LIGHT STREAM™

Statement by

Brent Gillum

President and Chief Executive Officer

LightStream

Buffalo, IN

Before the

United States Senate Committee on

Health, Education, Labor and Pensions

Subcommittee on Employment and Workplace Safety

Connecting Workers and Communities: Preparing and Supporting the Broadband Workforce

Washington, DC

May 3, 2022

Chairman Hickenlooper, Ranking Member Braun, and members of the Subcommittee, thank you for this opportunity to testify about workforce development in the telecommunications industry. I am Brent Gillum, President and CEO of LightStream, a small rural broadband and voice provider based in Buffalo, Indiana. LightStream, which began as the Pulaski White Telephone Cooperative, first began providing telephone service in 1956 and now provides fiber-based gigabit internet and telecommunications services to many parts of northern Indiana.

My remarks today are on behalf of LightStream, with input from NTCA–The Rural Broadband Association, which represents LightStream and approximately 850 other rural community-based carriers that offer advanced communications services throughout the most sparsely-populated areas of the nation. These cooperatives and small commercial companies serve the most rural parts of the United States, reaching areas that contain less than five percent of the U.S. population, but which are spread across nearly one third of the U.S. landmass. To give a further sense of the rural nature of this terrain, the average density of an NTCA member serving area is roughly seven subscribers per square mile.

The landscape of LightStream is 168 square miles of mostly flat farmland with several interwoven rivers, lakes, and streams. 90% of the service area is the original cooperative that averages 25 premises passed per square mile. 10% of the service area is a competitive environment that averages 310 premises passed per square mile.

LightStream began constructing a fiber network in 2010 that started with connecting two hospitals for improved healthcare in our communities. Since then, we have worked strategically on building a fiber network that reaches across our entire serving area. Through 2021, we've completed 50 square miles with 271 miles of fiber that passes 5,500 addresses. We have a remaining 120 square miles to complete at an estimated 357 miles of fiber that will pass nearly 4,000 addresses.

As a reflection of our efforts, LightStream was awarded as one of four providers by NTCA in 2021 as a Smart Rural Community Showcase Award winner. NTCA's SRC program is a network of communities supported by providers who are committed to creating opportunities in their communities through high-quality broadband service. Showcase Awards are given to those SRC members that best exemplify the program's goal of driving growth in rural communities. Because of access to gigabit speed internet, our rural area benefits from opportunities in education, healthcare, development, and more.

OVERVIEW

Access to broadband is the backbone of the 21st Century economy, and deploying networks capable of delivering this vital service to every American household has become a national priority. To do so, however, the telecommunications industry urgently needs an expanded trained workforce so that the United States can remain competitive in the ever-expanding range of sectors that rely on advanced broadband services. This requires us, as a matter of national policy, to have a strategic approach to meet workforce needs for broadband network infrastructure deployment, programming and system management, network maintenance, Internet of Things (IoT), and cybersecurity, among other supporting positions.

Yet, at a time of historic commitment by Congress and the administration to expanding broadband resources, our Nation faces historic labor shortages across numerous sectors. The telecommunications industry is no different in this regard and faces additional challenges as industry experts expect additional impending vacancies due to retirements to exacerbate shortages.

LightStream has experienced substantial changes in personnel over the past three years resulting in a more inexperienced staff. We have added more employees to help with the construction of our network, as well as utilize more contractors and subcontractors. There is more work than available staff.

We applaud Congress and the administration for passing and signing into law the bipartisan Infrastructure Investment and Jobs Act (IIJA), which among other things created the $42.5 billion Broadband Equity, Access, and Deployment Program within the National Telecommunications and Information Administration (NTIA). Through this program and other federal and state efforts like it, millions of Americans stand poised to gain connectivity for the first time, while others will see necessary upgrades made to their networks in order to keep pace with ever-increasing consumer bandwidth needs. These investments will greatly improve the delivery of telemedicine, virtual education, advanced agriculture technology, security, and businesses alike. However, the increased demand for a skilled telecommunications workforce comes at a time of already limited labor market in every state around the country. In short, the ultimate success of these efforts to expand the availability of broadband will turn substantially on ensuring skilled workers and sufficient supplies are available to build these networks.

A concerted effort by industry, government, and educational interests will be needed to develop a skilled workforce able to meet this challenge and fulfill this national mission by deploying next generation wired and wireless networks. To develop the telecommunications jobs needed in the short-term and mid-term, Congress could help by bolstering the capabilities of post-secondary education, including two-year and four-year colleges, and other institutions and providing support for employers to expand registered apprenticeships and associated technical instruction and certification costs. As a long-term matter, efforts to engage students at the secondary level will be important, as well.

UNDERSTANDING WORKFORCE SHORTAGES

Identify demand

While workforce shortages in the telecommunications industry are well documented, it is important to note labor shortages in construction and technicians are compounded by workforce constraints that affect vendors that supply telecommunications equipment, contributing to larger supply chain issues. And, once a network is built, broadband providers need a strong and stable workforce to manage and maintain that network, including cybersecurity specialists, computer specialists, and electrical power line installers. It is necessary for a coordinated effort between federal, state, and local governments, the telecommunications industry, and educators to quantify the demand in order to train a new workforce to keep track with the nation's deployment goals and for providers to be able to meet program requirements.

We welcomed the IIJA's inclusion of a provision to direct the Federal Communications Commission (FCC) and the Department of Labor to establish an interagency working group, which includes NTIA and the Department of Education, to prepare a report to Congress recommending steps to take to address the workforce needs of the telecommunications industry by January 14, 2023. While the interagency working group continues its work, we hope a goal of the group is to quantify these shortfalls in order to effectively and efficiently close the gap.

