

TESTIMONY OF THE PROGRESS AUTHORITY

TO

THE CENTER FOR RURAL PENNSYLVANIA

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Anthony J. Ventello, Executive Director

The Progress Authority

I want to first thank the Center for Rural Pennsylvania and its board of directors for conducting today's hearing to address rural broadband needs.

The Progress Authority – A Regional Voice for Economic Development

The Progress Authority is the certified designated economic development agency for Bradford and Susquehanna Counties. It is a grass roots economic development agency formed by local business people and government as a true public/private partnership. 2018 also marks the Progress Authority's 25th year as an IDA/IDC and general-purpose authority. Like many economic development groups, it strives to facilitate private investment and job support. The Progress Authority identifies key issues that must be overcome to promote true economic development, and its leadership continually meets with area business leaders and officials to identify vital needs to improve rural development. We are very aware of and have reviewed the Center for Rural Pennsylvania's assessments and surveys on broadband detailing the challenges in rural communities.

Generally Available, Affordable High-Speed Broadband Capabilities –

The Need and The Challenges

The Northern Tier counties are among some of the geographically largest in the state. It is no secret that lack of capacity for useful and reliable broadband is plaguing many in our rural counties. Like many rural service delivery systems, there are not enough residents and businesses along the vast stretches of roadway

to make a user-driven business plan work. It is no secret that for many years, telephone companies have relied upon subsidies to assist them in their provision of last mile service. Still, gross deficiencies in widespread, affordable, coverage persist, because insufficient attention has been paid by the commercial sector and relevant governmental agencies to the widening gap in middle-mile infrastructure. The stakes could not be more serious, and unfortunately contribute to the Progress Authority's interrelated concerns over inadequate public safety, disparate access to governmental and educational services, haphazard or non-existent recourse to telehealth and other personal and business activities of daily living, and lagging rural economic development. Farmers and rural families struggle with inadequate service.

However, both the lack of middle mile investment and increase in bandwidth demand have created a dilemma that far exceeds any one issue for rural communities. Rural citizens, governments, schools, and businesses have no less need for quality, reliable broadband than anyone else. Like it or not, our lives now revolve around quality broadband.

Unfortunately, traditional subsidies have been targeted to internet service providers in the hopes that funding them will result in increased end user bandwidth. In many cases, when funding becomes available, it requires a minimum speed and timetable for development; however, although we in Bradford County have waited

10 years for private sector development, the 2008 standards of 1.5mbps have not been reached; our experience in Bradford and Susquehanna Counties has been that supporting the service providers, without targeted, time-sensitive deliverables in the way of middle-mile infrastructure investments, has not resulted in any considerable improvements to broadband accessibility. The Progress Authority has been told by service providers that the speeds our businesses and residents realistically need cannot be met within a meaningful timeframe or at meaningful rates. Adding insult to injury, there is also a digital chasm between what the minimum standard speeds for bandwidth are (as defined by the FCC and state laws), and what is realistically required for the number of connected devices in today's businesses and households. Thus, collectively, the digital divide in the Progress Authority's jurisdiction broadens, because the state government's aspirations remain diffuse, the standards to which the providers are held are not meaningfully updated for modern demands, and the expectations of service providers remain unclear or incomplete. Collectively, these problems have resulted in any infrastructure money the service providers may have available to them not being used efficiently, due to the difficulty for service providers to provide *both* the middle and last mile projects (based, among other things, on the number of users per mile of service coverage).

The Role of Fiber Optics

It is the opinion of the Progress Authority that the rural dilemma described above could be improved, if not eliminated, with an appropriate public/private partnership committed to the construction of the critical middle mile, which does not truly exist currently. In light of ever-increasing modern demands, and the unavoidable topography and diffuse population of northern Pennsylvania, there is no substitute for fiber optics as the foundation to support numerous forms of communication with unlimited capacity. From the day it was invented, fiber optics has been the standard technological regime under which the vast majority of all telecommunications and related applications continue to be developed to this day. Because of this fact, fiber optics, and technology backed by fiber, are and will continue to be the highest and best uses of funds for broadband development. While it would be admittedly a long-term investment, funding for middle mile development (with the potential for virtually limitless extensibility and growth) is critical: if the middle mile is available, various types of end users could take advantage of an otherwise unavailable or extremely expensive and limited services, and with that advantage, bring rural Pennsylvania firmly into the 21st century and beyond.

The Progress Authority's Proposed Solution – An Extensible Model

I could go on about our poor service and the issues with broadband; however, I am here to propose a solution. Knowing that there are so many interested parties

between electric infrastructure, natural gas, governmental and public safety bodies, educational entities, and the public, it only makes sense to facilitate all of these needs by developing the middle mile thus changing their various cost structures.

Recognizing the critical problem, the Bradford County Commissioners commissioned a detailed engineering study through the Progress Authority in February 2017. After consultation with engineering and legal professionals, the Progress Authority has for the past year been taking steps to develop what it dubs “the Bradford County Open Access Network.” The Bradford County Open Access Network, once developed, would be a fiber optic “middle mile” addition to the network to improve, connectivity throughout Bradford County. This strategic network will specifically construct the truly redundant middle mile that the private sector has been unable or unwilling to construct. With the development of redundant dark fiber loops throughout Bradford County, the Progress Authority can construct a long-lasting, self-healing backbone to support all means of communication. Emergency services microwave, cell phone tower service and wireless communication will be directly strengthened with a well-positioned and impactfully sized fiber optic network.

