 20 U.S.C. § 9101.

⁴³ Library Services and Technology Act, 20 U.S.C. § 9121.

⁴⁴ Universal Service Administrative Company, *The Schools and Libraries (E-Rate) Program* at 1 (Feb. 2019) (“The Schools and Libraries (E-rate) Program provides discounts to assist eligible schools and libraries to obtain affordable Internet access and telecommunications services.”), <https://www.usac.org/wp-content/uploads/e-rate/documents/Handouts/E-rate-Overview.pdf>.

the current E-Rate eligibility rules citing an older version of the LSTA, Tribal libraries still have limited access to funding without recognition and definition sign-off by a state library agency. This is one of the primary reasons why Tribal libraries have been underrepresented in E-Rate. This challenge limits the capacity of Tribal libraries to provide digital skills training and other services designed to increase digital inclusion.

In an April 2021 FCC filing, the ALA called for Tribes to be afforded the opportunity to “designate a tribally owned entity as a library provided that entity meets minimum requirements outlined by the Institute of Museum and Library Services (IMLS).”⁴⁵ IMLS incorporates criteria in its notices of funding opportunities that recognizes the core elements of Tribal libraries. ALA suggests that having the FCC consult with IMLS, as well as collaborate with IMLS in outreach efforts to Tribal libraries, can potentially improve Tribal participation in the E-Rate program.⁴⁶ The DEI Working Group supports this recommendation from ALA.

Enhanced Coordination and Information Sharing with Tribal Leaders. For Tribal libraries in particular, improved collaboration and information sharing with Tribal leaders in an effort to keep Tribal areas informed about federal programs, support, and services available to libraries is a key factor for success. USF programs such as the E-Rate program, for example, offer a critical lifeline to libraries and the communities they serve.⁴⁷ E-Rate funding for library connectivity and on-site technology labs can lead to improved broadband adoption rates within communities, as well as help advance digital literacy programs and support the development of other initiatives that can help drive digital inclusion in communities with the greatest need.

For Tribal libraries that are eligible for programs like E-Rate, the goal is to find the best path and process for securing good outcomes.⁴⁸ To do so, the DEI Working Group finds that the following areas can enhance Tribal participation in the E-Rate program:

- ***Strong state E-Rate coordination is critical.*** States with large Tribal communities and strong E-Rate coordinators are more successful at securing positive outcomes for Tribal libraries within their states. In addition, strong partnerships between program entities (for example, USAC, ONAP and E-Rate coordinators) tend to yield better outcomes for Tribal communities and successful enrollment in E-Rate and other USF programs.
- ***Enhanced relationship and trust building within Tribal communities.*** Many Tribal communities are inherently skeptical of government programs or institutional interventions. Notwithstanding existing USAC efforts, such as monthly Tribal E-Rate teleconferences and

⁴⁵ Comments of the American Library Association, WC Docket No. 21-93, at 4 (Apr. 5, 2021), https://ecfsapi.fcc.gov/file/10405314108601/ALA_ECF_Comments_04052021.pdf (“ALA Comments”).

⁴⁶ *Id.*

⁴⁷ FCC, *E-Rate: Universal Service Program for Schools and Libraries* (“The ongoing proliferation of innovative digital learning technologies and the need to connect students, teachers and consumers to jobs, life-long learning, and information have led to a steady rise in demand for bandwidth in schools and libraries.”), <https://www.fcc.gov/consumers/guides/universal-service-program-schools-and-libraries-e-rate> (last updated June 21, 2021).

⁴⁸ For Tribal libraries that do not currently qualify for E-Rate due to their inability to meet the statutory definition of a public library, the Digital Inclusion Subgroup, through the DEI Working Group, presents a final recommendation in the “Recommendations” section of the report that addresses E-Rate program ineligibility for said Tribal libraries.

other trainings,⁴⁹ there remains a disconnect between federal programs and Tribal engagement. As discussed in the recommendations below, federal entities, including the FCC, USAC, other agencies, should evaluate how to improve working relationships with Tribal community partners to build more support and cultivate Tribal voices and advocates. These entities/individuals can then help advocate on behalf of USAC with Tribal libraries, which may help increase interest in the E-Rate program.

- *Improved information sharing and cultural sensitivity.* Administrative inconsistencies such as high staff turnover can be a problem for some Tribal libraries, as is unfamiliarity with E-Rate and other programs administered by USAC on behalf of the FCC, resulting in low interest in program participation. For this reason, identifying and working alongside community partners to build more consortia among libraries can help infuse greater sustainability into USAC's Tribal advocacy efforts. It is important that the FCC leverage USAC's experience, resources, and expertise to better identify opportunities for improved coordination with various Federal departments and agencies, such as Departments of Interior and Agriculture, and Rural Utilities Service to enhance Tribal outreach and engagement. Advanced information sharing techniques and trainings will enable greater awareness of program eligibility, application processes, and relevant deadlines. For example, developing customized marketing approaches that consider something as simple as using accurate Tribal flag colors in correspondence with Tribes can be helpful in building trust and confidence. Tribes also speak different Native languages. Being mindful of the extreme diversity that exists within Tribes and targeting outreach in a way that considers cultural differences can also improve information sharing efforts, as well as promotion of critical digital adoption programs available to Tribal communities.

The Future of Tribal Libraries. Tribal communities remain among the least connected in the United States, and the COVID-19 pandemic has exacerbated this situation. The result has been an intentional pivot to prioritizing the unique challenges faced by Tribal communities. The DEI Working Group saw significant interest in adopting policies that will help mitigate the effects of the pandemic while opening the door to new discussions and opportunities for improving digital equity and inclusion in Tribal areas. The NTIA, the FCC, IMLS and other government agencies have received new sources of funding through COVID-19 relief legislation. This new funding is being used to develop and implement a range of programs that tackle all the broadband building blocks: access, adoption, affordability, and digital skilling. However, careful oversight of funds and transparent program implementation will be critical as these programs begin to roll out.

Examples of successful Tribal broadband access and digital adoption programs do exist and can be achieved on a wide scale with enhanced communication between Tribal governments and local, state, and federal representatives. In New Mexico, for example, state representatives are knowledgeable of Tribal-specific support programs, such as E-Rate, and have initiated conversations between program representatives and Tribal communities to ensure their constituencies successfully participate in the programs. In some cases, having non-Tribal entities

⁴⁹ See Universal Service Administrative Company, *Tribal Training*, <https://www.usac.org/e-rate/learn/tribal-training/> (last visited June 29, 2021).

assist with initiating and providing additional support is crucial to a large-scale Tribal program's success, in turn leading to enhanced broadband access and digital adoption for Tribal communities. Going forward, new legislation addressing Tribal communities' participation in federal programs such as E-Rate could provide new opportunities to advance digital inclusion in Tribal areas.⁵⁰

Private Initiatives and Public-Private Partnerships Supporting Digital Literacy.

One potential mechanism for addressing constraints for library-based digital literacy programs would be to integrate and coordinate more closely with existing digital adoption initiatives from nonprofit and community-based organizations, broadband providers, online services companies, and other public and private entities. A separate Appendix to this report describes some of these initiatives, their impact on local communities, and the manner in which they were adapted to the exigencies created by the COVID-19 public health emergency. Examples of these initiatives, several of which already include some degree of integration with local libraries, include the Afterschool Alliance,⁵¹ Girls who Code,⁵² Hispanic Heritage Foundation's Latinas On Fast Track Program,⁵³ National Digital Inclusion Alliance's Digital Navigator Model,⁵⁴ as well as initiatives by companies like AT&T, Charter, Comcast, Google, Microsoft, T-Mobile, and Verizon.

