



Promoting Innovation Worldwide

February 4, 2022

The Honorable Alan Davidson
Assistant Secretary of Commerce for Communications
and Information and NTIA Administrator
National Telecommunications and Information Administration
U.S. Department of Commerce
1401 Constitution Ave., N.W.
Washington, D.C. 20230

**RE: Comments of the Information Technology Industry Council Responding to
NTIA Request for Public Comments on Bipartisan Infrastructure Law
Implementation (Docket No. NTIA-2021-0002; 87 FR 1122)**

Dear Administrator Davidson:

The Information Technology Industry Council (ITI) appreciates the opportunity to provide a response to the National Telecommunications and Information Administration's (NTIA) Request for Public Comments (RFC) on implementation of certain broadband grant programs funded pursuant to the *Infrastructure Investment and Jobs Act*, also known as the Bipartisan Infrastructure Law (BIL).

ITI is the premier global advocate for technology, representing the world's most innovative companies. Founded in 1916, ITI is an international trade association with a team of professionals on four continents. We promote public policies and industry standards that advance competition and innovation worldwide. Our diverse membership and expert staff provide policymakers the broadest perspective and thought leadership from technology, hardware, software, services, manufacturing, and related industries.

1. What are the most important steps NTIA can take to ensure that the Bipartisan Infrastructure Law's broadband programs meet their goals with respect to access, adoption, affordability, digital equity, and digital inclusion?

First, NTIA should ensure that programming rules maintain the Bipartisan Infrastructure Law's (BIL) appropriate focus on statutory speed objectives without creating preferences for certain technologies over others. Taking a technology-neutral approach will allow flexibility in determining each project's respective needs based on its unique challenges. A variety of viable technologies exist, which can help meet any deployment needs cost effectively, so it is imperative for NTIA to make this clear to applicants through the agency's guidance.

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Ensuring that proposals can be tailored to account for variables such as diverse topography, population density, deployment costs, and existing infrastructure, among others, will be vital to finally closing the digital divide and achieving ubiquitous, affordable, high-speed broadband for all Americans. Alongside fiber optic cable, next generation wireless technologies including fixed wireless service, 5G, satellite broadband, multi-tenant data centers, and others can provide flexible and robust network solutions in many areas of the country. NTIA has the opportunity to educate States and localities on various options that can be combined to work together to reach each and every household that desires broadband connectivity. These solutions can be scaled up as bandwidth needs increase, and they will be able to provide robust connectivity years into the future as the consumer and industrial Internets of Things (IoT) continue to progress.

Second, and as discussed in more detail in response to question 12, it is critically important for NTIA to address domestic content provisions related to commercial information and communications technologies (ICT) included in the BIL. Without strategic exceptions provided by NTIA, these provisions are likely to prevent network deployment from commencing, creating significant and unnecessary delays and blocking the acquisition of best-in-class, global technology that is essential to network construction.

Finally, as States will simultaneously be developing broadband and digital inclusion plans alongside cybersecurity plans to apply for security and resiliency funding from other federal agencies pursuant to the BIL, we encourage NTIA to consult with industry and these other federal stakeholders throughout the process of crafting the Notice of Funding Opportunity (NOFO). By including consultation with the Department of Homeland Security (DHS), and specifically the Cyber and Infrastructure Security Agency (CISA), in the NOFO drafting process, NTIA can work to ensure that States are able to address network construction and security holistically and effectively. Along with historic investments in buildout and deployment, the BIL's significant investments in security could be leveraged along with State broadband plans to ensure that newly deployed networks are adequately protected against attacks.

2. Obtaining stakeholder input is critical to the success of this effort. How best can NTIA ensure that all voices and perspectives are heard and brought to bear on questions relating to the Bipartisan Infrastructure Law's broadband programs? Are there steps NTIA can and should take beyond those described above?

