

Before the
NATIONAL TELECOMMUNICATIONS AND
INFORMATION ADMINISTRATION
Washington, DC 20230

DIGITAL EQUITY ACT

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NTIA-2023-0002

COMMENTS OF
NTCA–THE RURAL BROADBAND ASSOCIATION



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I. INTRODUCTION

NTCA appreciates the opportunity to provide these comments to assist NTIA in implementation of the Digital Equity Act. As noted by NTIA, many communities lack access to high-speed internet, and even where broadband has been deployed, many prospective users face affordability challenges, while others confront challenges in perceived relevance. Equivalent access to reliable and affordable high-speed internet will improve economic conditions, health outcomes, educational opportunities, and improved outputs for agriculture, manufacturing, retail, and other industries. The Digital Equity Act provides \$2.75 billion to establish three grant programs that promote digital equity and inclusion. These programs are intended to ensure that all people and communities have the skills, technology, and capacity needed to reap the full benefits of our digital economy.

NTCA provides the following comments from a unique perspective. On the one hand, NTCA members are broadband providers serving some of the Nation’s most rural and insular

places. NTCA members serve regions with average population densities of seven to nine people per square mile; NTCA members typically serve about 5,000 customer accounts. On the other hand, all of NTCA members are broadband deployed, with NTCA members reporting that, on average, they have connected approximately 80% of customer locations with fiber to the premise offering speeds of 100 Mbps and higher; 60% of these retail customers, on average, can receive gigabit broadband services.¹ Moreover, NTCA and its member companies are committed to ensuring access and availability to all consumers, and engage broad offerings of digital inclusion efforts, including toolkits, digital literacy programs, outreach initiatives, and offerings to make these vital services accessible and affordable to rural users.

II. DISCUSSION

In response to the NTIA inquiry, NTCA provides the following:

Question 1: *During the public comment period for the States' Digital Equity Plans, what guidance should NTIA and/or each State provide to enable communities to review and provide actionable feedback to States regarding their State Digital Equity Plans? What criteria/factors/outcomes should communities focus on in their review? How can NTIA ensure that States/Territories consult with Tribal entities about how best to meet Tribal members' needs?*

Question 2: *Over the next year, NTIA will deliver technical assistance for States and Territories to develop holistic, actionable, and impactful State Digital Equity Plans. NTIA has created a Needs Assessment Guide, Asset Mapping Guide, Digital Equity Plan Guidance, Best Practices, Workforce Planning Guide, webinars, and other technical assistance resources. What additional guidance/resources should NTIA provide to States, Territories, and Tribal entities as they develop their Digital Equity Plans? What additional guidance can NTIA provide to help States and community organizations utilize other federal tools to close the digital divide by increasing access and reducing cost like the Affordable Connectivity Program? Individuals and communities who are most impacted by the digital divide are in the best position to help States, Territories, and Tribal entities understand the inequities and how best to focus and scale local efforts. How can individuals and communities provide feedback to States, Territories, and Tribal entities to ensure their unique communities' needs are solicited, considered, and reflected in the Digital Equity Plans?*

¹ *Broadband/Internet Availability Report: NTCA—The Rural Broadband Association*, Arlington, VA, at 2, 3, 5-7 (Dec. 2022) (<https://www.ntca.org/sites/default/files/documents/2022-12/2022%20Broadband%20Survey%20Report%20%28FINAL%2011-28-22%29.pdf>) (visited May 1, 2023).

At the outset of this discussion, NTCA notes the imperative to recognize that the provision of advanced broadband services in rural America necessitates a comprehensive and complementary network of Federal and local policies alongside private investments. The costs of deploying and maintaining advanced communications networks in rural and insular areas is recognized explicitly in the Universal Service provisions of the Communications Act, which implement support mechanisms to ensure that services in rural and insular areas are reasonably comparable in both price and quality to those offered in more densely populated urban spaces.²

These measures recognize the natural market challenges of sparsely populated rural spaces and enable affirmative corrective measures to ensure reasonable user rates. While supplemental programs such as Lifeline and the Affordable Connectivity Program (ACP)³ address the needs of low-income users, the Universal Service provisions recognize that the natural market rate for communications services in rural spaces would be unaffordable absent efforts to mitigate the impact of high deployment and maintenance costs on subscriber rates.

