

# Arizona Technology Council (AZTC)

## Public Policy Guide 2021

### State and Federal Broadband Sections

<https://www.aztechcouncil.org/public-policy/>

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### State Broadband Sections:

#### Transportation/Digital Infrastructure

**Principle** – Arizona citizens benefit from improved safety, enhanced mobility, reduced travel time and bolstered commercial opportunities through multimodal corridors linking the state to Mexico, Canada, the Intermountain West and neighboring states. The corridors should include roadways and telecommunications pathways coupled with rail and energy rights-of-way when appropriate. The onset of the pandemic and subsequent restrictions on public convening have exposed major gaps and deficiencies in the availability, reliability and affordability of broadband internet connections in society at large and in rural areas in particular. These conditions have existed since the broad adoption of the internet as a fundamental utility for commerce and communication but today's absolute dependency on the network as people work, interact and learn from home has exponentially increased the priority of investing in new infrastructure, advanced technology solutions, and support services to help close these gaps. Arizona's ability to support and sustain its residents, businesses and institutions in these times of pandemic emergency while at the same time poising ourselves for ongoing recovery and growth depends upon our robust capabilities to connect citizens, businesses and institutions via reliable high-speed broadband.

#### Positions

**Emerging Technologies** – Continue to support Arizona Commerce Authority (ACA) initiatives such as the Institute of Automated Mobility and Smart State efforts in order to foster the advancement of Arizona's technology sector and drive the state's position as the leader in these areas. Advances in 5G, IoT, autonomous vehicles, smart cities, artificial intelligence, distributed ledger technology, augmented reality and rich mobile-content delivery will drive edge-computing deployment and massive growth in data center computational and storage capabilities. Promote policies that encourage the development and growth of new and emerging technologies that further establish Arizona as a global innovator. Support a regulatory environment that provides appropriate safety and protection standards but otherwise unleashes the power of human creativity and ingenuity.

**Broadband Regulatory Reform and Support Policies** – Remove or reduce barriers generating unnecessary costs or delays and otherwise inhibiting expansion of privately funded, high-speed broadband infrastructure that meets the needs of all Arizonans. Broadband must not only be available but also robust, redundant and affordable to meet the critical requirements of rural community economic development, business operations, education, workforce attraction and retention, citizens' access to services, telemedicine and public safety. Proactively coordinate with government at all levels to ensure rights of way are readily and affordably available, and support fair and predictable government permitting and oversight across jurisdictions to encourage private broadband investment and deployment.

Encourage and support field test opportunities for 5G and other advanced wireless services to help position Arizona as a living lab for these transformative communication technologies. Continue to ease regulatory burdens and simplify processes for deployment of wireless sites and vertical infrastructure, including micro-cellular transceivers and distributed access systems (DAS) for necessary densification, in light of the ever-increasing need for mobile connectivity, 5G infrastructure demands and other advanced wireless services. To the greatest extent practical, state, regional and local governments should make their current infrastructure of buildings, water tanks, towers and other structures available for utilization by wireless providers at reasonable costs and share an inventory of such assets to aid wireless industry planning and expansion. Overall, the policy for broadband should be pragmatic and recognize its unique economics: high fixed costs, spillover effects and modularity along with rapid technological change.

**State Government Broadband Planning and Initiatives** – Develop a statewide strategy and oversight mechanisms as the pandemic brings new waves of federal monies on top of traditional Federal Communications Commission/National Telecommunications and Information Administration and U.S. Department of Agriculture programs. One consideration is a Broadband Development Authority to coordinate and optimize Arizona communities, education institutions, nonprofit organizations and broadband providers use of these digital-equity funding resources. Ensure a level playing field for incumbent and new entrant broadband providers. Provide up-to-date state broadband mapping capabilities to track broadband coverage and fiber deployments integrated with demographic and community anchor institution details. Make the data and mapping tools publicly available through the AZGEO Clearinghouse and open sourcing.