The scheduled Listening Sessions provide an important opportunity for a wide range of potential stakeholders to share their perspectives on various elements of BIL implementation. In addition to these public comment periods, we recommend that NTIA consider hosting further stakeholder meetings with industry sectors throughout the process of completing the NOFO in order for industry representatives to provide ongoing updates related to supply chain challenges and other technical feedback. Regular engagement with industries that will be supplying critical equipment and services needed to effectively complete BIF-funded projects will ensure that NTIA staff are aware of any anticipated challenges in real time.

3. Transparency and public accountability are critical to the success of the Bipartisan Infrastructure Law's broadband programs. What types of data should NTIA require funding recipients to collect and maintain to facilitate assessment of the Bipartisan Infrastructure Law programs' impact, evaluate targets, promote accountability, and/or coordinate with other federal and state programs? Are there existing data collection processes or templates that could be used as a model? How should this information be reported and analyzed, and what standards, if any, should NTIA, grant recipients, and/or sub-grantees apply in determining whether funds are being used lawfully and effectively? The BIL appropriately provides States and Territories the authority to address unique broadband needs in a manner tailored to local conditions, taking into account population density, existing infrastructure, geography, topography, and socioeconomic factors. While NTIA must support these diverse needs, in order to achieve the greatest level of success, NTIA should consider encouraging States and Territories to adopt similar solutions to similar problems, provide tools and technical assistance for States seeking to harmonize their approaches, and facilitate the adoption of standardized templates, criteria, and data collection nationally.

As the BIL requires standardized reporting related to Broadband Equity, Access and Deployment (BEAD) program subgrantees and the areas they serve, NTIA should consider requiring standardized data collection from subgrantees in the application phase. There are various options for doing this, whether specifying particular conventions and formats for eligible entities to use in their awards process, providing templates for collecting applicant data, or building a program portal for eligible entities to voluntarily participate in, either directly or "as-a-Service."

Additionally, in order to promote accountability and transparency across the BIL funding programs, NTIA should consider a single, nationwide identification system for subgrantees. Providing a consistent form of identifying grant applicants will make it easier to understand which organizations and consortia are receiving funds across multiple jurisdictions. Consistent identification will also help facilitate performance measures testing.

Finally, to reduce the duplication of effort involved with vetting the same applicants in different jurisdictions, especially given the likelihood of differing timelines between entities, NTIA should consider providing a common set of operational and financial criteria for eligible entities to use and build on. Doing so would assist in qualifying subgrantees as being operationally and financially fit to deploy and operate broadband networks. Further, NTIA should encourage eligible entities to consider subgrantees as pre-qualified if the subgrantee has been qualified by another eligible entity and both entities use the common criteria. This sort of harmonization could help reduce the duplication of effort that would otherwise be required for the same applicants to be vetted across multiple jurisdictions.

7. NTIA views the participation of a variety of provider types as important to achieving the overall goals of the Bipartisan Infrastructure Law broadband programs. How can NTIA ensure that all potential subrecipients, including small and medium providers, cooperatives, non-profits, municipalities, electric utilities, and larger for-profit companies alike have meaningful and robust opportunities to partner and compete for funding under the programs?

The BIL specifically and expressly authorizes a range of applicants to be eligible to receive funding, whether they are traditional or nontraditional operators of broadband networks. As NTIA establishes its programs, the agency should ensure that States and Territories do not create artificial restrictions against certain types of applicants or preferences for others in their award processes, whether implicitly or explicitly. The grant applicants who can build the best networks most cost-effectively should have the ability to obtain funding awards, supporting the objectives of the BIL broadband programs. As an example, any provider that is on the Federal contracting schedule (GSA list) should be considered “qualified” and thus able to participate in programs that receive funding through the BIL, regardless of their contracting status with the State.

12. What steps, if any, should NTIA take to ensure maximum use of American-made network components and that supply shortages are addressed in ways that create high quality jobs for all Americans? What impact, if any, will application of the “Buy American” requirements in the Bipartisan Infrastructure Law have on supply-chain and workforce challenges and on the speed with which the nation can reach the goal of 100% broadband connectivity?