The goal of the high-cost Universal Service Fund (USF) program is to ensure that rates for rural consumers are “reasonably comparable” to those assessed on urban users for similar services. The high-cost USF program (at least in theory) aims to fill the difference between the rates that would need to be charged to rural users for market costs of serving them and what an urban user would pay for such service, with Lifeline and ACP then supplementing to close *individual affordability gaps* for low-income consumers in both rural *and* urban areas. Without the high-cost USF program to recover the higher costs of facilities and services in rural areas,

² See, 47 U.S.C. § 254 *et seq.*

³ See, Infrastructure Investment and Jobs Act, Pub. L. No. 117-58 (2021) (IIJA), div. F, tit. V, secs. 60502(b)(1)(A)(i)(I), 60502(a)(2)(A), (b)(1)(A)(ii), §§ 904(a)(6)(A), (a)(6)(E), (a)(7)(A), (B) (2021); Consolidated Appropriations Act, div. N, tit. IX, § 904(a)(6)(C) and (D), struck by IIJA div. F, tit. V, § 60502(b)(1)(A)(i)(II) and 60502(b)(1)(A)(i)(III), (V). See, also, *Emergency Broadband Benefit Program, Affordable Connectivity Program: Order*, Federal Communications Commission Docket Nos. 20-445, 21-450 (2021).

rural consumers from *all* Populations would pay materially higher rates for service – thereby defeating the objective of Universal Service and underscoring how high-cost USF is essentially an “affordability program” as it facilitates reasonable access for all users.

Accordingly, as NTIA and the states fortify their essential effort to ensure reasonable access to advanced broadband services for all users, policymakers must recognize that initial BEAD (or other) grants to build networks, even when combined with an ACP or Lifeline supplement, will not result in reasonably comparable rates for all users in rural spaces. And, as described more fully below, even where broadband networks are deployed, affordability remains a predominant barrier to adoption. Digital literacy and other programs aimed at promoting and enabling the relevance of broadband in activities of daily life and work are and will be critical to recruiting more users to the broadband evolution, but reasonably comparable and affordable user rates are the gatekeeper to engagement. Accordingly, NTCA urges coordination among the Federal agencies to ensure that the implementation of grant and affordability programs are not considered the final steps toward the Nation’s broadband future, but that continued advancement of Universal Service principles and programs will be necessary to achieve our Nation’s broadband vision.

Question 15: *What are examples of past or current evidence-based or evidence-informed digital equity and/or inclusion projects or other relevant or similar projects that NTIA can showcase as a part of its technical assistance efforts to support applicants in identifying promising or evidence-based project models, partnerships, activities, and strategies to consider, replicate, and leverage lessons learned as applicable?*

NTCA members who serve rural spaces with increasingly diverse populations have engaged digital inclusion strategies long before such efforts were either required or anticipated to respond to regulatory or political expectations. Rather, as small providers who are largely based

within and serve small communities, NTCA members recognize the imperative to ensure ubiquitous access to, and engagement with, robust future-proof broadband.

In 2021, NTCA published a comprehensive white paper that examines adoption data for fixed and mobile broadband services across categories defined by age, race, household income, and educational attainment.⁴ This paper also presents rural use-cases for broadband, including the support and improvement of economic development, education, healthcare, and social determinants of health (SDOH). The report outlines strategies to increase broadband engagement in rural communities, and was followed with creation of a digital inclusion webinar to bring attention to increase digital engagement in rural and Tribal spaces,⁵ as well as a multi-part toolkit.⁶ The NTCA Digital Inclusion toolkit provides users with an introduction to the principles of digital inclusion; a framework for “SMART” (Specific, Measurable, Achievable, Realistic, and Timely) strategies; and recommended approaches to strategic partnerships, community assessments, and asset mapping. Both the paper and toolkit highlight best practices drawn from NTCA member experiences. These resources acknowledge that there is no “one size fits all” model for rural spaces, and therefore provide analytical constructs to help rural providers chart a community-appropriate course.

As noted above, NTCA members are committed to ensuring access and availability to all consumers, and engage broad offerings of digital inclusion efforts, including digital literacy programs, outreach initiatives, and offerings to make these vital services accessible and

⁴ Joshua Seidemann and Roxanna Barboza, *Rural Imperatives in Broadband Adoption and Digital Inclusion*, Smart Rural Community (Arlington, VA) (2021) (<https://www.ntca.org/sites/default/files/documents/2022-03/src-whitepaper-broadband-adoption-and-digital-inclusion.pdf>) (visited May 1, 2023) (Seidemann and Barboza).

⁵ NTCA Webinar, “Rural Imperatives in Broadband Adoption and Digital Inclusion,” featuring Catherine Nicolaou, Sacred Wind Communications, Inc., and Kris Ward, Focus Broadband (Jan. 25, 2022).