Recommendations of the Digital Empowerment and Inclusion Working Group

The COVID-19 Crisis Has Underscored the Importance of Digital Adoption Programs. The impact of the COVID-19 pandemic has been particularly severe for those who lack access to broadband service, depriving them of work from home, distance learning, telehealth, and e-commerce capabilities that can mitigate the adverse economic and social effects of the pandemic.

As this report demonstrates, there is a broad range of effective, community-based digital inclusion and digital readiness programs – many of which are already undertaken by, or in conjunction with, local libraries. The recommendations outlined below are designed to improve coordination and foster synergies with these existing initiatives – and encourage and support new efforts in areas lacking such programs – so that the whole becomes much greater than the sum of the parts. To that end, we propose the following:

⁵⁰ For example, see [S. 4529](#), 116th Cong., and [H.R. 7973](#), 116th Cong., both entitled Tribal Connect Act of 2020, which would have expanded tribal access to E-Rate and established a pilot to provide E-Rate support to certain community-serving institutions, or see [S. 4331](#), 116th Cong. (2020), and [H.R. 7774](#), 116th Cong. (2020), both entitled DIGITAL Reservations Act, which would have granted Tribes exclusive rights to available spectrum over Tribal lands and directed the FCC to establish a fund to support Tribal access to broadband and telecommunications services.

⁵¹ See Afterschool Alliance, <http://www.afterschoolalliance.org/> (last visited June 29, 2021).

⁵² See Girls Who Code, <https://girlswhocode.com/> (last visited June 29, 2021).

⁵³ See Hispanic Heritage Foundation, <https://hispanicheritage.org/latinas-on-fast-track/> (last visited June 29, 2021).

⁵⁴ See NDIA, *The Digital Navigator Model*, <https://www.digitalinclusion.org/digital-navigator-model/> (last visited June 29, 2021).

1. **The DEI Working Group Encourages the Use of New Terms and Definitions to Reflect Evolving Policy Landscape.** Digital adoption is a critical component to achieving full digital inclusion and equity. Digital adoption, however, is more than just the adoption of broadband at home – it includes access and use of devices, and use and participation in digital readiness, digital literacy, and skills training that goes beyond just the connectivity. To better reflect today’s ever-changing policy landscape, the DEI Working Group encourages advocates, researchers, industry partners, and government agencies to broaden the term “digital adoption” to encompass home use of broadband, digital readiness, digital literacy, and skills training.

The DEI Working Group also encourage advocates, researchers, industry partners, and government agencies to use the term “opportunity communities” rather than disadvantaged or low-income. The term encompasses communities that are traditionally underserved or face structural barriers to mobility and equity.

2. **Government Programs Should Simplify and Better Coordinate Government Support and Address Connectivity and Technology Constraints so that Libraries Can Prioritize Other Aspects of Digital Adoption, Particularly Digital Skills and Training.** Libraries are often tasked with providing hotspots, Wi-Fi parking lots, and devices to their patrons – impacting their ability to focus on critical adoption, training, and use efforts. More coordination is needed between various government agencies and state library agencies to increase the use of support services currently available to libraries under existing programs. Often, small and rural libraries do not have the resources or capacity to afford consultants to apply for government funding and therefore forgo applying for these funds.

Taking necessary steps to simplify and better coordinate government support, as well as providing libraries with the requisite broadband infrastructure and connectivity can, in turn, offer them the foundation for serving as stronger local hubs for digital skills training in communities across the country.

3. **Improve Coordination of Federal Digital Empowerment Efforts.** The FCC is well-positioned to serve as a convener to support an enhanced vision for digital inclusion across the federal government. In addition to addressing broadband access issues – which are within the FCC’s purview – digital inclusion also expands focus to encompass digital adoption, digital skills training, and meaningful use of applications for job skills training and economic opportunity. The FCC can and should engage in better coordination among the myriad of federal agencies involved in addressing skills training and economic mobility efforts. There is insufficient coordination in the federal government at present, and the FCC could play an important role in promoting greater synchronization of these efforts. For example, the Commission should partner with other federal agencies in an interagency working group to discuss the development of a series of “challenge grants” (grants from federal agencies that can pilot specific initiatives) that focus on digital skills training/readiness to adoption.

4. **Empower and Engage USAC to support Digital Adoption.** The FCC should look at USAC as more than an administrative body and support USAC’s mission-fulfilling role as a federal driver of digital adoption. The critical role that USAC plays in administering USF provides the organization with a unique understanding of challenges and gaps with implementation of programs such as E-Rate and Lifeline. This experience and expertise positions USAC as a strong FCC partner and collaborator in digital adoption efforts. USAC funding serves as the foundation for connectivity that supports adoption efforts. The Commission should support and encourage USAC to work across federal, state, and non-governmental organization (NGO) partners to enhance its mission. The Commission should also leverage USAC’s expertise and experience in vital policy conversations related to digital adoption.

5. **Simplify E-Rate Funding Applications and Advocate for Complementing E-Rate with Support for Digital Skills within Libraries.** The FCC should simplify the E-Rate funding application for libraries. Not all libraries are utilizing E-Rate, and a significant amount of E-Rate funds goes to consultants to help program applicants navigate the E-Rate enrollment and application process. A state’s E-Rate Coordinator is selected by their respective state to provide support and assistance to E-Rate program applicants. They are considered an “official State representative” when communicating with E-Rate program administrators (on behalf of applicants) and often interface directly with USAC and the FCC to improve program outcomes and “...convey recommendations and feedback to fulfill the goals of the [E-Rate] program...”⁵⁵ Although every state has an E-Rate coordinator, services rendered can vary state by state. Some states have stronger E-Rate coordinators than others. For this reason, creating a user-centric guide to E-Rate for libraries can help take-up rates and support more libraries.

In addition, the FCC should encourage Congress to seek ways to complement E-Rate funding, which is statutorily limited to on-site connectivity, to facilitate access to other resources to support the provision of digital readiness programs and equipment. Complementing E-Rate funds with other resources specifically available for library-based digital adoption and digital empowerment efforts would expand the benefits of E-Rate, while also improving broadband adoption among some of the country’s most vulnerable populations and communities. For example, ARPA allocated \$7.17 billion dollars for schools and libraries to facilitate off-site connectivity by establishing the ECF, which will be administered by USAC. Participating libraries will receive total reimbursement for the cost of hotspots, routers, laptops, tablets, and similar devices loaned to their patrons. However, the law does not address digital skills training that is necessary to deploy and manage the devices.

⁵⁵ State E-Rate Coordinators’ Alliance, *About SECA*, <https://secaerate.net/About-SECA> (last visited June 29, 2021) (“SECA regularly communicates with the E-rate program administrator (“USAC”), the Federal Communications Commission (“FCC”) and other federal and state policy makers regarding the operation and administration of the E-rate program to convey recommendations and feedback to fulfill the goals of the program as enumerated by the FCC and Section 254 of the Telecommunications Act of 1996.”).

6. **Incorporate Lessons Learned from the Coronavirus Public Health Emergency by Soliciting Feedback from a Range of Stakeholders.** Library stakeholders including the FCC should convene post-COVID-19 to assess the lessons learned from emergency programs and temporary policy changes implemented during the COVID-19 crisis and consider a new path forward of increased efficiency and support for broadband adoption. For example, the FCC waived the E-Rate program gift rule to allow libraries to receive support from service providers for remote learning efforts without fear of violating the FCC's rules. However, the waiver is set to expire on June 30, 2021, and the country is still in a pandemic. The DEI Working Group strongly encourages the FCC to consider the merits of an extension.