Overcome barriers

For many prospective telecom industry workers, a first step is access to local or regional schools that offer the right training and education for telecommunications professionals. Even where distance education can supplement classroom instruction, prospective workers in telecom need tactile, hands-on experience in supervised field or lab settings to acquire the skills needed to deploy and maintain the physical network plant facilities. Preceding all of this, however, is a need to enlighten students to the broadening career paths that are available in the telecom industry and establishing the educational structures in which students can gain access to the education and training necessary to pursue them. This can help resolve issues of prospective students or workers who may be unfamiliar with the telecommunications sector and its career opportunities, and so may not seek a path to the industry.

LightStream has explored skilled workers for several years with little success. The closest post graduate school with a specific telecommunications program is a trade school located more than three hours from our headquarters. To help gain interest, we started a scholarship offering in 2020 that has yet to receive an applicant. Additional resources for these programs would be instrumental to companies like LightStream that serve rural America.

Moreover, attracting workers to live and work in rural or remote areas poses its own challenges. Rural providers are committed to "growing their own" and encouraging local talent to stay. Locally based workers who live in the communities they serve ensures rapid responses to service disruptions. Broadband operators and their customers want to be sure that technicians are available and do not need to travel long distances before work on the network can begin. This is necessary to ensure that customers do not experience inconvenient service disruptions that can affect everything from work, to healthcare, to educational endeavors.

CREATING DEVELOPMENT OPPORTUNITIES

Exposing students to telecommunications job pathways at an earlier point in their education could increase interest in the profession, starting in middle school and continuing through high school. We could do this by leveraging existing STEM programs. For high school students specifically, including an emphasis on these jobs through electives, advanced placements courses, and post-secondary education opportunities will help to build a strong, resilient workforce for the industry while also minimizing the amount of debt students may need to take on to further their education.

Other measures Congress may consider would be to promote the "learn and earn" model, whether through paid apprenticeships or internships. The federal government can assist in supporting such programs or individual students in seeking these training programs. It could also look to support individual state efforts, like those with reimbursement programs for employers who pay for their employees to further their trade by being reskilled or upskilled.

Lastly, taking lessons learned from the last couple years where millions of Americans have worked and learned from home, educators should consider a coordinated remote or a hybrid-learning model to further extend opportunities to students who may not be able to relocate due to a limited income or a desire to remain in their communities while they further their education. Additionally, an all-remote option may be well-suited for professionals looking to complement current skills, especially those living in rural communities without access to a local trade school, community college, or other accredited training and certificate programs. These virtual classroom experiences will often require some complementary hands-on experience that can be provided through apprenticeship or internship opportunities, or lab work. Nonetheless, making higher education more accessible to everyone through online learning where appropriate may help to bolster the telecommunications workforce, especially in rural areas.

ESTABLISHING A WORKFORCE DEVELOPMENT PLAN

Forging Partnerships

We need like-minded organizations to promote and facilitate training and employment opportunities within the skilled trades of the telecom industry. In addition to government partners, educational institutions, and telecommunications providers and the greater industry, opportunities with state and local development offices or non-governmental organizations should not be overlooked in the larger strategy to meet workforce needs. These organizations could provide additional support, such as tuition relief or stipends for students training for jobs within the telecommunications industry. Furthermore, educational programming should look to incorporate industry professionals in teaching coursework or developing curricula. It is often the first-hand experience that proves most valuable once in the field, especially, if those students are paired with a career professional who has spent decades learning the trade.

Finally, we should be creative in meeting students and prospective workers where they are and creating the pathways necessary to bring them into rewarding careers in the telecom industry. It is those principles that many successful programs already in place across the country use to address workforce needs, and these should be viewed as a model for expanded efforts. By way of

example, a group of local rural providers in Kansas took note of student preferences to enjoy traditional four-year college experiences, such as sports and access to campus amenities. That group of rural broadband providers worked with a local technical school to provide students at the two-year school with campus ID and access to services at a nearby four-year college. And, at the same time, those providers identified promising students and offered support for tuition and book fees. Partnerships like these can be expanded and can include partnerships among government and non-governmental parties. Another example is a not-for-profit development organization in Vermont that has explored stipends for students transitioning from an existing job to the telecom industry. These stipends are intended to ensure that students training for telecom positions do not suffer a wage gap if they need to reduce work hours in order to attend school.

While no single model can provide a "one size fits all solution," the rural broadband industry has taken positive steps to formulating a menu of possibilities. As Congress considers funding programs to bolster a telecommunications workforce, it should allow for flexible program funding in order to accommodate innovative models that safely and effectively fill workforce needs. It is through this increased coordination and support from Federal, state and local sectors that we can develop these programs and, in turn, create a robust, energized and motivated workforce. And, along with it, the many industries that will improve and thrive with broadband connectivity.

CONCLUSION

The telecommunications industry has documented great workforce needs across the industry from network construction and maintenance to cybersecurity. In partnership with Congress, state and local governments, educational institutions, and others, we can develop a skilled telecommunications workforce to help providers of all sizes deploy robust networks and help to keep them resilient and more secure. We can achieve that goal by 1) understanding workforce needs by quantifying vacancies and projected demand; 2) addressing barriers to telecommunications job pathways, particularly access to educational or training facilities in rural communities; 3) creating workforce development opportunities in secondary and post-secondary schools by developing new and leveraging existing curricula, STEM programs, apprenticeships, and online learning; and 4) forging local partnerships with industry, governments, educational institutions, and other development organizations.

Community-based providers like LightStream are deeply committed to the customers we serve and, given our experience and success in serving the most rural areas, we are critical components of any strategy seeking to achieve the nation's broadband workforce goals. We look forward to working with policymakers and other stakeholders to build a strong telecommunications workforce so we can ensure that all Americans have access to affordable and reliable connectivity.