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# ROB SUMMERFIELD

STATE REPRESENTATIVE • 67<sup>th</sup> ASSEMBLY DISTRICT  
MAJORITY CAUCUS CHAIR

June 6, 2023

Representative Steffen, Chair  
Members of the Assembly Committee on Energy and Utilities

## **Testimony on 2023 Assembly Bill 303** *Relating to: the broadband expansion grant program*

Chairman Steffen and Committee Members:

Thank you for providing me with the opportunity to testify at today's public hearing on Assembly Bill 303. I appreciate your time and consideration of this legislation.

The Broadband Expansion Grant Program was created in 2013 to meet the demand for broadband services in Wisconsin and encourage expansion into Wisconsin's unserved and underserved areas.

Over the last ten years, the Wisconsin Broadband Expansion Grant program, administered by the Public Service Commission (PSC), has successfully helped connect thousands of Wisconsinites with reliable broadband connection. Broadband connection is critical for economic development and modernization in today's environment. It helps connect individuals with their workplace, education, healthcare providers, and much of today's economy. Thanks to this grant program, many Wisconsinites, especially those in rural areas, have gained access to broadband connection that would have otherwise been cost-prohibitive and impossible.

Unfortunately, as our technological landscape has evolved, our Broadband Expansion Grant Program has not. Under the current system, an "unserved" area is defined as an area that lacks a provider who offers speeds at 20% of the federal standard. This standard is wholly inadequate if Wisconsin's economy is expected to remain competitive in the coming decades. Also under the current program, there is an "underserved" category that allows the state to subsidize internet expansion into areas that already have access to high-speed internet services. These inefficiencies are holding the program back from its maximum potential and hindering the state's progress on this issue.

AB 303 addresses these inefficiencies. It adds that, in order to be considered a "served" area, internet service must be provided at no less than actual download speeds of 100 megabits per second and upload speeds of 20 megabits per second, bringing our standards to the federal standard. AB 303 will also eliminate the "underserved" category.

AB 303 includes technical changes that will provide greater accountability and direction to the program. The program also encourages providers to divide and conquer the remaining locations in Wisconsin that are lacking basic internet speeds.

These changes are necessary for the long-term viability of the program and internet access in Wisconsin as a whole. I ask that you join me in supporting this bill.



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# HOWARD MARKLEIN

STATE SENATOR • 17<sup>TH</sup> SENATE DISTRICT

**June 6, 2023**

## **Assembly Committee on Energy and Utilities Testimony on Assembly Bill 303**

Good afternoon,

Thank you Chairman Steffen and committee members for hearing Assembly Bill (AB) 303, relating to the rural broadband expansion grant program.

Over the last decade, the Rural Broadband Expansion Grant program, which is administered by the Public Service Commission (PSC), has helped connect thousands of Wisconsinites with reliable broadband connection. Broadband connection is critical for economic development and to connect an individual to their workplace, education, health care providers, and more in today's economy.

The Rural Broadband Expansion Grant program has created infrastructure that otherwise would not have been possible. To continue our progress, we must continue to dial-in our efforts to reach communities that do not yet have broadband. The reforms in this legislation, written with stakeholders, keeps the grant program nimble while focusing our effort, so that we reach those who are truly unserved in Wisconsin.

This bill would refine the Rural Broadband Expansion Grant Program to make sure it is focused on unserved communities. Highlights of this bill include

- Eliminating the “underserved” category to focus on truly unserved communities. It redefines “unserved” to be areas without broadband delivered at speeds of 100 Mbps download and 20 Mbps upload or less. This better matches the expectations of consumers who are learning and working from home.
- Giving priority to expansion projects that have at least 40% matching funds.
- Prioritizing grants for service capable of 100/100 Mbps
- Creating a challenge process to ensure that grant funding does not duplicate existing service or service that will be deployed within two years of the grant award.

Many of these changes were included in legislation that passed both houses of the legislature during the last session, but was vetoed by Governor Evers. This bill includes changes that stakeholders discussed with the Governor to seek his support. The Governor asked us to include language related to affordability.

We continue to seek the changes in this legislation because we have reached most of the low hanging fruit for rural broadband expansion. The easy projects – those that are less expensive and less difficult to install - have been completed. We are now at the point where we need to focus funding on locations that are difficult and expensive for each. This bill will be a positive step in that direction.

Thank you again for hearing AB 303 and your timely action on the bill.



June 6, 2023

Representative David Steffen, Chair  
Assembly Committee on Energy and Utilities  
Room 323 North, State Capitol  
PO Box 8953  
Madison, WI 53708

Representative Rob Summerfield, Vice Chair  
Assembly Committee on Energy and Utilities  
Room 119 West, State Capitol  
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**RE: Oppose Assembly Bill 303, the broadband expansion grant program**

Chair Steffen and Vice Chair Summerfield,

On behalf of CTIA®, the trade association for the wireless communications industry, I write to oppose Assembly Bill 303 relating to the broadband expansion grant program. While CTIA shares Wisconsin's commitment to advancing broadband, this legislation will create further barriers to deployment.