The FCC can convene a range of stakeholders from across government, industry, and local community groups to gain ideas and initiate efforts to amplify the agenda of the agency. These meetings can help stakeholders across various sectors coordinate efforts to support the FCC's mission while at the same time expose the FCC to new ideas from the front lines on ways to support more effective policy.

The DEI Working Group believes there are some important topics that the FCC should prioritize to bring together stakeholders to support libraries, a vital anchor institution, to drive adoption to many opportunity communities. Below are suggested discussions/workshops that the FCC can use to meet its overall objective to bridge the digital divide. The FCC Chair and individual Commissioners also have a unique opportunity to use the bully pulpit to advocate for certain changes:

- **Post-COVID-19 Lessons Learned** – The pandemic was unprecedented, but so were the actions of the FCC, and the private, and nonprofit sectors. The FCC should bring together key stakeholders across sectors to look at what emergency responses worked well; what responses could be changed and/or adopted more broadly moving forward; and the extent to which adoption efforts fell short as anchor institutions like libraries had to move to virtual support.
- **Workshopping the Universal Service Fund to Enhance Digital Adoption Efforts** – The FCC should host a series of workshops with community groups, educators, Internet service providers and other relevant stakeholders to discuss how to leverage and improve USF programs to support digital adoption efforts. Libraries face challenges in obtaining funding and require outside support to gain access to E-Rate funds. Gathering experts and stakeholders to provide input and assess the effectiveness of current models will help drive change, ensure that the right questions are asked, and ultimately improve opportunities for information exchange and create an environment where new solutions and ideas can be presented and vetted.
- **The FCC as a Digital Adoption (or Inclusion) Agency** – The FCC can bring together industry and community partners to discuss ways to align current library funding resources to support the digital access and adoption lifecycle. The goal is to establish the FCC, in tandem with USAC, as a digital adoption (or inclusion) agency that looks at not only build-out, but also digital adoption and upskilling. Since the FCC has led and

participated in the implementation of federal broadband-related programs, the Commission is a strong choice for helping to determine how digital skills training can be incorporated into the mission critical services offered by programs administered through the FCC and its agency partners, which can help improve digital adoption outcomes. The FCC can work with entities such as the Corporation for National and Community Service, NTIA, U.S. Departments of Education and Labor, the DOI (including the BIA and its IEED Office), and the IMLS on ways to better coordinate resources to libraries that support a digital skills lifecycle – from access to adoption.

Beyond government agencies, the FCC should bring together the private sector, nonprofits, and local and state governments that all fund or implement digital skilling efforts in conjunction with libraries to support opportunity communities. Currently, there is little to no coordination among these entities to reach the same communities within the same geography. For example, governments, the private sector, and NGO stakeholders provide funds to libraries and adoption partners, like Girls Who Code; however, the lack of coordination between funders leaves some libraries and partners underfunded and others with a wealth of support. It would be more productive to discourage competition for funds, and instead support the ability to share and scale resources. The FCC can bring together major funders and adoption groups to discuss better ways to coordinate resources to assist more communities. Through this effort, private partners, NGO partners, and public partners (e.g., NTIA), might consider working to develop a digital adoption resource map to ensure resources are properly allocated.

7. **Revisit Tribal Library Definition and Funding Eligibility** – The current definition of libraries hinges on eligibility for LSTA funds from a state library agency. This is problematic for some Tribes as it puts a state library agency in the position of establishing the eligibility of a Tribal library for federal funding – creating issues of jurisdiction and sovereignty that are not always acceptable or workable for some Tribes and states.⁵⁶ Additionally, it puts decisions regarding Tribal libraries in the hands of stakeholders that do not understand the uniqueness of Tribal libraries. The LSTA has a separate provision for Tribal library services, and the legislation has also been amended to clarify that, by statute, Tribal libraries are eligible for funding from a State Library Administrative Agency. The FCC should reevaluate its own Tribal library funding eligibility in light of the LSTA.

As reported by the ALA, the Commission expressed interest in addressing the “...long-standing issue of tribal library eligibility in the existing E-Rate program in relationship to ensuring that these libraries are fully eligible for funding from the [Emergency Connectivity Fund] ECF.”⁵⁷ However, on May 10, 2021, the FCC adopted rules for the distribution of the Emergency Connectivity Fund that did not amend E-Rate rules because the rules remained primarily focused on implementing the Emergency

⁵⁶ Association of Tribal Archives, Libraries, & Museums, *The Disconnect between the FCC’s Schools and Libraries Universal Service Program (E-Rate) and Tribal Libraries*, <https://www.atalm.org/sites/default/files/ATALM%20E-Rate%20Brief.pdf> (last visited June 29, 2021).

⁵⁷ ALA Comments at 3.

Connectivity Fund.⁵⁸ Therefore, the DEI Working Group recommends that the FCC revisit the issue of Tribal library definition and updating E-Rate rules that affect funding eligibility.

Greater collaboration with the IMLS, whose museum and library-funding model has enabled the grant-making institution to support more than 442 Native American Tribes,⁵⁹ can help provide a glide path as the FCC revisits the federal library definition and works to ensure greater equity for Tribal libraries. Such a change will improve E-Rate eligibility for many Tribal libraries and create new opportunities for funding that can be used to advance digital inclusion efforts in Tribal areas. This action can also incentivize greater collaboration with Tribal leaders and stakeholders – creating new opportunities for the FCC, USAC, and other relevant entities to explore additional ways to collaborate and gather additional inputs from Tribal leaders and relevant stakeholders to enhance USF program outcomes for Tribal libraries and their communities.

⁵⁸ See *Establishing Emergency Connectivity Fund to Close the Homework Gap*, Report and Order, FCC 21-58, ¶ 25 (May 11, 2021) (“The LSTA was recently amended to make clear that Tribal libraries are eligible for support from a state library administrative agency under LSTA. Consistent with those amendments, and guidance from the Institute of Museum and Library Services, we clarify that Tribal libraries, which are by statute eligible for support from state library administrative agencies under the LSTA, are eligible for support from the Emergency Connectivity Fund. The current E-Rate eligibility rules were adopted long before the LSTA was amended and include a citation to an outdated version of that LSTA. Because this proceeding is focused on the implementation of the Emergency Connectivity Fund, we do not amend the E-Rate rules at this time to reflect the change to the LSTA.”) (internal citations omitted).

⁵⁹ Supplemental data supplied by Institute of Museum & Library Services (May 2021). See also Institute of Museum & Library Services, *\$1.7 Million in Grants to Strengthen Native American, Native Hawaiian Museum Services: IMLS Funds Projects in Support of Native Heritage and Cultural Preservation* (June 4, 2020), <https://www.imls.gov/news/17-million-grants-strengthen-native-american-native-hawaiian-museum-services>.

Appendix

The Role of Libraries in Digital Adoption: Research and Findings

Library and Community Partnership Workshop and Related Conversations with Subject Matter Experts

- The DEI Working Group hosted a *Workshop Examining the Role of Libraries on Broadband Adoption and Literacy* on August 3, 2020. Names and biographies of workshop participants are available here: https://www.fcc.gov/sites/default/files/bios_for_library_and_broadband_workshop_participants_7.31.20.pdf
- Provided below are the names and affiliations of subject matter experts (SMEs) with whom the ACDDE DEI Working Group met in connection with the August 3, 2020, workshop. Names listed with an asterisk (*) are SMEs with whom the DEI Working Group met in standalone meetings only (these SMEs did not participate in the ACDDE Library Workshop). Names listed with a double asterisk (**) served as SMEs and participated in the ACDDE’s August ACDDE Library Workshop.