Play a substantial role in helping to coordinate cross-jurisdictional infrastructure deployments with the Bureau of Land Management, U.S. Forest Service, Bureau of Reclamation and other federal, regional, state and tribal landowners to ensure timely and reasonable planning and permitting processes. The Arizona State Land Department has relaxed regulations to allow broadband deployment in utility rights-of-way and should consider further reforms to encourage broadband deployment alongside electric grid infrastructure and in all utility corridors, ensuring fair costing and ready access to use state rights-of-way. Consider additional regulatory reform and incentives to further drive rural broadband deployment by electric cooperatives. The Legislature recently enabled cooperatives to deploy deep fiber and serve residential and enterprise broadband customers.

Pursue a minimum broadband download speed goal of 100 megabits per second (Mbps) to guide infrastructure investments and program implementation to the greatest extent practical. Although the Federal Communications Commission defines broadband as an internet connection at a speed of 25 Mbps download and 3 Mbps upload, this may be inadequate for data intensive applications such as IoT, telemedicine and eLearning that will have ever-increasing bandwidth requirements.

Identify funding for deployment of fiber along Interstate 40 and other strategic segments. Arizona's Smart Highways initiative is progressing rapidly with the recent \$40 million allocation by Gov. Doug Ducey to the state Department of Transportation to complete fiber builds between Flagstaff and Nogales on sections of Interstates 17 and 19. The department should develop its business model, engage a public-private partnership to manage these and other new fiber investments, and work towards evolving Arizona's regulations to allow a wide range of public and private communication uses.

Continue strategic planning by the ACA and state to develop specific broadband implementation plans and initiatives that engage providers, communities, institutions and other stakeholders to generate actionable strategies while managing and driving the statewide expansion of broadband. The ACA should support regional and local governments in their planning efforts, identify opportunities for increased private broadband investment and deployment, and encourage public-private partnerships where advantageous. The Arizona Technology Council will work with the ACA, Office of the Governor and Arizona Department of Administration to help implement their strategic plans for broadband deployment to rural areas and digital access for all while helping drive regional and local government policies that encourage investment. That includes access to the use of right-of-way, infrastructure undergrounding requirements; mobile infrastructure expansion; and expedited/blanket building permit issuance.

**Leveraging ACA and Other Broadband Grants** – Empower the ACA to continue awarding and managing broadband grants to local partnerships and ventures with clear, achievable plans to provide or improve broadband services in unserved and underserved rural areas while also providing community assessments or technical designs, matching funds for federal and other grants, and specific project implementation investments. The ACA recently awarded \$3 million to provide matching funds to offset planning and construction costs for expanding broadband services. The state should recapitalize that funding via pandemic relief funds or legislative allotment for a follow-on tranche of \$10 million or more and expand and sustain the broadband grant program.

Allow ACA's state broadband director to maximize and leverage the use of E-rate funding alongside the Arizona Department of Education and Arizona State Library, Archives and Public Records so they can help bring broadband services to the many rural schools and libraries with unresolved broadband issues. ACA should act as a clearinghouse to identify and line up complementary broadband grants and other financial support. It also should cultivate public-private partnerships working towards an overall broadband infrastructure approach that meets the full range of needs for all rural communities in the most cost-effective manner, including policies and practices encouraging competition from multiple service providers in each community to serve rural residences, businesses, local governments, health care facilities and public safety.

**Arizona's Community Role in Broadband** – Activate broadband action teams to encourage local broadband deployment through streamlined and consistent processes for right of way use, planning and permitting to align with neighboring and municipal best practices from around the nation. To achieve common broadband goals, rural leaders must engage all interested parties, including service providers, governments of different jurisdictions, residents, business owners, utility service providers, landowners and other key parties. The Arizona Technology Council supports the Arizona Broadband Stakeholder Network as it facilitates opportunities for collaboration, coordination, information sharing and communication among key public, private and nonprofit stakeholders. In addition, the Council supports utilization of the Federal Reserve's Community Reinvestment Act funding for broadband and digital access remediation where applicable.

**Arizona Corporation Commission** – Examine and evolve the Arizona Corporation Commission's long-standing Arizona Universal Service Fund currently geared only toward legacy telephone support in high-cost areas. Modernizing the fund as many other states have would allow broadband deployment support in similar high-cost circumstances.

**Support Expansion and Retention of the Data Center Industry** – Continue to support and evolve a business-friendly operating environment and economic development programs to further Arizona's data center attractiveness and growth. The advantageous operating environment promotes the retention and expansion of enterprise and colocation data centers, which has contributed to unprecedented growth in existing and planned data center inventory. Other favorable factors include affordable and robust power with renewable options, excellent weather, a lack of natural disasters, good workforce availability and diverse broadband access.

