

Broadband Cable Association of Pennsylvania
testimony before
Senate Communications and Technology Committee
September 5, 2019



First in Broadband. The Future of Broadband.®

Good morning, my name is Tom Musgrove and I am the Government Affairs Manager for Crown Castle. Crown Castle is the Nation's largest provider of communication infrastructure and in Pennsylvania alone, we have over 2,100 towers and 11,000 route miles of fiber that support local governments, schools and public safety entities throughout the Commonwealth. Considering the breadth of our assets, we have a unique perspective on solutions to solving the digital divide throughout the Commonwealth. Today, I'd like to share with you our thoughts on solutions to expand wireless coverage into remote areas through the promotion of wireless internet service providers, how small cells and 5G can support the fiber footprint throughout the state and how providing a consistent approach to the approval process for the siting of communication infrastructure at a state-level has the ability to promote the deployment of new broadband technology infrastructure which will support rural broadband growth.

The first thing that comes to mind when people think about high speed internet to rural areas is running fiber to every home. Although it is a solution, distance, topography and available capital of private companies all propose a challenge that has brought us here today for this discussion.

When I think about solutions to the "digital divide", first and foremost, I think funding is necessary to build out the infrastructure that will support rural broadband. Many states including Pennsylvania are looking at programs to fund solutions for rural broadband. This, along with Federal funding programs like the Connect America Phase II Fund and the USDA's ReConnect Program have allocated over two billion dollars of funding nationally to get thousands of people living in rural communities better connectivity to do homework at home over the internet or accessing telemedicine programs when a doctor's visit is simply too far away.

The question becomes "How do we allocate these funds?" We at Crown Castle take a multi-pronged view and there are multiple solutions working in concert; public entities working with private corporations, giving local governments opportunity to build out their own networks and what Crown Castle specializes in, maximizing existing infrastructure and promoting the construction of new infrastructure. All of these solutions should all be taken into consideration when appropriating funding.

There are companies in the communications industry that are Wireless Internet Service Providers outside of the major 4 carriers that provide rural broadband wireless connectivity across the US. The industry term for these companies is WISP. WISP's utilize existing cell towers that have electric and fiber already at the facilities, attach their antenna to the tower and they are able to send out high-speed wireless internet to their subscribers on their network. Depending on the topography of a region and proximity of the tower to a WISP's customers, one tower could cover multiple square miles with minimal costs of construction and investment. There is one of these companies in Centre County Pennsylvania that just started providing rural wireless broadband in the past month.

As I mentioned, Crown Castle has over 2,100 towers in the Commonwealth of Pennsylvania. In Senator Stefano's District we have well over 50 towers and more than 75% of those towers have fiber optic cable on site. There are other companies like Crown Castle that also have towers in Pennsylvania... and the Commonwealth has a portfolio of towers as well, so there are plenty of existing towers available to leverage. In most instances, these towers have enough structural capacity and available real estate to accommodate WISP technology and we believe that supporting and investing in WISP's is a great rural broadband solution. Cost of installation and construction ranges between \$10,000 and \$15,000 based upon available utilities at a site. Using these figures as an example, it is feasible to say that the construction of 10 new WISP sites would cost somewhere between \$100,000 and \$150,000 dollars and

you would be able to cover over 100 square miles with high-speed rural broadband. In this example, you can see that a large amount of geography can be covered by a reasonable amount of capital investment making WISP's a cost-effective, efficient solution to rural broadband coverage as long as they are funded to be successful.

In addition to funding, an additional challenge that WISP's run into is regulatory red tape at a local government level. Local zoning or municipal approval processes to add antenna to existing infrastructure that does not change the height of a tower or the general characteristics of the facility can be time consuming and costly. This time and cost savings are better suited to construction, deployment and expansion of new sites. All solutions at the state and local level that elected officials can provide in the way of funding or clearing the barriers to access can foster the growth of current WISP's and promote the creation of new WISP's, increasing the access to wireless broadband internet access across the entire state.

In addition to WISP's being a solution to rural broadband, I wanted to share with you today a little bit of information about 5G and small cells. Small cells work in concert with towers and fiber to enable LTE and 5G speeds in locations where coverage or capacity is challenging.

Pennsylvania has a unique challenge that many states do not. There are over 2,500 individual municipalities in Pennsylvania that have their own set of rules on how they handle the installation of small cells on utility poles in the right of way. This can create 2,500 different processes to comply with. There is currently legislation that was introduced in the House of Representatives, House Bill 1400 also known as the Small Wireless Facilities Deployment Act, that will provide a uniform, streamlined approach to installing new small cells across Pennsylvania's 2,500 plus municipalities. Crown Castle recognized the need for a larger, more informative discussion surrounding small cell deployment, 5G technology and the public safety and economic benefits the technology can bring to Pennsylvania. Its why Crown Castle is proud to be the founder of the PA Partnership for 5G. Over the past year, this coalition of more than 40 businesses, associations and organizations have advocated for legislation that will provide a uniform, streamlines approach to installing small cells throughout Pennsylvania. The PA Partnership for 5G is hopeful that House Bill 1400 will proceed through the House Consumer Affairs Committee and the full House later this year.

The reason I bring this up is because when we look at the carriers 5G build plans, you do not currently see ANY Pennsylvania cities on it. As this network gets built out, capital investment by the wireless industry is flowing into states that have a more predictable regulatory environment. One of the biproducts of a 5G network across a state is an increased fiber optic cable footprint as fiber is fundamental to 5G infrastructure. Simply stated "more small cells equal more fiber". We believe that there is a reduced investment in Pennsylvania due to the unpredictability of the regulatory environment at the local level. Passing a statewide law that governs small cells in the right of way could be expected to increase the number of small cells that will be built throughout the state which will increase the fiber footprint and create more available fiber that will find its way to more rural communities, essentially a domino effect of success that the statewide legislation can create. Without state legislation, it can be expected that capital investment will continue to find its way to states that have more a more favorable regulatory environment and Pennsylvania communities, especially the rural ones, will get left further behind.

Creating an effective rural broadband plan will take a combination of WISP's, public fiber networks and a favorable regulatory environment that supports rural communities getting access to high-speed internet access. We need our leaders to look at what options make the most financial sense in a region of Pennsylvania and we need them to support rules and regulations that reduce the regulatory red tape that fosters growth of communication infrastructure.

Thank you.