NAME	TITLE / AFFILIATION	ORGANIZATION URL
**Marijke Visser	Senior Policy Advocate, Public Policy and Advocate Office, American Library Association	ALA http://www.ala.org/
Marian Christmon	Manager, Digital Inclusion Initiatives, Nashville Public Library	Nashville Public Library https://www.library.nashville.org/
Misty Hawkins	Director, Arkansas River Valley Regional Library System	Arkansas River Valley Regional Library System https://www.arvrls.com/
Kate Laughlin	Executive Director, Association of Rural and Small Libraries	ARSL https://www.arsl.org/
Richard Reyes-Gavilan	Executive Director, Washington, DC Public Library	DC Public Library https://www.dclibrary.org/
Lisa Shaw	Workforce Development Specialist, Maine State Library	Maine State Library https://www.maine.gov/msl/
Nicole Umayam	Digital Inclusion Library Consultant, Arizona State Library, Archives and Public Records	ASL https://azlibrary.gov/ ASL Tribal Resources https://azlibrary.gov/location-type/tribal-library

NAME	TITLE / AFFILIATION	ORGANIZATION URL
Broderick Johnson	Chair, My Brother's Keeper Foundation (Senior of Counsel, Covington & Burling, LLP)	My Brother's Keeper Alliance https://www.obama.org/mbka/
**Cyndee Landrum	Deputy Director for Library Services, Institute of Museum and Library Services	IMLS https://www.ims.gov/
Jillian Luchner	Policy Manager, Afterschool Alliance	Afterschool Alliance http://www.afterschoolalliance.org/
Emily Ong	Senior Manager of Community Partnerships & Outreach, Girls Who Code	GWC https://girlswhocode.com/
Jose Antonio Tijerino	President and CEO, Hispanic Heritage Foundation	HHF https://hispanicheritage.org/
Katherine Trujillo	Director of Education / Deputy Director, Libraries Without Borders	Libraries Without Borders https://www.librarieswithoutborders.org/
*Scott Allen	Deputy Director, Public Library Association	PLA http://www.ala.org/pla/
*Mackenzie Howard	Former Tribal Liaison, Universal Service Administrative Company (Strategic Communications Consultant, Booz Allen Hamilton)	USAC https://www.usac.org/
*Matthew Duchesne	Chief, Office of Native Affairs and Policy, FCC (FCC Co-Chair, Native Nations Communications Task Force, NNCTF)	ONAP https://www.fcc.gov/general/native-nations NNCTF https://www.fcc.gov/native-nations-communications-task-force
*Sayuri Rajapakse	Deputy Chief, Office of Native Affairs and Policy, FCC	ONAP https://www.fcc.gov/general/native-nations

NAME	TITLE / AFFILIATION	ORGANIZATION URL
*Janet Sievert	Senior Legal Advisor, Office of Native Affairs and Policy, FCC	ONAP https://www.fcc.gov/general/native-nations
*Barbara Esbin	Deputy Chief, Consumer and Government Affairs Bureau, FCC	CGB https://www.fcc.gov/consumer-governmental-affairs
*Danae Wilson (Nez Perce Tribe)	Tribal Co-Chair, Native Nations Communication Task Force	NNCTF https://www.fcc.gov/native-nations-communications-task-force

Relevant Report Links (General Libraries)

Library Programs / Digital Inclusion:

- Institute of Museum and Library Services (IMLS), *Realm Project*, <https://www.imls.gov/our-work/partnerships/reopening-archives-libraries-and-museums>.
- *Digital Stewardship Training Courses for Tribal Archives, Libraries, Museums, and Small Public Libraries*, <https://www.webjunction.org/news/webjunction/digital-stewardship-training-courses.html>.
- Chicago Public Library, *YOUmedia*, <https://www.chipublib.org/programs-and-partnerships/youmedia/>.
- Girls Who Code, *The State of Girls in K-12 Computer Science Classrooms: Making the Case for Gender-Specific Education Policies, 2019 Advocacy Report*, https://girlswhocode.com/wp-content/uploads/2019/06/GWC_Advocacy_2019K12Report_PDF-min-1.pdf.
- Girls Who Code, Clubs Flyer, https://girlswhocode.com/website/uploads/GWC_Clubs_Flyers_General_z2-min.pdf (“[C]lubs are free programs for 3rd-5th and 6th-12th grade girls to learn computer science . . .”).
- Girls Who Code, *Partnership Flyer*, https://girlswhocode.com/website/uploads/GWC_Clubs_Flyers_Community_z3-min.pdf (“[GWC] create customized, thoughtful partnerships with state and local leaders, school districts, community organizations, libraries, afterschool networks, and colleges/universities to launch multiple Girls Who Code Clubs.”).
- Hispanic Heritage Foundation, *LOFT (Latinas On Fast Track) Program*, <https://hispanicheritage.org/latin-as-on-fast-track/>.
- League of United Latin American Citizens (LULAC), *TECHNOLOchicas LiFT (TC LiFT)*, https://lulac.org/tc_lift/.
- LULAC, *Empower Hispanic America with Technology (EHAT)*, <https://lulac.org/technology/ehat/>.

COVID-19 Reports:

- American Library Association (ALA), *Public Library Association (PLA), COVID-19 Survey Results, 2020*,

http://www.ala.org/pla/sites/ala.org.pla/files/content/advocacy/covid-19/PLA-Libraries-Respond-Survey_Aggregate-Results_FINAL2.pdf.

- *PLA Survey Overview*, <http://www.ala.org/pla/issues/covid-19/surveyoverview>.
- Press Release, ALA, Public Libraries Launch, Expand Services During COVID-19 Pandemic (Apr. 9, 2020), <http://www.ala.org/news/press-releases/2020/04/public-libraries-launch-expand-services-during-covid-19-pandemic-0>.

A Review of Tribal Communities, Digital Adoption and Libraries

Relevant Report Links (Tribal Libraries)

Library Programs / Digital Inclusion:

- Association of Tribal Archives, Libraries and Museums (ATALM) & Institute of Museum and Library Services (IMLS), *Digital Inclusion in Native Communities: The Role of Tribal Libraries* (2014), <https://www.atalm.org/sites/default/files/Report%20for%20Printing.pdf>.
- ATALM, *Digital Inclusion in Native Communities Initiative*, <https://www.atalm.org/?q=node/312>.
- *Tribal Technology Assessment: The State of Internet Service on Tribal Lands* (Fall 2019), https://aipi.asu.edu/sites/default/files/ta_fact_sheet_compressed.pdf.
- Native Nations Communications Task Force, *Improving and Increasing Broadband Deployment on Tribal Lands*, Report to the Federal Communications Commission from the Tribal Members of the Task Force (adopted Nov. 5, 2019), https://www.fcc.gov/sites/default/files/nncft_tribal_broadband_report.pdf.
- Native Nations Communications Task Force, *Recommendations for Improving Required Tribal Engagement Between Covered Providers and Tribal Governments*, Report to the Federal Communications Commission from the Tribal Members of the Task Force (adopted Dec. 30, 2020), https://www.fcc.gov/sites/default/files/nncft_tribal_engagement_report_12.30.20.pdf.
- U.S. Department of the Interior, *National Tribal Broadband Strategy* (Jan. 15, 2021), <https://www.bia.gov/sites/bia.gov/files/assets/as-ia/doc/2020.%20December.%20National%20Tribal%20Broadband%20Strategy%20FINAL-cover%20change.pdf>.
- Institute of Museum & Library Services, *\$1.7 Million in Grants to Strengthen Native American, Native Hawaiian Museum Services: IMLS Funds Projects in Support of Native Heritage and Cultural Preservation* (June 4, 2020), <https://www.ims.gov/news/17-million-grants-strengthen-native-american-native-hawaiian-museum-services>.
- Evanston Public Library, *IMLS Grant Award to EPL Will Help Serve Evanston's Unemployed*, <https://www.epl.org/ims-grant-award-to-epl-will-help-serve-evanstons-unemployed/>.
- Kansas City Public Library, *Library's Mobile Services Are Rollin' ... Literally* (Sept. 29, 2020), <https://kclibrary.org/blog/library%E2%80%99s-mobile-services-are-rollin%E2%80%99-%E2%80%A6-literally>.
- Institute of Museum & Library Services, *\$1.2 Million in IMLS CARES Act Grants Awarded for Native American and Native Hawaiian Museum and Library Services* (Aug. 31, 2020), <https://www.ims.gov/news/12-million-ims-cares-act-grants-awarded-native-american-and-native-hawaiian-museum-and-library>.
- American Indian Library Association, *Tribal Library Resources*, <https://ailanet.org/tribal-library-resources/>.

COVID-19 Reports / Informational Resource(s):

- *COVID-19: The Impact of Limited Internet Access and Issues with Social Distancing for Native Students,*
https://aipi.asu.edu/sites/default/files/indigenous_digital_divide_policy_brief.pdf.
- FCC Commission, Office of Native Affairs and Policy (ONAP),
<https://www.fcc.gov/general/native-nations>.

Private Initiatives Supporting Broadband Adoption and Digital Literacy

Overview of Information Gathering Methodology. While the August 3, 2020, Workshop featured experts from libraries, academia, and civil society organizations to discuss their efforts to support digital adoption, the Workshop did not include communications or technology providers. Accordingly, in Fall 2020 the DEI Working Group drafted a questionnaire to solicit information from providers about their broadband adoption and literacy efforts. The questionnaire included five questions focusing on:

1. New or modified digital adoption programs in response to COVID-19.
2. A provider's top programs or initiatives promoting digital adoption, especially any focusing on STEM, libraries, schools, or public-private partnerships.
3. How a provider identifies the libraries, schools, or other organizations it works with.
4. The primary benefit of working with select partners.
5. Any lessons learned.

After coordinating with the Designated Federal Officer to obtain the necessary approvals from relevant Commission personnel, the Deputy Bureau Chief of the Media Bureau sent the questionnaire to six companies – AT&T, Charter, Comcast, Microsoft, T-Mobile, and Verizon. All six companies provided written responses during December 2020 - February 2021. Accordingly, responses reflect efforts as of that time period. Given the dynamism of broadband adoption and digital literacy efforts during the ongoing pandemic, providers may have more recently engaged in additional efforts, including several that are participating as part of the FCC's Emergency Broadband Benefit (EBB) Program, a program created by Congress to help families and households struggling to afford Internet service during the COVID-19 pandemic. Additionally, members of the DEI Working Group met by phone with personnel from Google and learned about Google's broadband adoption and literacy programs.

Industry Response to the FCC Broadband Adoption Survey Presented by the DEI Working Group. Industry company respondents (industry respondents or respondents) to the FCC Broadband Adoption Survey offered information illustrating specific measures they are taking to drive broadband adoption and to facilitate digital literacy. Through this exercise, it became apparent the industry respondents quickly mobilized in response to the COVID-19 pandemic to assist the communities that they serve with obtaining home broadband as the world shifted seemingly overnight to reliance on online platforms requiring Internet connectivity.⁶⁰

⁶⁰ Shortly after the WHO declared a pandemic in March 2020, the DEI Working Group prepared a document entitled "Overview of FCC and Broadband Provider Web Pages with COVID-19 Information." This document focused on the main COVID-19 pages that a person could find using a simple Internet search of a provider's name and "COVID-19" or "coronavirus" as of April 14, 2020. The purpose of this document was to provide a resource collecting links to information about large communications providers' COVID-19 responses for use by the Commission, ACDDE members, and the general public. The document also included the Wireless Internet Service Providers Association's summary of a survey it conducted on its members' responses to the COVID-19 pandemic. The DEI Working Group briefly presented the overview document and the WISPA survey summary at the April 28, 2020, ACDDE meeting and the document is available on the FCC's web site. FCC, *Advisory Committee on Diversity and Digital Empowerment – April 2020* (Apr. 28, 2020), <https://www.fcc.gov/news-events/events/2020/04/advisory-committee-diversity-and-digital-empowerment-april-2020>.

While many providers had programs in place before the pandemic, several were expanded, and others were launched in response to the crisis.

Some key commonalities that emerged from providers' responses are:

- Providing free or reduced-cost connectivity and devices to students, school districts, and individuals left behind by the digital divide.
- Providing additional deployment support for school districts.
- Providing free hotspot Internet access at “safe spaces” or to the broader public.
- Providing or supporting programs that focus on digital literacy and employment skills.
- Partnerships with community organizations and public institutions such as libraries.
- Committing to the FCC’s Keep Americans Connected pledge while it was in effect between March 13 and June 30, 2020, and some providers made additional pledges beyond the Keep Americans Connected pledge.
- In response to the pandemic, providers have often bolstered existing initiatives or implemented new ones.

Below are summaries of the responses from each of the surveyed providers. As highlighted below, industry respondents are actively engaged in various initiatives that encourage and facilitate digital adoption and use. Specific examples of company programs and initiatives are presented below in alphabetical order. These highlights are not meant to be a comprehensive overview of the companies’ digital adoption efforts.

AT&T

AT&T partners with Connected Nation,⁶¹ a leading nonprofit helping communities solve their broadband and digital technology challenges, to close the homework gap for struggling students by providing Wi-Fi hotspots and free AT&T Internet service. The commitment builds upon the \$10 million Distance Learning and Family Connections Fund AT&T created at the onset of the pandemic to support parents, teachers, and students with digital tools and learning resources needed for at-home learning.

COVID-19 Pandemic Response

As part of its response to the COVID-19 pandemic, a notable program AT&T created is its *Distance Learning and Family Connections Fund* to support our nation’s most vulnerable students who are without adequate Internet access and are disconnected from learning. At that time (March 2020), AT&T announced its commitment to support the Fund in the amount of \$10 million.⁶² Contributions and collaborations made possible through the Fund include:

⁶¹ Connected Nation, *AT&T K-12 Homework Gap Program*, <https://connectednation.org/>.

⁶² Press Release, AT&T Creates \$10 Million Fund to Support Parents, Teachers & Students Throughout COVID-19 School Closures (Mar. 20, 2020), www.about.att.com/story/2020/distance_learning_family_connections.html.

- Khan Academy in the amount of \$1 million to offer educational practice exercises, instructional videos and a personalized learning dashboard that empowered students to study at home.
- Small Businesses in the amount of \$1.2 million that are focused on distance learning solutions: Boddle, CareerVillage, CommonLit, LiftEd, ListenWise, LitLab and TalkingPoints.
- Learn Fresh in the amount of \$250,000 to support enhancement of the NBA Math Hoops mobile app and expansion of its ability to reach students in need of support around the globe. NBA Math Hoops is a comprehensive community program that allows students to learn fundamental math skills through the game of basketball.
- Youth Voices Collective (a joint AT&T and CNN collaboration) – a program to support student expression and teach writing and journalism skills at a moment when young people are looking for ways to speak out.