**Digital Government Best Practices** – Adopt digital-government best practices for internal operations and delivery of citizen services while driving the increased use and adoption of high-capacity digital connectivity and technologies across major application sectors, including education, health care, public safety, e-commerce, e-government, remote work and mobile enablement. State, local and tribal government should continue to migrate to cloud services and use infrastructure, platform and software as a service (SaaS) offerings to provide staff and operational efficiencies at lower cost while ensuring reasonable cybersecurity and data privacy protections are in place.

**National Public Safety Broadband Network** – Leverage new FirstNet-driven infrastructure improvements, including fiber extensions, tower construction and small cell deployment to facilitate expansion of broadband for all in rural communities. FirstNet was approved by all U.S. states and territories and is being built out by AT&T to provide interoperable, wireless public safety communications for first responders. The Council supports policies for cost-effective and timely FirstNet deployment through easing regulatory requirements such as permitting and right-of-way access, as well as broad adoption by public safety agencies to provide extended benefits to rural Arizona.

## **Education, Workforce and Workplace**

**E-Learning** – Develop a coordinated strategy to promote and support adoption of innovative ideas and new technologies in libraries, K-12 and higher education, including blended learning, flipped classrooms, digital curriculum, virtual online labs, makerspaces, robotics instruction, and competency- and outcome-based e-learning approaches. Drive increased use of digital curriculum, STEM programs, and consortiums to better prepare students for the jobs of the future and improve learning outcomes for diverse student populations and needs. Expand opportunities for online teacher training such as ASU Prep Digital’s Arizona Virtual Teacher Institute. A significant cluster of e-learning and innovative educational companies and institutions already here could create the opportunity for Arizona to be a leader in innovation and transformation of educational technology and outcomes, including workforce development.

**Broadband Access** – Continue to enable broadband availability for rural K-12 schools and libraries, as well as higher education at predictable, reasonable costs while driving online education applications and collaborative activities to improve learning delivery, and development of workforce skills and pathways. The pandemic has revealed that K-12 and higher education are facing enormous, unanticipated challenges as they virtualize their services and enable remote participation as many remain unserved or underserved today. The homework gap is real and pressing for many disadvantaged students and their families, damaging their ability to participate in today’s socially distant learning environment. The recent award of \$40 million from the Governor’s Emergency Education Relief Fund to build new fiber infrastructure is an excellent and significant first step along a path on which we should continue.

Focus, plan and invest to resolve huge shortcomings that remain in student access to computing devices, software and technical support. Such support within schools and for students, faculty and administrators working remotely needs to be provided through a variety of mechanisms and programs. Because libraries especially have been focal points for community broadband access inside and around their facilities, libraries should continue to expand and be accompanied by public technical support services. Launch and fund programs to provide disadvantaged students with devices and applications that allow them to participate remotely.

Build on recent progress with E-rate programs by having the ACA’s state broadband director work with the Arizona Department of Education and Arizona State Library, Archives and Public Records. (E-rate programs support rural infrastructure expansion; availability of reliable, affordable broadband for their institutions; and telecom equipment and services.) Add staffing at the ACA to coordinate the aggressive pursuit of E-rate, as well as other grants and participation in industry programs. Have the ACA and the Office of the Governor engage national organizations and industry partners to help form and assist coalitions of school districts, counties and regions to successfully qualify for and implement E-rate projects.

## **Universities and Higher Education**

**Sun Corridor Network** – Encourage policies to enable the Sun Corridor Network, Arizona universities’ research and education collaborative network, to flourish and expand services to a broader base of users. A robust Sun Corridor Network enables discovery, innovation and research outcomes among postsecondary researchers and educators. This infrastructure is critical to attracting world-class researchers and research funding to Arizona. A future-proofed K-20 education technology infrastructure is essential to enable modern digital-learning technologies and methods necessary for a workforce equipped for the knowledge-based economy.