Our industry expects that the BIL’s investments in U.S. infrastructure will help to meet the demands of the 21st Century and improve the lives of Americans for decades to come. However, ITI is concerned that the newly expanded domestic content requirements contained within the BIL will cause many of these projects to struggle to ever get off the ground, let alone accomplish the objectives of bringing economic and social benefits to millions of Americans through better connectivity.

ITI’s member companies are proud of the innovative, critical technologies they supply to our economy and directly to the U.S. Government in some cases. The technology sector is characterized by high-paying U.S. jobs—for example, high-tech sector workers make up a state-level average of nearly 10 percent of the total U.S. workforce. These jobs contribute impressively to U.S. exports, accounting for a state-level average of nearly 30 percent of U.S. manufacturing exports and 12 percent of services exports.¹ These exports have enabled technology companies to lead all business sectors in terms of investment in the United States. Indeed, technology firms make up 10 of the top 25 American investors based on domestic capital expenditures.² Expanding beyond the immediate footprint of

¹ Information Technology Industry Council (2020), “Powering Innovation, Driving Growth: The High-Tech Economy in Communities Across America”: <https://www.itic.org/policy/ITI-Powering-Innovation-Report-Final.pdf>.

² Mandel, Michael and Long, Elliott (2019), “Investment Heroes 2019: Boosting U.S. Growth,” Progressive Policy Institute: https://www.progressivepolicy.org/wp-content/uploads/2019/12/PPI_InvestmentHeroes2019_V4.pdf.

what is typically classified as the “technology sector,” the gains afforded by ICT goods and services accrue within every sector of the economy.

However, the application of expanded “Buy America” rules pursuant to the BIL will present serious challenges to the successful deployment of projects receiving funds from NTIA and other agencies across the federal government. Manufacturers rely on, and consumers benefit from, the existing global supply chains that fuel commercial and consumer markets. The demand created by BIL projects and other market forces for commercial ICT cannot be met by the U.S. electronics production ecosystem alone at present, nor is it possible for manufacturers to upend existing worldwide networks of trusted suppliers—many of which are located in areas of U.S. allies and trading partners—on such a short timeline to meet the demand created by BIL-funded projects. Unfortunately, the Buy America rules do not take into account the cost of research and development done in the U.S., nor do they include the value of intellectual property or software originating in the U.S.

We also share concerns about the impact such an approach could have on efforts by the U.S. government and industry to support and protect more resilient supply chains. Geographic diversification has become a critical component of this effort as it lowers costs, promotes efficiency and productivity, enables access to top global talent and growing customer bases, and mitigates supply chain risks. Accordingly, any attempt to bifurcate supply chains solely for the purpose of competing for U.S. government procurement (viz. BIL-funded projects) would severely undercut the ability of companies to remain competitive in commercial and foreign procurement markets. Further, if foreign governments follow the U.S. government’s lead in expanding domestic content preferences, the ability for U.S. operations to compete for opportunities in those markets would be diminished, to the detriment of U.S. workers and continued investments in U.S. operations.

Given these considerations, ITI strongly encourages NTIA to develop a targeted exception for commercial ICT products to support the timely, cost-effective deployment of projects that incorporate the best available technologies from our global partners. While the law provides for case-by-case waivers, requiring discrete waivers for every individual purchase of commercial ICT may overwhelm federal, state, and local entities with requests and significantly delay and increase costs for critical projects. This is especially true as federal assistance recipients will be working across the country simultaneously to bring projects online. An agency-wide, targeted exception for commercial ICT products is the most effective means of supporting NTIA’s goal of ubiquitous broadband connectivity and ensuring the U.S. government and consumers alike continue to benefit from the incorporation of cutting-edge technologies into U.S. infrastructure projects. NTIA sought and was granted a similar waiver under similar circumstances in 2009 after the passage of the American Recovery and Reinvestment Act.