⁶ This toolkit is available online for NTCA members.

affordable to rural users. The following are provided as examples of digital inclusion projects that NTIA can showcase as a part of its technical assistance efforts to support applicants in identifying promising or evidence-based project models, partnerships, activities, and strategies:

- Focus Broadband (Shallotte, NC) partnered with local county public libraries to create a digital inclusion plan. Measures include surveying residents about their internet usage, service tiers used, and provider information. Focus also supported virtual fitness classes for senior citizens in the county during the COVID-19 pandemic.
- Home Telephone Co. (Moncks Corner, SC) partnered with the public school district to provide free internet to households with school-age children in lower-performing schools. Home Telecom has invested in infrastructure updates to support this initiative.
- Sacred Wind Communications (Yatahey, NM) serves Navajo Nation lands and partnered with a career academy to provide internet access for students during the coronavirus emergency. These efforts illustrate the unique role of locally operated broadband providers, specifically, their presence in and knowledge of each community's needs and their ability to work effectively with local partners.
- Waitsfield and Champlain Valley Telecom (Waitsfield, VT) and Maple Broadband, a communications union district (CUD), signed an agreement to manage and deliver services to Maple broadband's fiber network. CUDs are non-profit municipal entities with the single goal of delivering highspeed fiber broadband service to every unserved and underserved address in their member towns.
- Horry Telephone Cooperative, Inc. (HTC) (Conway, SC) worked extensively to determine the scope of various demographic communities within its service areas. HTC conducted targeted outreach within specific demographic segments, including the elderly and families with children. Working with community organizations, HTC identified respective issues of predominant interest within the various communities and, alongside local leaders, selected venues and approaches that would be attractive for outreach efforts. These efforts culminated in a tailored educational curriculum that addressed different use scenarios for broadband, including telehealth, financial management, and education. HTC personnel partnered with community leaders to design outreach sessions focused on "introductions to broadband" and digital literacy programs. By working hand in hand and appearing with community leadership, HTC conveyed the hallmark of locally operated communications providers, namely, their commitment to serving their community. These grassroots outreach efforts reflected simultaneously the general strategy of promoting broadband adoption alongside targeted efforts to increase digital inclusion within specific demographic segments.
- GRM Networks (Princeton, MO) supports students from households that cannot afford broadband. GRM offers schools discounted service that supports open Wi-Fi networks and provides six libraries in its service area with free broadband.

- Skyline Membership Corp. (West Jefferson, NC) works closely with schools in five counties through its Skyline/SkyBest Student Connect Grant Program to link fiber-based internet access directly to the homes of those students who lack access due to need or challenging circumstances.
- Hart Telephone Co., Inc. (Hartwell, GA) provides a high-speed fiber optic network that allows schools to connect to distance-learning, student devices and tablets that are used for learning from anywhere.
- People’s Rural Telephone Co., Inc. (McKee, KY) supports Project CAFÉ (Computers Are For Everyone). PRTC members can apply for an 18-month, low interest loan to purchase a new home computer and 18 months of broadband internet access.
- UniTel, Inc. (Unity, ME) provides funding for a digital literacy training program and partners with “PCs For Maine” to assist with required hardware, software, and devices for people who need a computer to achieve an important personal goal such as literacy, education, small business startups, job skills training or overcoming a disability.
- Totelcom (De Leon, TX) offers a Learning Center once a week in a downtown location where anyone can bring their electronic devices to receive one-on-one assistance.
- Triangle Communications (Havre, MT) offers a Connected Community Program to fund digital literacy projects up to \$2,500. Project topics include entrepreneurship, job creation, outreach, and broadband adoption.

NTCA actively promotes these case studies and the principles they represent among NTCA’s more than 850 broadband-provider members.

Question 16: *How should grantees define digital equity with respect to each of the Covered Populations? What does success look like for each of the Covered Populations? How should NTIA measure the effects of access to and adoption of, and meaningful use of the internet for each Covered Population? What examples of equity gap analysis and tools should the Assistant Secretary consider when measuring outcomes as they relate to each Covered Populations? To what extent should grantees disaggregate data within each of the Covered Populations to reveal the underlying trends and patterns? NTIA encourages stakeholders to provide the rationale for their comments, including available examples of studies, measures, outcomes, assessments and supporting information.*