Support the network’s public-private partnership strategy to bring high bandwidth access to Internet2—the national education/research network and community—and the commercial internet to the Arizona K-20 community. Support the network’s participation in the Arizona Department of Transportation’s investment in highway corridor fiber deployments and their anticipated public-private partnerships to grow and manage a robust state network. This will lead to the improvement of rural broadband network capacity and availability across the region, as well as improved regional research collaborations. Successful rollout of these strategies will enable the network and its member universities—Arizona State University, The University of Arizona and Northern Arizona University—to bring better and lower-cost internet and Internet2 access to K-12 schools, community colleges, universities, tribal nations, government entities and other institutions by leveraging economies of scale and shared infrastructure while driving better broadband availability for all. Support the network’s National Science Foundation grant-funded efforts to interconnect Arizona’s community colleges in support of joint science-research drivers and STEM education initiatives.

## Biosciences and Health Care: Telehealth

### Principle

Telehealth and its integration into delivery of health care through electronic means should continue to be enabled and broadly adopted throughout Arizona. That includes educating and advocating for uniform deployment and enforcement of the new telemedicine laws at state and local levels, as well as facilitating expansion of the statewide telehealth infrastructure and ecosystem.

### Position

**Telemedicine and Telehealth** – Pay particular attention and invest in expanding telehealth infrastructure and the availability of the underlying technologies necessary for its robust application. Provide remote social services and behavioral health lifelines, as well as remotely connect families to isolated patients. With social distancing and selective quarantining the new norm, telemedicine is becoming even more necessary and critical for Arizona’s health care facilities, providers and patients in the wake of the COVID-19 pandemic. It will be especially important to health care providers increasingly depend on broadband to recruit, train and prepare the workforce of the future, as well as support staff in interprofessional training, collaboration and simulations, and emergency preparedness activities. Build on past support for participation in medical and nursing interstate licensure through legislation to join the National Council of State Boards of Nursing’s Advanced Practice Registered Nurse Compact enabling out-of-state medical professional to deliver telemedicine consults and services here, and Arizona medical professionals to similarly deliver teleservices to those in other compact participating states.

Continue to support expanded telemedicine parity, licensure and electronic establishment of doctor/patient relationship laws that are driving Arizona telemedicine adoption and enhancing access to health care. Additional refinements include amending existing policies and rules for implementing the new telemedicine laws from which patients and health care providers are already benefitting, as well as making Gov. Doug Ducey’s executive orders regarding telemedicine permanent. However, still lacking is uniform understanding of the new telemedicine parity and licensure laws that expanded service coverage and removed statutory and regulatory barriers, resulting in a lag in providers’ participation that negates their ability to reach their potential. We need to educate and advocate for uniform deployment and enforcement of the new laws at state and local levels by building a strong working consensus among providers, payers and users of telemedicine and telehealth services.

# Federal Broadband Section:

## Broadband, Digital Access and Digital Equity for All

The COVID-19 pandemic has exposed major gaps and deficiencies in the availability, affordability and reliability of broadband internet connections in the United States at large and in rural and tribal areas in particular. These underlying conditions have existed since the broad adoption of the internet as a fundamental utility for commerce and communication. The pandemic, however, has amplified the digital divide and reinforced the importance of having available, affordable and reliable broadband connectivity for all as government, businesses, the workforce, schools and health care systems have transitioned to digital platforms and practices.

The transition to digital learning by K-12 schools and higher education has been particularly difficult for many rural and low-income communities due to lack of broadband connectivity at home. Tribal nations and remote rural communities continue facing barriers to planning, funding and deploying communications services, including their remote settings, sparse population densities, and no or minimal access to middle mile and long-haul fiber connections.

The federal government recognized these mounting needs as reflected in recent, precedent-setting broadband policies focused on new investment and regulatory reforms. With the pandemic continuing to drive an exponential increase in citizen, business and institutional broadband needs, the government should further prioritize, invest in and evolve regulations, enabling new broadband infrastructure, advanced technology solutions and support services to help close these gaps and better provide sufficient digital access to all.

## Broadband Reforms and Initiatives Across Federal Agencies

### Principle

Given the number of federal agencies and programs involved in regulating the telecommunications industry with responsibilities to help remediate the digital divide, especially supporting rural broadband deployment, it can be challenging for state government, institutions, small providers and rural communities to identify and pursue appropriate federal investment and deployment opportunities. Businesses, local governments, electric and telephone cooperatives, tribes and other rural entities also face imposing burdens in applying for and managing federal funds.