13. NTIA is committed to ensuring that networks built using taxpayer funds are capable of meeting Americans' evolving digital needs, including broadband speeds and other essential network features. What guidance or requirements, if any, should NTIA consider with respect to network reliability and availability, cybersecurity, resiliency, latency, or other service quality features and metrics? What criteria should NTIA establish to assess grant recipients' plans to ensure that service providers maintain and/or exceed thresholds for reliability, quality of service, sustainability, upgradability and other required service characteristics?

In considering whether to provide guidance and to establish requirements related to security and resiliency, ITI offers two primary considerations.

First, for networks constructed using taxpayer funds, NTIA should make the paramount importance of cybersecurity clear by ensuring that security is designed and built into networks from the outset, not bolted on after the fact after networks are already up and running. Doing so is particularly important given cyberattacks on network infrastructure and users continue to grow in volume and sophistication and will likely be amplified further through the 5G era and as next generation networks underpin our economy's digital transformation. NTIA should make clear that considerations related to cybersecurity in broadband networks are much broader than the concept of "supply chain security" and that it is essential to prioritize securing all traffic traversing network infrastructure, services, and applications.

Second, along with conveying cybersecurity expectations, ITI strongly encourages NTIA to consider the range of existing, globally recognized standards and security frameworks that equipment suppliers and service providers already employ. As we have consistently noted in other similar dockets, regulators and policymakers are rightly focused on security and reliability but should avoid adding duplicative requirements or instituting novel requirements in areas where numerous standards already exist.

Infrastructure risk management is a continuous process of assessing changing threats and adapting to new technologies, which increases the importance of taking risk-based approaches to security. For example, the NIST Cybersecurity Framework and ISO 27000 series standards have been widely adopted within the industry, and NTIA should consider including reference to these voluntary standards in any guidance related to BIF implementation. An effective, useful, and verifiable security control regime should be voluntary, flexible, and adaptable. Securing networks and equipment is not a static exercise but requires the ability to continually evolve along with emerging threats. As such, we recommend that any guidance developed by NTIA highlight these voluntary, industry-driven standards, without adding further layers of compliance that could inadvertently diminish the effectiveness of security practices.

14. NTIA is committed to ensuring that networks constructed using taxpayer funds are designed to provide robust and sustainable service at affordable prices over the long term. What criteria should NTIA require states to consider to ensure that projects will provide sustainable service, will best serve unserved and underserved communities, will provide accessible and affordable broadband in historically disconnected communities, and will benefit from ongoing investment from the network provider over time?

One of the keys to best reaching unserved and then underserved communities is to ensure that State project criteria build in appropriate flexibility to allow for each individual service scenario to be addressed with tailored solutions. Cost has been a major factor delaying buildout in the hardest to reach areas of the country, due to difficult geography and diverse topographies, lack of middle mile or other existing infrastructure, and lack of demand from low density populations. As States develop criteria for project applicants, they should consider criteria based on these types of factors, rather than weighting applications based on specific technologies. They should also consider technologies that not only increase access but improve performance, resiliency, digital service choice, and overall long-term cost. The same is true for meeting needs in underserved urban areas where there are other factors preventing deployment and uptake. In both cases, States should be required to address the needs of unserved areas within the technical parameters that the law has established and in a time frame that reasonably ensures success. It is only through a tailored mix of technologies that we can expect timely, ubiquitous connectivity in all parts of the country.

For example, in densely populated areas that already have existing infrastructure, such as middle mile or anchor institutions, but that may still lack service due to affordability barriers, certain wireless technologies may provide additional competition alongside fiber optic cable. However, in areas of mountainous terrain or other challenging topographies, fixed wireless services may be a reasonable, even preferable, option based on the relative speed of deployment and cost effectiveness. Other new wireless technologies have also proven effective at meeting and exceeding current consumer bandwidth and latency demands, along with providing ample capacity to meet demand in the future. Additionally, multi-tenant data centers, regardless of geography, enable competition and choice for all services that access the network, reducing barriers to entry based on cost. Regardless of the location and whether an unserved or underserved area is urban, suburban, or rural, the question of download and upload bandwidth criteria has already been settled in the law, and States should be required to set specific programming criteria based on a process that is tailored to a region's specific needs within the law's technical parameters.