NTCA suggests that digital equity be defined as the condition in which all communities have reasonable access to the appropriate information, devices, and training to participate in society. A key element of this definition relies on the plain English meaning of the “equity,”

namely, to be fair and impartial. Accordingly, digital equity (or “success . . . for each of the Covered Populations”) is achieved when all potential users have equivalent opportunity to access critical broadband services. This definition contemplates differences in affordability among communities, as well as differences in costs to deploy that may result in staggered deployment timelines or differences among various geographic regions. NTCA recommends that the long-standing Universal Service provisions of the Communications Act can and should inform the definition of “equity.” More specifically, when it comes to services in high-cost areas, the Communications Act establishes a standard of reasonable comparability.⁷ This recognizes that conditions affecting deployment may vary from place to place, thereby making purely *equal* deployments infeasible, and instead strives for reasonable comparability. In similar vein, the digital discrimination of access sections of the Infrastructure Investment and Jobs Act (IIJA) recognize that technical and/or economic infeasibility may affect outcomes.⁸ “Equity” (and the metric-bound results envisioned by NTIA) will be most effectively and reasonably defined as availability without regard to race, religion, color, national origin, or other demographic characteristics that themselves should have no reasonable impact, material or otherwise, on the ability of the individual to access and engage broadband services.

To be sure, disparities in deployment and affordability can be anticipated. Certain of these disparities may be mitigated to varying extents by policies supporting infrastructure deployment and maintenance or consumer affordability programs. When measuring outcomes, NTIA is encouraged to study the methodology of private and public interest entities that have developed comprehensive data sets and conclusions based on in-depth customer surveys that

⁷ 47 USC § 254(b)(3).

⁸ IIJA § 60506.

shed light on how trends are developing over time.⁹ These data offer compelling guideposts as NTIA considers strategies to address underlying trends and patterns. The scope of these studies evidence that parameters for analysis already exist and that these and similar reports can provide reasonable basis for assessing industry trends without compelling grantees themselves to “reinvent the wheel” and “disaggregate data within each of the Covered Populations to reveal the underlying trends and patterns.”

NTCA moreover notes that program effectiveness is best achieved by recognizing factors beyond affordability (which can be addressed through initiatives like the Affordable Connectivity Program (ACP) and Federal Communications Commission (FCC) Lifeline) and deployment (which is addressed through programs like BEAD and FCC Universal Service Fund programs). Those other factors often include intangible characteristics such as perceived relevance and interest. Although those can be addressed at least partially through such efforts as digital literacy classes and outreach, it is important to recognize that home adoption, while desired by both providers and policymakers, is not the sole measure of engagement. Rather, even periodic use, such as at a public library or telehealth kiosk, constitutes engagement that should be celebrated, particularly when it occurs among theretofore non-users.

Overall, NTCA recommends that NTIA look to the good work of the private sector in assessing trends in adoption and engagement. Relevant Census Bureau and Centers for Disease Control data can complement private sector and individual state surveys as they may be

⁹ See, i.e., T. Randolph Beard and George S. Ford, “Digital Discrimination: Fiber Availability and Speeds by Race and Income,” Phoenix Center Policy Paper No. 58, Phoenix Center for Advanced Legal and Economic Public Policy Studies (Washington, D.C.) (Sep. 2022) (<https://phoenix-center.org/pcpp/PCPP58Final.pdf>) (visited May 1, 2023); *Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination: Comments of ACA Connects on the Notice of Proposed Rulemaking*, Federal Communications Commission Docket No. 22-69 (Feb. 21, 2023), at Appendix A, “Analysis of Broadband Discrimination: Influence of Income, Race, or Ethnicity on Access”, Cartesian, Inc. (Feb. 21, 2023) (<https://www.fcc.gov/ecfs/document/102212557729822/2>) (visited May 1, 2023).

produced. These can help establish baseline trends and level-set expectations to increase engagement. NTCA notes that its investigations reveal that affordability remains the single largest barrier to adoption, and that engagement rates are growing steadily across all categories defined by age, race, household income, and educational attainment.¹⁰ NTCA suggests that the infusion of additional resources can accelerate positive trends by (a) increasing availability; (b) improving affordability; and (c) supporting outreach and education to bridge the final gaps resulting from unfamiliarity and perceived relevance.