Telecommunications reform has always come in spurts as we once again find ourselves on the cusp of incredible innovation and sweeping transformations.

### Positions

The Federal Communications Commission (FCC) and the National Telecommunications & Information Administration (NTIA), an R&D agency of the U.S. Department of Commerce, along with the U.S. Department of Agriculture's (USDA) Rural Utility Service (RUS) lead most of the federal wireless and broadband regulatory evolution, grant and loan programs, wireless spectrum availability and auctions, as well as project and industry oversight. The federal government should work to simplify and reform industry regulation while streamlining the processes and management burdens through which grants and loans are handled.

**Minimum Broadband Speeds:** The FCC, NTIA, RUS and other agencies should pursue a minimum broadband speed goal of 100 megabits per second (Mbps) download and at least 10 Mbps upload to guide infrastructure investments and program implementation to the greatest extent practical. Many broadband applications that promote rural, economic and community prosperity rely on speeds greater than the current 25/3 Mbps standard, especially telehealth, e-learning, business and other applications that upload large amounts of data. A scalable standard should be employed as application bandwidth needs and network capacity continue to grow.

**Broadband Mapping and Grant/Loan Determinants:** High-quality data is necessary to ensure public broadband investments and deployment efforts correctly prioritize areas that wholly or significantly lack access and are cost-effective. During the past decade, significant state and national broadband mapping efforts have been made, but they have been fraught with inaccuracies and issues. Under its current Form 477 reporting protocols, the FCC considers a census block served if a single residence in the block has access to broadband, which tends to grossly overstate

broadband availability in larger, rural census blocks. The FCC's use of "maximum advertised," not actual speeds when mapping broadband coverage further distorts reporting on the broadband speeds customers do receive. Inaccurate or overstated data prevents businesses, local governments and other entities from applying for and securing federal funds to assist underserved or unserved communities.

The Broadband Deployment Accuracy and Technological Availability (DATA) Act (S.1822) was enacted in March 2020 to require the FCC to change the way broadband data is collected, verified and reported. The FCC must now collect and disseminate much more granular broadband service availability data from wired, fixed-wireless, mobile and satellite broadband providers under a broadband serviceable location fabric atop which broadband maps can be overlaid to report detailed and accurate broadband service availability data by location. With congressional funding, the FCC should proceed as rapidly as practical to partner with state broadband offices and representatives who can offer invaluable information and on-the-ground perspectives regarding broadband coverage in their states. The FCC also must create better public mapping tools with exemplary user interfaces and experiences, high accuracy assurances, information on available providers and services, location and characteristics of community anchor institutions, and the overlay of demographic and open source data sets.

**Federal Grants and Loans:** Congress should ramp up funding for broadband grants and loans to providers, communities, education, libraries, telehealth and public safety that will be managed through FCC, NTIA and USDA programs. As we respond to the pandemic and commit to substantial new broadband infrastructure funding, it must be accompanied by agency and program process reform. There also should be reconsideration of long-standing barriers, including areas being incorrectly identified as "served" on broadband coverage maps, revisiting the concepts and metrics for unserved and underserved, excessive application and reporting procedures, and significant match or cash-on-hand requirements.

The USDA's ReConnect Program contains a requirement that areas designated to receive support through the FCC's Connect America Fund Phase II can only pursue ReConnect funding through the entity that is receiving FCC assistance. This is an example of the kind of restriction that should be reformed since it inherently limits deployment of adequate broadband capability in many rural areas.

**E-Rate Support for Schools and Libraries:** Efforts to promote flexibility within the FCC's E-Rate program should be supported to deliver home connectivity solutions for unserved and underserved students, and respond to connectivity issues associated with the COVID-19 pandemic. The FCC with congressional enablement if necessary, should open E-rate-funded networks to the surrounding community, provided E-rate dollars do not pay for these extensions. Funding would support bus and bookmobile Wi-Fi and other creative efforts that seek to bring broadband into the community to address the homework gap. The FCC should provide consistent funding for Category Two equipment and services while continuing to expand what is covered including adding coverage for necessary network security equipment and services. In addition, it should offer something similar to the recent E-Rate two-year special build program in which 17 states including Arizona that provided 10% matching funds were able to leverage hundreds of millions of dollars in new fiber infrastructure project funding to reach underserved rural schools and libraries. The FCC also should improve the Form 470 drop-down menu to eliminate applicant and service provider confusion, streamline and strengthen the competitive bidding process and clarify the transition of services and the gift rules.