In addition to the efforts mentioned above, AT&T established its *Matching Donation Program* to support distance-learning projects posted from low-income school districts to DonorsChoose, a nonprofit crowdsourcing platform that teachers use to request resources. And, in September 2020, the company joined other broadband providers in participating in the *K-12 Bridge to Broadband Program* – a partnership with the national nonprofit, EducationSuperHighway.⁶³ This partnership scales innovative solutions helping public school districts and states identify and connect students in low-income families, enabling more students to participate in remote or hybrid learning.

Other notable connectivity solutions AT&T generated as part of its response to the COVID-19 pandemic include extending additional flexibility or affordable options to schools, offering discounted unlimited wireless data plans to schools, as well as extending exclusive savings on choice wireless plans to include teachers and their families (along with eligible first responders, military personnel and veterans). The company also modified its low-cost wireline offering, *Access from AT&T*, for a set period of time to include households participating in the National School Lunch program, Head Start and those with an income less than or equal to 135% of the federal poverty guidelines.⁶⁴

Charter

As part of its response to the Broadband survey, Charter highlighted its Spectrum Digital Education, Stay Connected K-12, Spectrum Internet Assist and E-Rate programs, along with its Equipment Distribution and Learning Labs.

Through its *Spectrum Digital Education* program, Charter awards grants to not-for-profit community organizations that educate people on the benefits of broadband and how to use it to improve their lives. These grants provide laptops and computers, digital education classes, and

⁶³ See <https://www.educationsuperhighway.org/> (A national nonprofit committed to closing the classroom connectivity gap.).

⁶⁴ See www.att.com/closesthegap for additional information about school initiatives and offerings.

technology labs that have helped increase digital literacy for thousands across Charter's footprint.

Through its new Stay Connected K-12 program,⁶⁵ Charter is working directly with schools and school districts across its footprint in developing innovation solutions to help get more households connected and improve broadband adoption by assisting them in offering high-speed, in-home cable broadband Internet access to students, educators and staff.

In addition, Charter offers low-cost, high-speed broadband access through its *Spectrum Internet Assist* service that is made available to eligible households on Free and Reduced School Lunch programs or to seniors on Supplemental Security Income (SSI), across the 41 states Charter serves. The company also participates in the federal E-Rate program providing service to over ten thousand schools and libraries.⁶⁶ Across its footprint, Charter has distributed thousands of laptops and tablets to communities in need, and has opened learning labs in partnership with nonprofits.⁶⁷

COVID-19 Pandemic Response

As part of its response to COVID-19, Charter doubled its 2020 commitment to digital education and opened the *Spectrum Digital Education* application process two months earlier than planned to help meet the overwhelming need from nonprofit organizations providing broadband training, access, and education.

Charter's *Stay Connected K-12* program is a key component of the cable industry's response to keeping Americans connected during the pandemic. The company joined its industry counterparts (such as AT&T and Comcast) as a partner in the K-12 Bridge to Broadband program. In addition, on March 16, 2020, Charter announced its *Remote Education Offer*, which includes free access to Spectrum Internet at high-band speeds, in-home Wi-Fi, and a self-installation kit for households with K-12 or college students, or educators.

⁶⁵ Charter/Spectrum Enterprise has been working on an innovative solution to help get more households connected and improve broadband adoption, Spectrum Enterprise, *Stay Connected K-12*, <https://enterprise.spectrum.com/services/industries/k-12/stay-connected.html> (last June 29, 2021). Charter is a participating provider in the K-12 Bridge to Broadband program. NCTA, *K-12 Bridge to Broadband*, <https://www.ncta.com/k12bridge-to-broadband> (last visited June 29, 2021).

⁶⁶ Charter works with schools to ensure that we meet their needs by supplying reliable, scalable connectivity solutions. Charter also works with libraries to provide broadband connectivity and enhance their IT infrastructures to enable STEM technologies like 3D printers, robotics programs, and coding platforms. Spectrum Enterprise, *E-rate program*, <https://enterprise.spectrum.com/services/industries/k-12/erate-e-rate-program.html> (last visited June 29, 2021).

⁶⁷ For example, in New York City, Charter opened 40 community learning labs in partnership with community-based not-for-profit organizations, which are equipped by Charter and include free Internet access. With the 2020 Spectrum Digital Education (SDE) grant increase, Charter has surpassed its multiyear commitment to award \$6 million in cash and in-kind donations to support broadband education across the company's 41-state service area. In addition, Charter SDE grant awards and in-kind support (e.g., laptops) have been awarded to library associations with 501(c)(3) tax-exempt status.

Comcast

Comcast's *Internet Essentials* is structured as a partnership between Comcast and tens of thousands of school districts, libraries, elected officials, and nonprofit community organizations. Launched in 2011, the *Internet Essentials* program is designed to drive broadband adoption among low-income families by providing low-cost Internet service, offering the option to purchase a highly subsidized computer, and providing access to free digital skills training. Since the program's inception (and based on publicly reported numbers available in spring 2021), *Internet Essentials* has connected more than 10 million people to the Internet.⁶⁸

As part of Comcast's ongoing commitment to help ensure students have access to the Internet and provide resources to help them fully participate in the digital economy, its *Lift Zones* program will create 1,000 Wi-Fi-connected "Lift Zones" in community centers nationwide.⁶⁹ Working with its broad network of nonprofit partners, Comcast is providing enterprise-grade, high-capacity Wi-Fi coverage inside safe spaces for students, adults, seniors, and veterans.

Beyond connectivity, Comcast is scaling up its pledge to provide digital skills training to young people and to upskilling adults. The company's partnerships include Black Girls Code, which empowers girls of color to become innovators in STEM fields, and BUILD, which ignites the potential of young people from under-resourced communities, are two examples among our many community partners. In addition, Comcast has aligned with Saga Education⁷⁰ to support online tutoring and has invested in the organization to help expand its reach and impact.

COVID-19 Pandemic Response

As part of its response to the pandemic, Comcast made it easier for families to sign up for *Internet Essentials* by offering 60 days of free broadband service and waiving some of the program's eligibility requirements extending that offer three times to new customers.⁷¹ The company increased the speeds permanently for all *Internet Essentials* customers from 15/2 Mbps to 50/5 Mbps for no additional fee.

Moreover, Comcast created a new program – the *Internet Essentials Partnership Program* – to bring Comcast together with cities, school districts, and community-based organizations to fund service for, and rapidly connect, large numbers of low-income students and families to the Internet at home during this critical time and ensure that they have access to all of the benefits of

⁶⁸ Press Release, Comcast Corp., Comcast Commits to Investing \$1B Over Next 10 Years to Reach 50M Low-Income Americans With Tools and Resources to Succeed In Digital World (Mar. 24, 2021), <https://corporate.comcast.com/press/releases/comcasts-internet-essentials-program-hits-ten-year-mark#:~:text=On%20the%2010th%20anniversary,in%20an%20increasingly%20digital%20world>.

⁶⁹ "Lift Zones" are designed to help those students who either don't have Internet service at home, or who do not have a safe or secure environment at home to participate in online educational activities. The program's centers are located in several cities across the U.S., including Atlanta, Baltimore, Chicago, Denver, Detroit, Miami, Philadelphia, San Francisco, Seattle, Trenton, Twin Cities, and Washington, D.C.