Question 17: *What metrics and performance data infrastructure and data governance strategies and tools are needed to create a vibrant digital equity ecosystem (e.g., metrics, digital skills, sustainability) to measure program effectiveness and effects for Covered Populations? What publicly available datasets and tools should NTIA and grantees (e.g., States, Territories, non-profits, develop) enhance or support to benchmark and to track progress of grantee goals and objectives?*

As noted above, numerous data sets and studies exist to explain the pace and trends of digital engagement among General and Covered Populations. And, as noted, the prevailing barriers to digital engagement remain the costs of deployment and user affordability (notably, follow-on affordability of devices is also cited as factor, and was recognized in ACP device reimbursement provisions). NTCA submits that the scope of private and government-published data provide benchmarks from which action plans to create a vibrant digital equity ecosystem can be formulated. For example, a 2022 FCC Communications Equity and Diversity Council (CEDC) report identified more than a dozen recommendations aimed at increasing broadband engagement. These include low-cost broadband availability programs; strengthening marketing and communications about available federal and state connectivity programs and other programs that target low-income and other unconnected members of a community; streamlining the

¹⁰ See, Seidemann and Barboza at 7-9.

application process for government benefit programs; increasing support and funding for organizations such as schools, nonprofits, and faith-based organizations to provide digital navigation assistance in communities they serve; increasing device access and participation; strengthening digital skilling efforts in underserved communities; and encouraging the creation of workforce development and training opportunities, focusing on historically unrepresented communities.¹¹ NTIA efforts to promote these types of initiatives can also include components to measure participation as well as surveys of participants to assess impacts of engagement-oriented programming.

Efforts that are consistent with CEDC or similar recommendations will be intensive and resource-consuming. While those endeavors may not be complicated *per se*, they will demand creativity and thoughtfulness to balance the relative burdens of targeted engagements with the gains of more broadly focused promotional efforts. The CEDC recommendations seem to contemplate substantial public-private engagements to assess individual community needs and effective partners. In fact, the recommendations line up with components of the NTCA Digital Inclusion toolkit. NTCA submits the CEDC report defines *avenues*, and that NTIA can work with industry to determine reasonable *mileposts* along those pathways. For example: Is a low-cost broadband program available, and are eligible users engaging that option? What publicity and outreach efforts are appropriate for a particular community? Is achievement measured by grantee promotion of certain of the CEDC recommendations, subscription rates, usage data, or other metrics? Should the ultimate decision of individual consumers to engage or not engage reflect on grantee success or compliance?

¹¹ See, *Implementing the Infrastructure Investment and Jobs Act - Preventing and Elimination of Digital Discrimination: Notice of Proposed Rulemaking*, Federal Communications Commission Docket No. 22-69, FCC 22-98, at pp. 99-105 (2022).

Question 18: *NTIA will require regular grantee performance and progress reporting, e.g., semi-annually, project close out to monitor grantee implementation of funded projects and capture metrics, outcomes, and impact. How should NTIA measure grantees implementation of such metric tracking? To what extent should NTIA require standardized inputs, metrics, and measures in order to facilitate nationwide insights?*

NTCA submits for consideration a popular aphorism: “If you’ve seen one rural place, you’ve seen one rural place.” Toward that end, programs intended to increase engagement among Covered Populations must be contemplated with the recognition that there is no “one size fits all” approach. To the extent performance and progress reports are required, the associated obligations must be sufficiently broad to permit participants to describe their outreach or other efforts. NTIA may consider a survey-type approach that lists various options (for example, recommendations of the CEDC), as well as a selection for “other programs,” and to ask participants to indicate the types of outreach or other programs in which they engaged.

Metrics and outcomes are more difficult. Although participants might readily produce data regarding deployment as well as subscribership trends, it would be more difficult for providers to assess metrics relating to Covered Populations. Doing so could implicate the possibility of providers asking customers to self-identify their race, sex, color, nationality, income level, educational attainment, or other demographic markers; worse yet would be obligations that would *require providers* to independently assess those demographic indicators. This process raises significant privacy concerns and ultimately paints a corner into which no grantee may wish to position itself.

To be sure, the need to include all Covered Populations in the broadband revolution is critical. As such, tailoring outreach and affordability efforts, where economically and otherwise feasible, alongside broader broadband deployment will play a key role in achieving

programmatic goals. At the same time, these efforts must be bounded by sensible guardrails that meet both economic and societal concerns.