Using the backbone of our electrical distribution system, Phase I of the area’s specific engineering design is complete, and the submission of 3,000+ pole permits

has taken place. The Progress Authority also has requested a PUC declaratory order, to determine whether the dark-fiber infrastructure project would be deemed a public utility and whether any particular permission from local exchange carriers is necessary; Interestingly, in conjunction with the PUC filing, the Progress Authority notified Bradford County's Local Exchange Carriers (LEC), of its request for those LEC's to offer broadband speeds of 10 gigs for commercial customers and 1 gig for residential customers to gauge their willingness to provide those speeds. Their responses have been less than hopeful, though not entirely unexpected. Building out fiber networks in our area any time in the near future apparently does not fit their business models. Their target returns on investment are not met in rural areas.

Where the LECs do not tread, the Progress Authority will. It will construct what the last mile service providers do not want to construct, due to the high cost and the sparse rural density. The redundant dark fiber network will be open to all last mile providers and those who will light it themselves. This opens the possibility for existing, smaller service providers, to compete as well as bring additional service providers to the area. The only condition is that no one user can occupy the majority of the network's resources.

I spoke earlier of Phase I. The Bradford County Open Access network is proposed in 3 phases. As mentioned, Phase I is into implementation right now. Phases II and

III are intended to go into final design in the coming years. All 3 phases are estimated to cost \$10 million in total. Additionally, Susquehanna County is awaiting funding for planning, engineering and ultimate construction of their own network.

We recognize that no one funding source can accomplish this alone; that is why a public/private funding mix is critical. We ask that serious consideration be given to providing rural funding for middle mile construction, available to governmental agencies, non-profit organizations or private companies, , in recognition of the fact that purely private infrastructure development is only profit driven and to date has not adequately happened in our rural areas. Much like sewer and water infrastructure, broadband infrastructure development needs to be subsidized, and has been proven in other parts of the United States[ZG1].

The critical component now is investment in the rural model that is being developed in Bradford County. With careful engineering the model can be duplicated throughout rural Pennsylvania. Let us support service providers by constructing what has not made good business sense for last mile providers. Quality broadband is well beyond a useful amenity, it is critical to everyone's life.

While this topic is very important in my career, it is even more important to the personal life of one of my colleagues Chris Brown. He and his wife have four daughters, one of which has a terminal illness, Leigh's Syndrome, which is a Mitochondrial Disease. This disease affects her body's ability to create energy which in turn makes every day tasks nearly impossible including breathing on her own. She has a tracheostomy, on a ventilator, and also is wheel chair bound. She also has a very compromised immune system and travelling out in the public is very dangerous for her health. The Browns are currently able to care for her in their home through the use of home nursing and technology. All of her equipment is wifi enabled and can be read and calibrated by her medical team from their offices making unnecessary travel less of an obstacle. When her health deteriorated to the point of needing the tracheostomy, she was in the hospital for two months. They would not have been released to bring her home if they didn't have access to this technology.

While her challenges and prognosis are difficult, their daughter is still a 7 year old girl at heart and she had a very strong desire to attend school and have friends like her twin sister. With her condition, actually attending school was impossible. So they researched a way that she would be able to enjoy the classroom experience and not have to be exposed to the germs of a public school. They found a solution that gave them everything they were looking for. She utilizes a robot that stays in

the classroom and is controlled by their daughter at home via an ipad device. She can see, hear, and interact with the teacher and her fellow students and they can enjoy the same interaction with her. The robot is easily controlled and moves freely throughout the school by utilizing her ipad. It has been a huge success! She is thriving even in her less than ideal circumstances. The only way this was possible was because of adequate broadband internet service. When the Browns started with the robot, they had cable internet that was more than capable of handling the bandwidth and speed requirements to run this system. A year ago, the family moved to a house that was not serviced by cable internet. They were forced to go with DSL as their only option. To ensure that they had reliable, and dedicated broadband internet the family had to go through extraordinary measures and install a bonded line into their house. They were fortunate to be near one of the few telecommunication cabinets in the county that is actually fed by fiber and not copper. If they were not near this cabinet, they would not have had adequate internet service to run her medical equipment or her robot technology. There are many families in our community that are not as fortunate as we are. Their only option is spotty, unreliable dsl service and while their needs are not typically life and death, their everyday lives are hindered by their unreliable service.

Finally, my wife recently sat in front of our home computer and was very frustrated with her inability to pay our internet/phone bill online. After numerous

failed attempts, she resorted to calling their customer service representatives on the phone. What made her even more angry was that the only solution that the provider suggested was that she set up automatic payment for our bill. She will be damned before she sets up a guaranteed payment for their lousy service.

Even more upsetting is the amended services contract that is attached to the bill from the service provider that changes the terms and conditions of the contract. Due to poor connectivity, my wife was unable to download this amended contract. Upon accessing the contract at a location that actually has adequate internet service, we found that some terms changed drastically. There is no longer a guaranteed minimum speed under the contract, it indemnifies the service provider, and the revision makes the customer waive their rights to take legal action against the provider including class action lawsuits. The customer automatically agrees to the new terms and conditions by merely paying their bill. How ironic both of these circumstances are to both parties? The service is so poor that you have difficulty even paying your bill and you cannot actually download the new customer agreement. But by paying the bill, you agree to allow for this poor service. What is a customer to do?

I thank you for the opportunity to present today's testimony.