

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)
)
Impact of the Global Semiconductor) WT Docket No. 21-195
Shortage on the U.S. Communications)
Sector)

**COMMENTS OF
NTCA–THE RURAL BROADBAND ASSOCIATION**

NTCA–The Rural Broadband Association (“NTCA”)¹ hereby submits these comments in response to the Public Notice released by the Federal Communications Commission (“Commission”) in the above-referenced proceeding.² The Commission recognizes in the *Public Notice* that multiple industries, including the communications sector, are experiencing a shortage of semiconductors and seeks comment on how this shortage, as well as supply chain challenges facing the communications industry generally, are affecting the communications industry and achievement of Commission priorities and initiatives. The Commission also requests input on steps the agency can take to ensure a more resilient supply chain for communications technologies in the future.

¹ NTCA represents approximately 850 independent, community-based companies and cooperatives that provide advanced communications services in rural America and more than 400 other firms that support or are themselves engaged in the provision of such services.

² *Wireless Telecommunications Bureau Seeks Comment on the Impact of the Global Semiconductor Shortage on the U.S. Communications Sector*, Public Notice, WT Docket No. 21-195 (May 11, 2021) (“*Public Notice*”).

NTCA welcomes the Commission’s awareness of and attention to supply chain challenges facing the communications industry and the opportunity to share insight into NTCA members’ supply chain challenges, as well as to offer methods for strengthening the communications supply chain.

I. NTCA MEMBERS ARE EXPERIENCING SUBSTANTIAL AND INCREASING DELAYS IN OBTAINING CRITICAL EQUIPMENT COMPONENTS.

The Commission first seeks comment on whether the communications industry has encountered a shortage of semiconductors and/or other communications equipment and the impact such shortages have had on the industry. NTCA members report widespread delays in obtaining communications equipment of all kinds, which extends not only to electronics (such as routers, optical network terminals, and customer premises equipment (“CPE”) but also fiber. The delay appears to have begun soon after the onset of the COVID-19 pandemic and has escalated since then. In 2020, NTCA members started to report delays in obtaining necessary equipment due to the equipment being manufactured in China and an inability to obtain equipment or equipment components from China, where production was either halted or there were shipping delays.³ At the same time, members also reported shortages caused by an increased demand for the equipment, especially fiber.

These concerns continue to the present, and if anything, have grown more significant over the past year. While members most frequently reported shortages or delays in obtaining

³ See, e.g., Building a More Resilient ICT Supply Chain: Lessons Learned During the COVID-19 Pandemic, An Analysis, ICT-SCRM Task Force (Nov. 2020) at p. 19, available at [ICT SCRM Task Force Report: Lessons Learned During the COVID-19 Pandemic \(cisa.gov\)](https://www.cisa.gov/ict-scrm-task-force-report-lessons-learned-during-the-covid-19-pandemic) (“In the first few weeks of February, shipping volumes out of Chinese ports started to plummet following national travel restrictions within China as fewer workers could get to their jobs at ports. ... In the first week of April, global container shipping lines cancelled over 160 sailings, compared to only 45 cancelled sailings the week before.”)

fiber or CPE, they also reported delays in obtaining network electronic components for fixed wireline, fixed wireless and mobile services. Nearly 60% of members who responded to a recent informal survey conducted by NTCA indicated an awareness that delays in electronic components appeared to be attributable to semiconductor shortages; these members also reported that the delays affected a variety of semiconductors, including systems-on-a-chip, microprocessors, memory chips and standard chips. The minimum delay reported by members was generally three to four weeks, with some members reporting a delay of greater than 12 weeks and, in some instances, not being able to obtain the equipment for the 2021 construction season.

The reasons cited for the shortages in electronics components and fiber appear to be several and these appear often to work in combination, with more than half of respondents citing each of COVID-19-related impacts, lack of available raw materials, limited manufacturing capacity, and increased demand as known causes for the delays. Indeed, even as COVID-19 has affected international trade and obtaining and processing of materials, the pandemic has also spurred even greater demand for broadband by consumers and businesses and more opportunities for network expansion – driving up demand for supplies to accommodate network construction and service activation at the same time that supply is constricting.

NTCA members are working hard to account for equipment delays to ensure they can continue expanding high speed Internet capability to more areas while also guarding against any service disruption. This has required ordering equipment far in advance, carrying greater inventory than a smaller operator typically would, and, in some instances, switching to a different equipment provider whenever possible. Other providers, however, have had to compensate for the delay by suspending efforts to build redundancy into their network or halting

network expansion efforts. While providers are working diligently and creatively to compensate for current equipment shortages and delays, the longer the shortage and delay remain in place, providers will likely be faced with making difficult decisions that will negatively impact their communities. Indeed, nearly 70% of respondents indicated seeing an increase in the price of supplies, which in turn logically affects capital budgets, the cost of services for consumers, and even the amount of grants, loans, or subsidies needed under federal and state broadband programs to promote the availability of advanced services. Accordingly, NTCA urges the Commission to work with other federal agencies and Congress to develop solutions to the equipment shortage before the progress made by providers and the Commission to expand high speed Internet service throughout the country disappears.