Question 19: *For each of the Covered Populations, what are proven strategies and tactics, projects or programs, with outcome-based measures and impacts, that promote and achieve digital equity?*

Inquiries among NTCA members are consistent with independent research cited by NTCA in its various reports and filings with the FCC, namely, that – presuming that the condition precedent of a deployed network has been satisfied – the prevailing issues are affordability and perceived relevance; these can and may well exist independent of a user’s membership in a Covered Population.¹² Moreover, NTCA would approach cautiously an analytical or regulatory construct that would seek to establish “[f]or each of the Covered Populations . . . strategies and tactics, projects or programs, with outcome-based measures and impacts, that promote and achieve digital equity.” Without diminishing the imperative to increase broadband engagement, the unique needs of any affected demographic community could implicate the creation of multiple iterations of broadband engagement efforts, each tailored to meet a discrete independent community need. However, in NTCA members’ small rural service areas, the revising and tailoring of such programming “[f]or each of the Covered Populations” may not be feasible when set against reasonable economies of scale. By way of explanation, a provider’s general efforts to increase broadband engagement (*i.e.*, promotional materials distributed at senior citizen centers, community organizations, or faith-based groups) may result in adoption and engagement gains. In contrast, narrowly targeted materials, *i.e.*, those that may differentiate between (a) elderly, (b) immigrant, and (c) low-income populations may

¹² See, Seidemann and Barboza at 4-6, 7-9. See, also, *Implementing the Infrastructure Investment and Jobs Act – Prevention of Digital Discrimination: Comments of NTCA–The Rural Broadband Association*, Federal Communications Commission Docket No. 22-69, at 7-11 (Feb. 21, 2023).

result in incremental increases within each group, but not of sufficient scope to justify the financial and administrative outlay in creating those multiple campaigns.

Question 20: *Youth and young adults are members of each of the Covered Populations except for Older Americans. The COVID-19 pandemic had a devastating impact on academic achievement, physical and mental health, and earning opportunities for our youth and young adults. How can NTIA encourage and measure the effects of investments in our youth and young adults?*

Broadband investment to benefit youth and young adults may be encouraged through promotion of Federal programs aimed at schools and libraries, including the e-rate program and the Emergency Connectivity Fund.¹³ The effects of those programs may be measured in informal surveys of young students to assess the proportion of Covered Populations who have access to broadband services and devices. Importantly however, schools, rather than grantees, should be charged with gathering this information, which likely holds independent value for educators as they assess their students' needs and resources. Moreover, schools can gather and aggregate information that is available to them within the context of the student/school relationship, and hand off anonymized information to grantees.

The NTIA focus on youth and young adults is important. COVID-19-related school closures affected 55 million K-12 students across the United States.¹⁴ While students are largely back to in-person learning, it is anticipated that the COVID-19 experience has enlightened educators, parents, and students to opportunities in distance and remote education and the greater opportunities those tools offer to students, particularly those in rural and insular areas. In all regions, increased use of broadband capabilities for in-school and outside-school assignments is

¹³ See, 47 CFR § 54.500, *et seq.* See, also, *Establishing Emergency Connectivity Fund to Close the Homework Gap: Report and Order*, Federal Communications Commission Docket No. 21-93 (2021).

¹⁴ Emma Garcia and Elaine Weiss, "COVID-19 and Student Performance, Equity, and U.S. Education Policy," Economic Policy Institute (Sep. 10, 2020) (<https://www.epi.org/publication/the-consequences-of-the-covid-19-pandemic-for-education-performance-and-equity-in-the-united-states-what-can-we-learn-from-pre-pandemic-research-to-inform-relief-recovery-and-rebuilding/>) (visited May 1, 2023).

expected to continue.¹⁵ Moreover, the benefits of broadband are not limited to supporting distance education during disruptive times. Rather, broadband access has been demonstrated as a factor in student success across a variety of settings.

For example, a Michigan State University study explored the relationship between connectivity and middle and high school students' performance on standardized tests and school subject areas. Students with home internet access scored higher on the SAT and PSAT than students with only mobile cell phone access as well as those with no access.¹⁶ Notably, these results controlled for demographic factors. The report explains:

The negative relationship between having to use a cell phone for home Internet access and SAT/PSAT performance was larger than the deficit in percentile rank experienced by students from low-income families relative to higher-income families or that experienced by racial and ethnic minorities relative to white students, both of which, independently, tend to rank 3-4 percentiles lower than their peers.¹⁷

Similar data were reported in regarding to grade point averages (GPA) for English, social sciences, mathematics, and science, with average GPA .19 point higher for students with home broadband access than for students with no home access or only mobile wireless access.¹⁸ These data complement findings from prior studies reporting that youth who live in areas with broadband are found to have earned higher scores on college entrance exams such as the SAT or

¹⁵ *The Evolution of Distance Education in 2020*, School of Education and Human Sciences, University of Kansas (Sep. 17, 2020) (<https://educationonline.ku.edu/community/distance-education-evolution-in-2020>) (visited May 1, 2023).