**Simplify and Strengthen the Universal Service Fund:** The FCC's Universal Service Fund (USF) provides essential and ongoing financial support to ensure all consumers have affordable broadband access to services including schools, libraries and health care providers. The FCC should safeguard and improve the USF by reforming High Cost Support Mechanism and Low Income Support Mechanism currently geared only to legacy POTS telephone support to allow for broadband deployment support in similar circumstances. The FCC should give applicants the option to seek funding from the E-rate and RHC programs in a single application, reject the proposal to place an overall cap on the entire USF, and replace the outdated contribution mechanism with a more stable, long-term funding source for the USF.

**Reform the Rural Health Care Program:** Congress should substantially increase funding based on demand data and the FCC to improve the administration of its Rural Health Care (RHC) program that currently suffers from insufficient funding and a slow, cumbersome administrative process. The FCC and USAC should process RHC program applications faster with more transparency. The FCC should establish rates based on competitive market forces and actual costs. RHC program rules should be reformed to no longer discriminate against consortia.

**Land Management and Rights of Way:** Federal land management agencies—particularly the U.S. Forest Service, Bureau of Land Management and Bureau of Indian Affairs—play crucial roles in permitting and siting broadband infrastructure. The federal government should implement improved planning and permitting coordination between public lands management agencies and tribal governments, as telecommunications projects often cross multiple federal lands and tribal jurisdictions. The government should drive collaboration across agencies, simplify processes and improve timelines for permitting broadband infrastructure projects crossing federal and tribal lands and rights of way, especially those co-located with existing structures and other linear infrastructure, such as roads, rail lines, transmission lines and pipelines. States should be included to further coordinate, data share and ease multijurisdictional project planning and permitting, which has traditionally presented obstacles to private and public investment.

**Wireless Siting:** FCC wireless siting reform is key to U.S. 5G leadership. As wireless providers are preparing to invest hundreds of billions of dollars in these new networks, the escalating costs and burdensome procedures of siting new towers and transmitters have become significant barriers to continued American wireless leadership. In addition, densification with small cells necessary for 5G urban performance makes reform all the more critical. Each locality may have its own rules and timelines governing the permitting and installation of wireless infrastructure. This leaves wireless providers to navigate a maze of disparate policies and potential project timelines, often antiquated procedures, and at times impractical fee structures. The FCC previously set some national guidelines for states and municipalities regarding wireless infrastructure, but it now needs to implement a full-fledged national strategy and framework to enable and drive the wireless networks of the 21st century.

**Net Neutrality and the Carriage of Content and Packets:** Net neutrality is critical to maintaining a vibrant internet. A modern framework is needed that encourages the freedom and innovation that makes the internet the vital tool it is today. Today's FCC operates on the assumption that providing internet services—traditional or broadband—is not common carriage and cannot be regulated as if it is. Congress should settle the net neutrality debate by giving the FCC new authority over broadband to craft rules around blocking, throttling and prioritization. The FCC should be allowed to settle the long-running net neutrality debate by locking in widely agreed upon protections for internet traffic with clear rules of the road that prohibit providers from blocking or throttling access to lawful content. This would provide market stability, system transparency, consumer choice and freedom for online-service vendors to innovate and scale new applications and businesses.

**Free Up Spectrum for Innovation, Rural Broadband, 5G and IoT/IoT:** Wireless spectrum is a valuable resource that can help support innovative and cost-effective connectivity solutions across the nation. Auctioning additional spectrum licenses alone cannot meet the ever-growing demand for data and innovative pathways to market. Unlicensed spectrum is an essential complement to licensed spectrum and can open up new applications and markets in innovative and dynamic ways as Wi-Fi has ably demonstrated.