Further, States should be required to utilize accurate broadband mapping data to determine areas of existing service. There are many industry and private sector sources of data available, and the Federal Communications Commission has been tasked with updating its broadband maps for purposes of better targeting deployment. States and localities have the opportunity to be forthcoming about the realities facing consumers on the ground, and in order to successfully achieve ubiquitous buildout through effective use

of the BEAD funding, they must prioritize unserved areas followed by underserved, pursuant to the law. Without accurate maps showing existing gaps, pockets of the country face the risk of being left on the wrong side of the digital divide despite historic investments in deployment.

15. In its effort to ensure that BEAD- funded networks can scale to meet Americans' evolving needs, and to ensure the public achieves the greatest benefit from the federal investment, NTIA seeks to understand reasonably foreseeable use cases for America's broadband infrastructure over the next five, ten, and twenty years. What sort of speeds, throughput, latencies, or other metrics will be required to fully connect all Americans to meaningful use over the next five, ten, and twenty years? How can the BEAD program meet our nation's broadband network connectivity needs in the future and what other benefits can Americans expect from this program and the networks it will help fund in other industries and across the economy? How can existing infrastructure be leveraged to facilitate and amplify these benefits? What are the best sources of evidence for these questions and for predicted future uses of broadband?

NTIA should provide guidance on potential use cases for States to consider when drafting State plans. The opportunity to expand access to healthcare services, make online learning more widely available, or expand other digital services only scratches the surface of the transformational potential of BIL-funded projects if they are effectively planned and implemented. It is important for NTIA guidance to approach these opportunities from a holistic perspective and not be limited to a myopic view of how individual network segments will be constructed.

To illustrate, this is an historic opportunity to take a holistic view of how anchor institutions and existing infrastructure around multi-tenant data centers support edge computing and all the public benefits that come from pushing more processing power further into the networks. NTIA should assist States with considering how this type of infrastructure can both be leveraged and expanded to increase a wide range of opportunities for their populations, including reducing latency and improving network performance, competition, resiliency, digital service choice, and overall long-term cost. Incorporating open infrastructures into the network construction process can help make virtualized networks scalable, both up and down, to address the specific needs of certain regions, and it can facilitate the inclusion of robust security features directly into the network.

With the understanding that over the next two decades networks will continue to deepen and bandwidth demands will increase alongside needed reductions in latency, the BIL establishes appropriate metrics that will allow for all consumer households and small businesses to receive robust connectivity that will last for the next five, ten, and even twenty years. If the BIL is implemented effectively based on the law's baseline requirements, the consumer and industrial IoTs, smart grid technology, next generation transportation solutions, and myriad online applications and connectivity use cases will come to fruition. The BIL recognizes that a mix of technologies must be present to tailor network designs that result in reaching every corner of the country and that provide equitable access for all populations. Appropriate implementation guidance from NTIA can

help States craft their broadband plans with this holistic vision in mind.

Taking this type of broad approach will allow States to see benefits across many sectors over the next 10-20 years, from manufacturing and transportation to health care, public safety, and agriculture, among many others. These innovations will improve outcomes for consumers as well as create opportunities for (or even expand) and strengthen the U.S. workforce. As smart devices continue to improve, and if modern networks are constructed in a flexible and thoughtful way, cities along with suburban and rural regions will all have the opportunity to develop smart infrastructure, regardless of where they're located. Whether connected through wired networks, 5G, fixed wireless service, multi-tenant data centers, or other new technologies, smart infrastructure can support use cases as varied as consumer and industrial IoT, enterprise 5G, automated vehicles, NextGen Wi-Fi, telehealth, and precision agriculture.

Thank you for providing the opportunity to comment on NTIA's implementation of the BIL. Please consider us a resource if you have any questions or would like further information useful to better understanding these and other matters.

Sincerely,



Joel Miller
Senior Director of Policy