⁷⁰ Saga is a nonprofit that provides consistent, personalized, in-school-day math tutoring and mentoring. See www.sagaeducation.org/saga-connect for more information.

⁷¹ Modified eligibility requirements include the requirement that the customer not have an outstanding past due balance with Comcast. The offer was extended three times to new customers, which now goes through June 30, 2021.

the *Internet Essentials* program. And, the company is a participant in the *K-12 Bridge to Broadband* program.⁷²

In addition, Comcast opened up its Xfinity Wi-Fi Hotspots, which created a network of public Wi-Fi hotspots, enabling free connectivity to everyone, including non-Xfinity Internet subscribers and supplied low-income Americans with 135,000 affordable subsidized computers.

Google

Google's *Grow with Google* program offers free training and tools to help individuals grow their skills, career, or business. By providing upfront funding, Google seeks to stand up programming and provide people with access to resources for free. While not a major focus, part of the goal of *Grow with Google* is to have libraries and partners find each other for joint funding opportunities. The *Grow with Google* program essentially aims to build out resources, including training videos for people to help ensure that opportunities created by technology is available to everyone.⁷³

Microsoft

With its *US Airband Program*, Microsoft partners with rural Internet Service Providers, lending technical expertise and other support, to get rural Americans connected, faster. Program elements include partnerships with optional financial co-investment, technology sharing and expertise, and digital skilling. Through its partnerships, Microsoft committed to extending broadband access to at least 3 million Americans living in rural areas by July 2022.⁷⁴

In addition, Microsoft partnered with National 4-H Council to launch *Tech Changemakers*, a program in which youth support adults with connectivity and digital skilling in their community. Microsoft's Technology Education and Literacy in Schools (TEALS) initiative matches technology industry volunteers with high school teachers to stand up new computer science programs at over 600 high schools across the country. And, the *Microsoft Community Skills Program* equips nonprofits led by and serving Black and African American communities with funds through grants to support digital literacy and skilling.

Further, Microsoft partners with the Public Library Association (PLA) to enable inclusive access to digital skills and broadband across rural communities.⁷⁵ In its survey, Microsoft has identified key benefits in partnering with public libraries to deliver resources including: equitable access across the country; content delivered through a library that understands local community context

⁷² As of December 10, 2020, Comcast has announced partnership agreements with schools in California, Colorado, Georgia, Florida, Illinois, Massachusetts, Oregon, Pennsylvania, Texas, Virginia, Washington, and the District of Columbia, among others, with more partnerships in the work.

⁷³ See Google, *Grow with Google: About*, www.grow.google/about (last visited June 29, 2021).

⁷⁴ See Microsoft, *Microsoft Airband: An annual update on connecting rural America* (Mar. 5, 2020) <https://blogs.microsoft.com/on-the-issues/2020/03/05/update-connecting-rural-america/> (last visited June 29, 2021).

⁷⁵ Specifically, Microsoft partnered with PLA to develop the Public WiFi Access Microgrant Program for rural libraries. Through its partnership, the company developed programming designed to enhance skills for employability and initiated laptop and MiFi hotspot loaner program with more than 40 libraries in rural communities providing public hotspots outside of libraries for people to access during the pandemic.

and credibility for content and programming when delivered in partnership with a library leveraging resources from *Microsoft's Global Skills Initiative*.

COVID-19 Pandemic Response

As mentioned above, Microsoft, through its partnerships, committed to extending broadband access to at least 3 million Americans living in rural areas by July 2022. Examples of support include provisioning hundreds of hotspots by way of Microsoft's Airband ISP partners in public areas with ample parking, such as fairgrounds, so that community members can safely access the Internet while social distancing to help support education and telemedicine applications in Airband communities.

In addition, Microsoft is expanding its digital skills offerings by developing COVID-19 specific offerings for rural communities, including free resources to support virtual learning, employability, and engagement. The company expanded a previous investment in DigitalLead by adding Skilling for Employment Post COVID-19.

T-Mobile

In its response to the FCC's survey, T-Mobile discussed its *Project 10Million* program – a \$10.7 billion initiative aimed at delivering Internet connectivity to millions of underserved student households at no cost to them. Partnering with various school districts across the country, T-Mobile's program offers free wireless hotspots, free high-speed data, and offers access to laptops and tablets, at-cost.

In addition, through its *EmpowerED 2.0* Program, T-Mobile offers economical wireless devices and service plans to eligible K-12 schools across the country and their students. *EmpowerED 2.0's* affordable mobile data plan solutions and service connectivity are coupled with support services that include planning, implementation/deployment support, and content filtering to help prevent access to inappropriate content.

The company endorses digital literacy and skills training through its *Generation T Program* – a partnership with the Boys and Girls Clubs of America and After-School All-Stars that helps young people explore careers in technology. In 2019, T-Mobile provided more than 4,500 youth with an inside look at careers in the tech and wireless industry and engaged more than 3,000 employees through 300 experiences across the United States.

COVID-19 Pandemic Response

T-Mobile joined its industry counterparts in adopting measures to ensure broadband connectivity across communities during the pandemic, particularly for remote learning and healthcare. T-Mobile immediately identified and addressed areas of opportunity for how the company would better support its customers during this challenging time and took steps to adjust and enhance certain service plans with increased data allowances.

Further, in March 2020, T-Mobile launched its new offering *T-Mobile Connect*, weeks earlier than originally planned to bring relief with lower priced plan choices to help ensure everyone has an affordable option to get and stay connected. T-Mobile also adjusted its *EmpowerED* Program

by increasing data allowances at no cost for a period of time to schools and students enrolled in its *EmpowerED* digital learning program.

Verizon

The *Verizon Innovative Learning* program provides free technology, free Internet access, teacher training, and a technology-infused learning curriculum to under-resourced Title I middle schools across the country. As of Verizon's December 2020 survey response, close to 265 schools had participated in the *Verizon Innovative Learning* program since 2014, and Verizon had plans to reach 350 schools by the end of 2021.

In support of digital literacy and skills training, Verizon committed to provide 10 million youth with digital access and skills training by 2030. To reach this goal, the company is developing an online education platform for K-12 youth that will help address new hybrid (at home or in school) learning models and provide needed educational resources to district leaders, teachers, parents and students. Verizon also offers teachers discounted pricing on its unlimited wireless and Fios home Internet services.

In addition to its education work, Verizon is helping to equip under-resourced communities with the knowledge and skills they need to succeed through a \$1 million investment and partnership with UnidosUS to launch the Latinos@Work program, which aims to improve digital literacy rates among Latino adults across the country. This program created digital learning centers in Latino communities in locations such as in Chicago, Seattle, New Orleans, and Lawrence, Massachusetts.

COVID-19 Pandemic Response

In March 2020, Verizon tripled the data allowance for participants in *Verizon Innovative Learning (VIL)* schools and upgraded their data plans from 10 GB/month to 30 GB/month to ensure that VIL students had the additional capacity to transition all of their schoolwork to the home during quarantine. Verizon's *Distance Learning Program*, in which the company has partnered with independent school districts and state departments of education to deliver 4G LTE wireless connectivity, devices, and other solutions to students nationwide, is available to more than 38 million students in 40 states and the District of Columbia. In particular, Verizon began providing K-12 institutions with broadband connectivity, devices (hotspots/MiFi units), mobile-to-device management, and other security/compliance apps on which school districts rely to support distance learning. To help facilitate an efficient way for the over 13,000 school districts nationwide to obtain Internet service for their students, the company facilitated streamlined processes and created a range of turnkey, discounted service offerings and specific service contracts.