Wireless broadband use has skyrocketed in recent years, even more so during the pandemic. Demand for wireless data and broadband speed is expected to continue to grow exponentially. The FCC and NTIA should continue to free up additional licensed and unlicensed spectrum real estate by building on recent actions. They include the Educational Broadband Service Tribal Priority Window (2.5 GHz), the opening of Citizens Broadband Radio Service (3.5 GHz) and TV White Space (470-790 MHz) for licensed and lightly licensed use with Spectrum Access System services, and the opening of an enormous swath of spectrum (1.2 GHz) in the 6 GHz band for unlicensed use such as Wi-Fi 6E, LTE-style mobile and microwave backhaul. The two agencies should continue to pave the way for 5G, V2X for autonomous/connected vehicles, IoT/IoT for smart everything and more with low-band, mid-band and high-band (mmWave) spectrum reform and reallocations under licensed, lightly licensed and unlicensed strictures from sub-GHz to at least 100 GHz.

The FCC and NTIA should strive to increase competition and availability of services through additional and innovative access to licensed and unlicensed spectrum. They should maximize the potential for unlicensed use of TV White Space spectrum with its non-line-of-site capabilities and reach well suited to remote rural service provision, as well as allow schools, libraries, nonprofit organizations, local governments and tribes the opportunities to obtain unused educational broadband service and other spectrum licenses to serve rural markets.

# Congressional Broadband Reforms and Initiatives

## Principle

Congress holds the power of the purse, as well as sets the guidelines and rules by which federal agencies operate. There has been much progress since the Telecommunications Act of 1996, but a major update in governance expectations and structures is long overdue.

## Positions

**One-Off Rural Broadband Acceleration Funding:** As part of the federal government's pandemic relief assistance, Congress should allocate one-time funding focused on accelerating rural broadband infrastructure deployment in genuinely unserved and underserved areas where the economic benefit from increased connectivity is greatest, and use a multi-pronged approach building on existing agencies and their programs.

**Broadband Block Grants to the States:** Beyond providing substantial additional funding for traditional federal agency broadband grant and loan programs, Congress should allocate ample block grants to each state and territory for their executive branches to prioritize, distribute and manage in addressing general broadband infrastructure issues and responding to digital access and digital equity challenges their constituents are facing during the COVID-19 pandemic.

**Broadband Subsidies Direct to Citizens:** Congress and the FCC should establish a robust subsidy program to help low-income Americans gain connectivity, ideally through a simple and streamlined voucher or waiver system underwriting their broadband access costs.

**Tribal Broadband Support:** Congress and federal agencies should pursue policy, programmatic and fiscal opportunities to improve broadband connectivity on tribal lands, including designing federal programs to promote partnerships among tribes, states and various broadband providers. Federal broadband programs should allocate a designated portion of their available funding to supporting projects on tribal lands.

**Help Remove Regional and Local Barriers to Deployment:** Federal financial support should be used to encourage local jurisdictions to remove deployment barriers. Local and state governments should streamline access to public rights of way and utility poles, adopt "dig-once" policies, install conduits during roadwork, and ensure fees are based on costs and remain competitively neutral. Congress could go further by making receipt of federal infrastructure funds contingent on adopting a model municipal code that would streamline access to rights of way and municipal infrastructure such as utility poles and government buildings.

**Electric Cooperatives Take the Field:** Federal agencies should be encouraged to continue expanding the eligibility of electric and telephone cooperatives to pursue USDA and FCC broadband deployment program support, as cooperatives' existing infrastructure and access to rights-of-way can help promote low-cost connectivity solutions for rural communities.

**Leverage CAI-Funded Connections to Communities:** Federal programs often direct broadband infrastructure funding to community anchor institutions (CAI) such as schools, libraries, health care and regional government. These institutions could help leverage additional public and private investments in surrounding rural areas if Congress would legislate a more holistic funding approach that supports infrastructure deployment "to and through" CAIs.

**Promote Regional Internet Exchanges:** Congress should take steps to encourage the growth of regional internet exchanges, as they would help promote cost-effective, reliable broadband service in rural areas by serving as open interchanges and peering points available to all broadband providers serving the area.

**Other Action:** Congress should revisit and replace the legacy Communications Act to better define and refine definitions of services and modernize regulatory structures. Lawmakers also should reform the FCC's merger review process and provide funds necessary to implement the Broadband DATA Act (S.1822). Also, Congress should fund research and test beds for innovative new wireless equipment and services.