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Rural Pennsylvania

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BARRY L. DENK, DIRECTOR

Good Morning Chairman Phillips-Hill, members of the Senate Communications and Technology Committee, and members of the House of Representatives. Thank you for the invitation to be part of this hearing today to discuss the issue of broadband connectivity in the Commonwealth and, in particular, our rural communities.

I am Barry Denk, director of the Center for Rural Pennsylvania, which is a legislative research agency serving the General Assembly.

Without a doubt, broadband connectivity is a critical part of our infrastructure in Pennsylvania. Unlike our bridges, highways, rail systems or waterways, however, broadband is not something that is readily visible to determine access and availability. But more and more, it is **THE** pathway for us to conduct business transactions, access health care information, be engaged in lifelong learning, entertain and inform ourselves and, participate in government be it to file our income taxes, submit funding applications to state or federal agencies, communicate with our elected officials and, as we now know, participate in the 2020 Census.

According to the 2019 Best States rankings published by *US News and World Reports*, Pennsylvania's Infrastructure ranked 29th. Within the category of Infrastructure, Internet Access carried 1/3 weight in the total score. Within Internet Access, Pennsylvania ranked 34th in the nation for Broadband Access.

At the national level, many organizations have clearly stated the need for, and value of having broadband connectivity – especially for rural America.

In July 2019, the American Farm Bureau Federation issued a policy paper titled *Broadband Deployment*. It stated, "Farmers and ranchers depend on broadband just as they do highways, railways and waterways to ship food, fuel and fiber across the country and around the world. Many of the latest yield maximizing farming techniques require broadband connections".

In April 2019, USDA Secretary Sonny Perdue unveiled the report, *A Case for Rural Broadband: Insights on Rural Broadband Infrastructure and Next Generation*

Precision Technologies. The report finds that deployment of broadband and precision agriculture technology throughout the U.S. could result in at least \$47 billion in national economic benefits every year.

In testimony before the US House Subcommittee on Healthcare and Technology, Brookings Institution Vice President Darrell West stated, “Broadband is a crucial driver of job creation and economic growth. A World Bank study of 120 nations found that each 10 percentage point increase in broadband penetration adds 1.38 percent to a country’s gross domestic product”.

He further stated, “The applications enabled by the Internet are especially important for small businesses and rural communities because they are crucial platforms for innovation in health care, education, entrepreneurship, and communications. High-speed, universal broadband furthers productivity and generates powerful new efficiencies and economies of scale.”

Additionally, the Hudson Institute released, in 2016, *The Economic Impact of Rural Broadband*. Among the findings:

1. Rural broadband companies contributed \$24.1 billion to the economies of the states in which they operated in 2015.
2. \$8.2 billion, or 34 percent of the \$24.1 billion final economic demand generated by rural broadband companies accrues to rural areas; the other 66 percent or \$15.9 billion accrues to the benefit of urban areas. (***This is important to note and to reinforce – As rural PA succeeds, so does the entire Commonwealth.***)
3. Rural broadband supported over \$100 billion in e-commerce in 2015 with the largest share in manufacturing and nearly \$10 billion of that total involved retail sales.

For the education of our youth, the need for quality broadband connectivity is critical. According to a 2018 U.S. Department of Education report, 18 percent of 5- to 17-year-old students in remote rural school districts have no broadband access at home, compared with 13 percent in cities and 7 percent in the suburbs. In total, the homework gap hits some 12 million school-aged kids nationwide, according to a 2017 congressional report, “America’s Digital Divide”. One national study showed that 7 out of 10 teachers give homework assignments that require access to the internet.

To provide a Pennsylvania perspective on the need for, and benefit of, broadband, I will summarize comments from several legislative-sponsored forums over the past year.

In 2018, the Center for Rural Pennsylvania sponsored a broadband hearing in Wellsboro, PA – Tioga County. Among the 16 testifiers were a farmer, a doctor, an educator and owner of a tourism lodge.

Mr. Gerald Port owns and operates Port Farms in Erie County – a business established in 1897. It encompasses 250 acres of crop farming and functions as an agritainment business, a Christmas tree operation and a venue for weddings. His internet speeds range from 1 to 2.5 Mbps at a cost of \$60 a month. He stated that the lack of high speed internet affects every part of his business. In the Q&A session following his comments, he stated that he drives an hour to his accountant with all his financial information on a thumb drive because it simply takes too long for him to try to transmit that information over the internet.

Dr. Robert Gillio, medical director for population health at J.C. Blair Hospital in Huntingdon, PA offered these personal experiences. He moved to that area in 2017 and his home is 4 miles from the hospital, 3 miles from the county's largest employer, and 3 miles from an internet service provider technology office. He had been unsuccessful in finding a provider for internet access at a speed usable for any telemedicine or education purposes. He noted his wife taught online for a community college. One request to an ISP for an ISDN line resulted in the response that they have one circuit board serving its customers and it is full. A request for a higher level of service was met with the reply, "That service is not scheduled to come to your area". An inquiry to the ISP located down the road resulted in a quote of \$100,000 to pull a wire to the neighborhood and a discount of \$1750 per neighbor who would sign up. Even if the 20 households in his neighborhood agreed, there still remained a charge of about \$60,000 just to get started. Dr. Gillio did find a workable solution. He stated, however, that he and his wife drive to the hospital or a Sheetz store to get internet access to when they host a class or do clinical or business visits online.