¹⁶ Keith N. Hampton, Laleah Fernandez, Craig T. Robertson, Johannes M. Bauer, *Broadband and Student Performance Gaps*, Quello Center, Michigan State University, at 35 (2020) (https://quello.msu.edu/wp-content/uploads/2020/03/Broadband_Gap_Quello_Report_MSU.pdf) (visited May 1, 2023) (Quello). On average, students with home internet access placed eight (8) percentile points higher than students with no home broadband or only mobile wireless broadband.

¹⁷ Quello, at 36.

¹⁸ Quello, at 33.

ACT.¹⁹ Moreover, *lack of broadband* has been identified as compounding difficulties for students who have preexisting limited avenues to “elite academic institutions.”²⁰

Distance education is also engaged at the post-secondary level. U.S. Department of Education data show that in 2018, nearly seven million students were enrolled at degree-granting post-secondary schools in the United States. Of these students, more than one-third (35.3%) engaged distance education; 16.6% were engaged exclusively in distance education. Graduate course work was engaged more than twice as much as undergraduate work (30.7% vs. 14%).²¹ These data, as well, demonstrate that where available, significant populations of students take advantage of broadband. The higher rates of distance education engagement for graduate students may reflect opportunities for students to take courses at times that fit personal or work schedules, thereby enabling students to simultaneously work and attend school.

NTCA suggests that NTIA can rely on these and similar studies to establish that broadband benefits will accrue to students and young adults, and that the measure of success should be a simple syllogism: Broadband benefits students. Therefore, where broadband is deployed and engaged, students will benefit. NTCA’s recommendation in this regard is not intended to preempt further investigation as new data is available, but rather to recommend that grantees and NTIA can rely on the already-proven benefits of broadband for learners, and posit that where broadband is deployed and adopted, students will gain. Accordingly, measurements can be drawn from more readily available metrics such as deployment and student adoption data,

¹⁹ Lisa J. Dettling, Sarena F. Goodman, Jonathan Smith, *Every Little Bit Counts: The Impact of High-Speed Internet on the Transition to College*, Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, DC, at 27 (2015-108).

²⁰ *Id.*

²¹ *Fast Facts: Distance Learning*, National Center for Education Statistics, U.S. Department of Education (2019) (<https://nces.ed.gov/fastfacts/display.asp?id=80>) (visited May 1, 2023).

while non-grantee public, academic, and private sector entities can assess the discrete achievement impacts.

Question 21: *To ensure all learners (youth, adult, incarcerated, etc.) have access to the opportunities that technology unlocks, how should NTIA promote a baseline or fundamental standard for digital literacy for all learners? What kind of baselines should NTIA's grant programs strive to achieve and should the intended outcomes be based on a type of standard which includes varying levels of digital skills, such as pre-basic, basic, intermediate and advanced? If so, please elaborate.*

NTCA recommends that NTIA work with stakeholders to develop a broad outline of computer and broadband engagement skills that are sequenced and transferable across geographic and demographic communities. As an example, NTCA proposes that digital literacy introductions and coursework may include instruction in the following categories:

Hardware and Connections

Introduction to computer hardware, including desktops; laptops; tablets; e-readers; phones; and other devices.

Introduction to network configurations and platforms including wired (fiber, cable, and DSL); wireless (mobile and fixed); satellite; Wi-Fi; LANs.

Meeting the Internet

Introduction to the internet, including definition and examples of ISPs; knowledge of browsers; understanding of domain types.

Advanced instruction in web-browsing, history, and function of cache; navigation and use of hyperlinks and pop-ups.

Uploading and downloading files; texts; graphics; photos; video; web search skills.

Digital hygiene; internet safety for children; passwords; antivirus and security.

Email and Social Media

E-mail; passwords; etiquette of online communications.

Use of social media and digital identities,

Using the internet for shopping, education, and healthcare; privacy, network and personal security.

Question 22: *How can NTIA best ensure that States and Territories that receive funding under BEAD and Digital Equity Programs are closely aligning their planning efforts to close the equity gaps for all Covered Populations? How can NTIA work with the States, Territories, and their communities to promote the collective impact and outcomes between BEAD's Five-Year Action Plan and States' Digital Equity Plans to achieve equity for its Underrepresented Communities/Covered Populations?*

NTCA suggests that industry and aligned groups, whether those working in the fields of education, libraries, or digital literacy, have developed strategies for increasing broadband adoption and engagement. Moreover, the FCC CEDC report provides ample recommendations for fostering greater broadband engagement. Accordingly, NTCA recommends the convening of government, industry, and interested groups to create Model Best Practices for digital engagement and literacy, and that grantees be permitted to look toward such a resource to promote the collective impact and outcomes of BEAD and States' Digital Equity Plans. NTCA only cautions in this regard that these Model Best Practices, whether presented in the form of toolkits or recommended actions, should not be construed to foist unreasonable mandates upon grantees – particularly given the unique nature of challenges presented in distinct communities. Moreover, policymakers are urged to recognize that affordability of service, which is the most common barrier to adoption, is a highly individualized factor that cannot be addressed in all circumstances under existing programs, and that perceived relevance, another factor in adoption, ultimately rests within the control of the prospective user. Accordingly, while NTCA supports efforts to promote affordability and engagement, NTCA also urges continuing recognition that the final door to engagement is consumer choice, which is a factor beyond the control of the grantee.