II. DELAYS IN THE AVAILABILITY OF COMMUNICATIONS EQUIPMENT IMPEDES THE COMMISSION'S GOAL OF DELIVERING HIGH SPEED INTERNET ACCESS TO EVERY HOUSEHOLD.

The Commission also seeks comment in the *Public Notice* on the impact of supply chain challenges on Commission priorities and initiatives. The most obvious impact of communications equipment supply chain challenges rests with providers' inability not only to carry out the Commission's goal generally of providing high speed Internet access to every household, but also, in at least some cases, an inability to meet deployment obligations under various federal and state programs.

Congress, other federal agencies and states are working to make funding available to expand broadband to all areas of the country. These initiatives hold great promise to help overcome remaining digital divides and connect millions of Americans. However, any such funding will be – and in some cases already is – contingent upon funding recipients meeting deployment obligations. If supply chain concerns affecting semiconductors or other supplies

such as fiber result in delays of the delivery of necessary wireless or wired networking equipment, this puts at risk fulfilment of these deployment obligations and ultimately the achievement of the goals of these new broadband deployment programs. Thus, the question of how better to promote and sustain a robust and resilient telecom and broadband supply chain must be seen as part and parcel of an effective national strategy for universal service and broadband infrastructure deployment.

A few less obvious, but still critical, priorities affected by the supply chain delays include (1) an inability to build redundancy into a network – critical for sustaining communications in the event of a network disruption caused by weather, cyber attack or equipment malfunction; (2) delayed replacement of aging or less capable equipment, leaving those subscribers connected only via slower speeds and older antennas or copper; and (3) the ability to deliver wholesale services such as backhaul for wireless service providers.

These disruptions to the Commission’s, and even providers’, goals come at a time when businesses and individuals have come to rely more than ever upon high speed Internet access for schooling, work, health care and even “connecting” with friends and family. Nearly half of NTCA members who responded to NTCA’s recent supply chain survey indicated that the challenges they are currently facing have impacted their ability to assist customers with remote learning, telehealth and other services that moved online during the pandemic. Accordingly, finding solutions to the ongoing supply chain challenges faced by communications providers is critical.

III. THE COMMISSION SHOULD CONSIDER SEVERAL STEPS TO PROMOTE THE AVAILABILITY OF COMMUNICATIONS EQUIPMENT.

In the *Public Notice*, the Commission correctly does not stop at recognizing that there are critical delays and shortages in the availability of communications equipment or even at identifying the impacts of the delays and shortages on the public, but rather, also requests comment on steps the Commission can take, either alone or in concert with other federal agencies, to address the supply chain challenges that have become widespread.

In response to this request, the Commission should begin by incorporating supply chain considerations directly within its annual Section 706 examination and report. Section 706 directs the Commission to “encourage the deployment on a reasonable and timely basis of advancing telecommunications capability to all Americans,” to examine annually whether this is occurring, and to take action to accelerate deployment “by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”⁴ If providers are unable to obtain supplies on a reasonable and timely basis and this puts at risk either the achievement of deployment milestones (either generally or under various agency programs more specifically) or the delivery of robust and reliable services at affordable rates, there could be no clearer cause for action under Section 706. Pursuant to this authority, the Commission should then work with the Department of Commerce and other agencies to consider and implement specific measures to stimulate a stronger and more resilient telecommunications supply chain, such as identifying and assisting an even more competitive manufacturing marketplace with greater domestic production and less reliance on trade and delivery routes that are susceptible to disruption or interruption.

⁴ 47 U.S.C. § 1302 (a) and (b).

Additionally, the Commission should consider steps it can take on its own to streamline and facilitate supply chain management. In particular, as part of its effort to promote a more secure supply chain, the Commission should act to simplify procurement consistent with security goals. For example, the Commission could also work with other federal agencies and officials to establish a clearinghouse to test communications equipment before such equipment enters the marketplace. Creating a clearinghouse where equipment would be tested for vulnerabilities and the source of the (often many) components making up one piece of equipment are identified would likely reduce some equipment shortages and resultant delays by eliminating the need for many providers to replace equipment later found to be a threat to national security at nearly the same time. Furthermore, an equipment clearinghouse that could test for vulnerabilities would not only better protect the many industries that have come to rely upon communications networks for their own supply chain but also would allow providers to invest in building out their networks and having secure CPE instead of expending limited funds on repairing older equipment.

IV. CONCLUSION

The Commission rightly recognizes that there is a shortage in the availability of semiconductor chips, as well as communications equipment generally, which is resulting in a delay in the availability and delivery of communications equipment. This delay is in turn negatively affecting consumers and businesses at a time when a high speed Internet connection has become essential to many parts of everyday life. Accordingly, NTCA applauds the Commission for seeking recommendations on methods of providing for a more secure and robust

communications supply chain and urges the Commission to act consistent with the suggestions herein.

Respectfully submitted,



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