The educator is Dr. Brenda Freeman, superintendent from Wellsboro Area School District. She commented very favorably about the multiple ISPs available in her district. The district's Wide Area Network was completed in 1998. Her rural students demand an educational environment that thrives in technology and the

use of high speed internet. Their expectations include virtual reality experiences, digital classrooms, computer programming and a plethora of STEM opportunities involving high speed internet.

She further commented, however, that when students leave their classroom, not all of them have internet access at home. Some of her students “power down” when they leave school because they simply do not have access to high speed internet. Parents, then, also do not have the ability to partner with the school on homework, grades, or even basic communications. Nor do they have the option in participating in the schools’ online academy. She estimated that at least 30% of her district may be underserved.

Dr. Freeman also noted that communication issues in her district are not solely internet related. She stated that many areas do not have radio or cell phone connectivity and school buses are without communication services during their runs to and from school creating a huge safety issue.

The owner of the Susquehannock Lodge in Potter County along Route 6 said that cell and high speed internet service is a necessity. Regarding cell service, he stated, “It is spotty at best. One must travel 3 to 5 miles east or west to get a solid dependable signal.” His internet connection is from a satellite and when usage, from him and his customers, reaches its bandwidth ceiling their bandwidth is throttled back. When potential guests call for reservations, they specifically ask if there is cell service and high speed internet. He stated that the local hospital contacted him to rent rooms for visiting doctors but once they found out that cell and internet service was less than adequate, he lost the booking.

Terri Dennison from the PA Route 6 Alliance presented before a House Recreation and Tourism Committee briefing in March 2019 sponsored by the Joint Legislative Commission. The briefing focused on the considerable increase in bicyclists using Route 6. PA Route 6 had been recently named U.S. Bike Route 36 and is now recognized as part of the National Bike Route System. The development of more rail-trails along the Corridor, would bring more travelers, and more revenue into those northern tier communities. Dennison commented, however, that broadband and cell service often are inadequate or not available along portions of Route 6. She said bicyclists use wayfinding apps on their phones to identify side routes, lodging, restaurants, points of interest or attractions, repairs shops and keeping in touch with family.

Tying into this are comments rendered at a Senate sponsored forum with school district and law enforcement officials held in Williamsport, PA in August 2018 addressing school safety issues. One school district official spoke of a school bus accident in an area without internet or cell service in which someone had to drive a mile from the scene before service was available to report the accident to officials.

Members of the General Assembly are familiar with the June 2019 research report issued by the Center for Rural Pennsylvania titled, *Broadband Availability and Access in Rural Pennsylvania*. The report reflects a year-long project undertaken by Penn State University in collaboration with several national organizations dedicated to the creation of high-quality, locally accountable broadband networks.

The main findings of the research are:

- The Federal Communication Commission's official broadband maps (as of May 2019) show 100% availability across all of Pennsylvania of broadband speeds that exceed 25 megabits per second while the research team collected more than 11 million broadband test speeds from all 67 counties in Pennsylvania in 2018 and found that median speeds across most areas of the state did not meet the FCC's criteria to qualify as a broadband connection.
- At the county level, the 2018 test data show there were no counties in Pennsylvania where at least 50% of the populace received broadband connectivity as defined by the FCC's 25/3 megabits per second standard.
- Connectivity speeds in rural counties were substantially lower than in urban counties.
- By combining 2018 data with an historical archive of an additional 15 million connectivity tests from Pennsylvania residents, the research team identified that, since 2014, the discrepancy between ISP's self-reported broadband availability in the FCC's broadband maps and the Center's sponsored research speed test results has grown substantially in rural areas but not in urban areas.

With regard to this research project, I must state that to enable further exploration and refinement of the test data, the research team has freely and publicly released all of its data, mapping and methodologies, scripts and

visualization tools. Also, the research team produced an open, easily reproducible methodology in collaboration with experts in the field so that it can be used in other states and national efforts.

We hear quite often the legitimate concerns about the cost of deploying broadband across this Commonwealth. That price tag can be a moving target. As a second part of our broadband research efforts, Professor Sascha Meinrath is currently directing a project investigating broadband demand and customer willingness to pay to help shed light on that cost factor impacting deployment. That project is expected to be completed by spring 2020.

I suggest that from a public policy perspective, while the Commonwealth must seriously consider the price tag for any public investment in broadband infrastructure, there is an opportunity cost we all pay for not having high speed internet access throughout Pennsylvania.

The FCC argues that the economic payoff from investing to improve broadband access is greater than from other types of infrastructure investments.

There is also a human opportunity cost that clearly has impacted rural Pennsylvania. Outmigration of our rural youth continues. From the 2017 U.S. Census American Communities Survey, a reported 20,052 rural youth, ages 18-34 and not enrolled in school, moved out of Pennsylvania.

Research the Center sponsored on middle and high school rural youth about their desires to remain in or return to rural Pennsylvania does provide hope for the future.

- 43% said the opportunity to start their own business would make staying in rural Pennsylvania more attractive.
- 60% of those who said they wanted to move away said they would want to move back when they have a family.

What was a critical factor in that decision making? Access to high speed internet.

In 2003 the Center published its first major broadband research report titled, *Broadband Internet Service in Rural and Urban Pennsylvania: A Common Wealth or Digital Divide?* Using data from the U.S. Census Bureau and other federal

agencies, along with our sponsored research, we continue to work on the issues and opportunities integral to this critical infrastructure.

Participating in hearings such as this enables the Center to inform members of the General Assembly, and others, about public policy matters that affect our entire Commonwealth and specifically those 3.4 million citizens who call Rural Pennsylvania their home.

Thank you for the opportunity to be a part of today's hearing and I will gladly respond to any questions.