Verizon adjusted other customer service offerings as well and made a commitment to its customers that for a period of time it would not terminate service or charge late fees for postpaid wireless, residential, and small business customers who notified the company of their inability to

pay their bills due to disruptions caused by the pandemic.⁷⁶ Internet and voice service charges for low-income customers receiving FCC universal support through the Lifeline program were waived for a set period of time, while a new low-cost home broadband service plan for qualified low-income families was extended through the end of 2020.

⁷⁶ See Verizon, *News Center: We're here. And we're ready*, www.verizon.com/about/news/our-response-coronavirus (last visited June 29, 2021).

Overview of Select Entities’ Web Pages Describing Digital Adoption and Literacy Programs

The table below focuses on the digital literacy and adoption programs that were highlighted in the responses that providers submitted to the DEI Working Group’s Broadband Adoption Survey, and in other information that the DEI Working Group came across during its work. This document is not comprehensive of all the digital adoption and literacy materials on these entities’ websites.

Entity	Web Page(s) Regarding Key Digital Adoption and Literacy Programs
Afterschool Alliance	afterschoolalliance.org/aboutUs.cfm : Afterschool Alliance works to ensure that all youth have access to affordable, quality afterschool programs by advocating for increased public and private investment in afterschool program initiatives at the national, state, and local levels
Girls Who Code	girlswhocode.com : Girls Who Code (GWC) is a nonprofit group that aims to close the gender gap in the tech industry through multiple programs designed to bring more girls into the technology workforce.
Hispanic Heritage Foundation	hispanicheritage.org/latinas-on-fast-track/ : HHF’s Latinas On Fast Track program brings Latina professionals and college students together for leadership trainings, workforce development, networking, community outreach, and mentoring.
National Digital Inclusion Alliance	Digital Navigator Model (digitalinclusion.org/digital-navigator-model/): NDIA’s Digital Navigator model focuses on individuals who address the whole digital inclusion process with community members through repeated interactions.
AT&T	<p>Closing the Homework Gap (att.com/closesthegap): Describes AT&T’s offerings and initiatives “to support students, families, and educators by providing connected devices and hotspots for K-12 schools and colleges and universities across the country.”</p> <p>AT&T Supports Families & Educators During School Closures and Social Distancing, Apr. 14, 2020 about.att.com/newsroom/2020/covid_19_distance_learning.html): Describes contributions and collaborations made possible through AT&T’s \$10 million Distance Learning and Family Connections Fund.</p> <p>AT&T’s Special Needs Distance Learning Match Offer 2020 donorschoose.org/att?historical=true&page=2): AT&T established a matching donation program to support distance learning projects posted from low-income school districts to DonorsChoose, a nonprofit crowdsourcing platform that teachers use to request resources.</p>

Entity	Web Page(s) Regarding Key Digital Adoption and Literacy Programs
Charter	<p>Spectrum Digital Education Grant (corporate.charter.com/digital-education/grants): Describes eligibility and selection criteria for grants to not-for-profit community organizations that educate people on the benefits of broadband and how to use it.</p> <p>Spectrum Internet Assist (spectrum.com/browse/content/spectrum-internet-assist): Provides low-cost, high-speed broadband to eligible families and seniors.</p> <p>Stay Connected K-12 (enterprise.spectrum.com/services/industries/k-12/stay-connected.html): Through this program, Charter works directly with schools and school districts across its footprint to assist them in offering high-speed, cable broadband Internet access to students, educators and staff in their homes.</p>
Comcast	<p>Internet Essentials (internetessentials.com/): This program has connected a cumulative total of more than 10 million low-income people. The program is designed to address critical hurdles to broadband adoption, including device availability, price, and digital literacy.</p> <p>Lift Zones (see here⁷⁷): Comcast is creating more than 1,000 Wi-Fi-connected “Lift Zones” in community centers nationwide, providing enterprise-grade, high-capacity Wi-Fi coverage inside safe spaces designed to enable students to obtain go online for distance learning and do their homework.</p>
Google	<p>Grow with Google (grow.google.com): This program partners with community organizations and libraries to advance digital inclusion.</p>
Microsoft	<p>Airband (microsoft.com/en-us/corporate-responsibility/airband): With its Airband Initiative, Microsoft partners with rural Internet services providers, providing technology sharing and expertise and digital skills training.</p> <p>4-H Tech Changemakers (see here⁷⁸): Microsoft’s 4-H Tech Changemakers programs is a partnership with the National 4-H Council to support adults with connectivity and digital skills training.</p> <p>Technology Education and Literacy in Schools (microsoft.com/en-us/teals): This program matches technology industry volunteers with high school teachers to provide computer science programs at more than 600 high schools across the country, including a model for remote communities.</p>

⁷⁷ Press Release, Comcast Corp., Comcast Announces Multiyear Effort to Roll Out 1,000+ WiFi-Connected ‘Lift Zones’ in Local Community Centers Nationwide (Sept. 17, 2020), <https://corporate.comcast.com/press/releases/comcast-announces-1000--liftzones-in-community-centers-in-us-cities>.

⁷⁸ 4-H, 4-H Tech Changemakers, <https://4-h.org/ways-to-give/corporate-foundation-support/microsoft-tech-changemakers/#:~:text=Creating%20Impact%20with%20Technology&text=That's%20why%20National%204%E2%80%91H,solutions%20to%20real%20world%20problems>.

Entity	Web Page(s) Regarding Key Digital Adoption and Literacy Programs
T-Mobile	<p>Project 10Million (t-mobile.com/business/education/project-10-million): This initiative delivers Internet connectivity to millions of underserved student households, offering free wireless hotspots, free high-speed data and offers access to laptops and tablets, at-cost.</p> <p>EmpowerED 2.0 Program (t-mobile.com/business/education/empowered2): This program offers economical wireless devices and service plans to eligible K-12 schools across the country and their students, along with support services that include planning and implementation support.</p> <p>Generation T (t-mobile.com/responsibility/community/education/generation-t): This program is a partnership with the Boys and Girls Clubs of America and After-School All-Stars that helps young people explore careers in technology.</p>
Verizon	<p>Verizon Innovative Learning (verizon.com/about/responsibility/digital-inclusion/verizon-innovative-learning): This program provides free technology, free Internet access, teacher training, and a technology-infused learning curriculum to under-resourced Title I middle schools across the country.</p> <p>Verizon Distance Learning Program (see here⁷⁹): Under this program, Verizon has partnered with independent school districts, and state departments of education to deliver 4G LTE wireless connectivity, devices, and other solutions to students nationwide.</p>
Multiple	<p>K-12 Bridge to Broadband (educationsuperhighway.org/bridge-to-broadband/): Education SuperHighway has “teamed up with regional and national Internet service providers to launch programs that enable states and school districts to identify students without broadband and purchase service for low-income families.” Participating associations include ACA Connects, NTCA - The Rural Broadband Association, NCTA - The Internet & Television Association, and USTelecom - The Broadband Association. Participating ISPs from this table include AT&T, Comcast, Spectrum Enterprise (Charter), and Verizon.</p>

⁷⁹ Press Release, Verizon, Verizon Enables Distance Learning for up to 1.7M Students in Oregon and Washington (Sept. 10, 2020), verizon.com/about/news/verizon-distance-learning-oregon-washington?adobe_mc=MCMID%3D04711372104089245343965115873603798188%7CMCAID%3D303F8F9EEA68E5A4-6000173A0E54AF61%7CMCORGID%3D7ED836675AB3A4860A495CAD%2540AdobeOrg%7CTS%3D1619561482.