Question 23: *How can NTIA encourage the design and implementation of Digital Equity Programs to support and advance the economic mobility of members of Underrepresented Communities/Covered Populations to support BEAD implementation and broader economic outcomes (e.g., through new skills,*

upskilling, re-skilling, career pathways, and other high-quality workforce development activities)?

Question 24: *How can the BEAD and Digital Equity Programs support and promote youth employment and skills building? What kind of programs, projects, and partnerships—based on existing evidence—would encourage and prepare youth to have the digital skills needed to be workforce-ready, but also to enter internet and internet-related careers?*

NTCA suggests that BEAD and Digital Equity Programs can empower economic development and mobility by connecting people with advanced jobs both within the broadband industry as well as within industries that rely on broadband. Technology is shaping the next generation of American jobs. Manufacturing, agriculture, and health care are among sectors that are demanding more highly skilled employees than in the past. The need for increased training and education is imperative for rural spaces. While some rural areas have enjoyed population increases in the past several years, others are challenged by static or decreasing population. Likewise, while some rural areas have exhibited reassuring recovery from the Great Recession, others continue to face the lingering impacts of economic struggle.

These changes come at a time when many jobs demand increased skills. It is projected that science, technology, engineering, and math (STEM) jobs will continue to grow alongside increasing demand for workers with middle-skill abilities. Career and Technical Education, or CTE, and traditional college settings can prepare students to meet changing job markets. In rural areas, broadband can be used to support secondary and postsecondary education and training: broadband-enabled services can be used to overcome instances in which small or insular areas lack sufficient economies of scale to support interest in advanced or specialized courses. Regional collaboration among educators and industry can tailor training to support local markets. These efforts can improve local economic stability, as data indicate that higher wages correlate to education. Small rural communications providers can play a critical role in these efforts.

NTCA’s rural provider members offer fiber-based broadband services that can support distance education, and many also work closely with educators and industry to develop opportunities for students to acquire STEM and middle-skills. Work-training programs, apprenticeships and focused classroom instruction can help develop students’ skills and lay the groundwork for economic opportunities in rural areas.

NTCA is active in these endeavors. NTCA has published *Rural Broadband and the Next Generation of American Jobs*,²² which explores the use-case for broadband and related technologies in evolving manufacturing and other industries. NTCA also worked with the National Rural Education Associate to produce “BOLD: Broadband Opportunities and Leadership Development,” a toolkit to raise awareness among K-12 students of careers in the broadband industry.²³ Finally, NTCA collaborates with Northwood Technical College (Rice Lake, WI) to provide broadband career instruction and apprenticeship-type experiences to build broadband the National labor workforce.²⁴

III. CONCLUSION

NTCA supports the complementary goals of expanding broadband deployment and increasing broadband engagement and adoption across all demographic communities. NTCA submits that these efforts are integral to ensuring that all people enjoy the many benefits of broadband and the access that broadband enables to increased capabilities, resources, and efficiencies across numerous sectors. Programs to address affordability, familiarity, and

²² Joshua Seidemann, *Rural Broadband and the Next Generation of American Jobs*, Smart Rural Community (Arlington, VA) (2019).

²³ See, BOLD: Broadband Opportunities and Leadership Development, NTCA–The Rural Broadband Association and National Rural Education Association (2023) (https://www.ntca.org/sites/default/files/documents/2023-04/SRCBOLDToolkit_0.pdf) (visited May 1, 2023).

²⁴ See, Northwood Technical College Broadband Academy (<https://www.northwoodtech.edu/continuing-education-and-training/professional-development/broadband-academy>) (visited May 1, 2023).

perceived relevance are necessary companions to efforts to deploy robust broadband infrastructure. NTCA suggests that numerous private sector and government data sources illuminate spaces where such efforts can deliver much-needed impact, and that provider efforts focus on strategies that reflect the needs of the communities they serve.

Respectfully submitted,

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