The wireless industry strongly supports expanding broadband to ensure everyone has effective connectivity, and our industry has been on the cutting-edge of promoting its deployment to meet ever-growing consumer demand. In 2021 alone, wireless carriers invested nearly \$35 billion to deploy and upgrade their networks.<sup>1</sup> This investment also fuels economic growth in Wisconsin, where the wireless industry supports nearly 53,000 jobs and contributes \$4.7 billion to the state's annual GDP.

As Wisconsin continues to evaluate how it will allocate broadband funding, CTIA strongly encourages the state to adopt a technologically neutral approach to investment. The nature of Wisconsin's topography and substantial connectivity challenges for many communities means that a "one size fits all" approach will not benefit all residents in the state's pursuit to provide robust broadband across the state. Unfortunately, Assembly Bill 303 as drafted effectively puts some broadband technologies at a greater advantage than others.

Specifically, the bill requires giving priority to projects that are capable of offering service at "download speeds of 100 megabits per second or greater and upload speeds of 100 megabits per second or greater..." This language would eliminate fixed wireless broadband as an option for consumers. The bill also prevents any wireless provider from challenging a proposed project as being in an area that is already served, because in order to mount a challenge, the provider must agree to provide service at 100/100 speeds in that area. Even if a carrier is offering wireless broadband at 100/20 speed, that would still be insufficient if the provider cannot commit to providing service at 100/100 speed. This bill effectively blocks wireless providers from applying for grants and or even objecting to other applications.

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<sup>1</sup> <https://www.ctia.org/news/u-s-wireless-investment-hits-record-high>



As you know, the federal government is currently working to distribute \$42.5 billion in funding to states and territories to support broadband deployment through the Broadband Equity, Access, and Deployment (BEAD) program. A technologically neutral approach that avoids mandates – such as excessively high minimum speed requirements – that needlessly foreclose specific types of broadband options and instead supports wireless alongside fiber and other options promotes competition and enables Wisconsin to achieve maximum benefit from broadband investment programs. The National Telecommunications and Information Administration (NTIA), which issued guidance related to the use of federal broadband funding, allows states to select broadband funding projects featuring other technologies, like 5G fixed wireless, taking into account cost, time to build, potential return on investment and economic benefits. Protecting this flexibility is critical considering that:

- While speeds vary by location and demand, most 5G fixed wireless services already can offer 100 Mbps down and 20 Mbps up.
- 5G fixed wireless can help meet challenges where deployment is cost-inhibitive or more expensive, especially in rural areas. As NTIA Administrator Alan Davidson noted, “for the really high-cost areas we fully expect that there will be states who have significant portions of [non-fiber] technologies.”

Before prescribing arbitrary speed metrics, it is important to understand that consumer broadband usage is asymmetrical, with twelve times more download than upload demand. Consider that a typical family of six as an example of a typical American household’s broadband needs:

- The father is streaming a movie in 4K ultra high definition;
- The mother is on a Microsoft Teams call with her coworkers;
- One child is having a telehealth visit with her doctor on Kareo Telehealth’s platform;
- Another child is using Skype with two friends;
- The youngest child is using Zoom to participate in his math class; and
- Another YouTube video is being streamed in the background.

According to the relevant apps themselves, the data needs are only 40.2 Mbps downstream and 8.5 Mbps upstream. Calls for symmetrical speeds are unnecessary, do not reflect consumer’s actual broadband usage and do not serve the best interest of consumers in Wisconsin. The most effective approach is alignment with the BEAD requirement of 100/20 to cover unserved rural areas in Wisconsin.

In conclusion, we oppose Assembly Bill 303.

Sincerely,

Jeremy Crandall  
Assistant Vice President  
State Legislative Affairs

# 5G for Home Broadband Easily Supports the Typical American Household's Needs

## THE MILLERS



Dad is streaming Star Wars for the 20th time in 4K UHD.



**Downstream: 25 Mbps**



Mom is on an HD group call with her coworkers.



**Downstream: 2 Mbps  
Upstream: 1 Mbps**



Youngest Jimmy is participating in math class in 1080 HD.



**Downstream: 3 Mbps  
Upstream: 3.8 Mbps**



Katie is doing a telehealth visit.



**Downstream: 3.2 Mbps  
Upstream: 3.2 Mbps**



Jenny, home from college, is Skyping with two friends.



**Downstream: 2 Mbps  
Upstream: 0.512 Mbps**



The family's dog has sneaked away and is watching cat videos.



**Downstream: 5.0 Mbps**

Total downstream: **40.2 Mbps**

Total upstream: **8.5 Mbps**

### 5G Home Meets Americans' Broadband Needs

5G for home broadband services' downstream speeds can easily support multiple users actively engaged online whether they be working, learning, visiting with doctors, friends, or simply watching videos. The Miller family's home usage depicted above is less than half of the speed capacity Congress required (100 Mbps down, 20 Mbps up) under the BEAD program, leaving ample room to spare. Wireless providers have already made 5G for home broadband services available to tens of millions of American households.



# **WISCONSIN CABLE COMMUNICATIONS ASSOCIATION**

22 East Mifflin Street, Suite 1010 - Madison, WI 53703 - 608/256-1683 - Fax 608/256-6222

Executive Director – Thomas E. Moore

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## **Statement of Tom Moore**

**Executive Director, Wisconsin Cable Communications Association**

**Before**

**Assembly Committee on Energy and Utilities**

**Speaking in Favor of Assembly Bill 303**

**Related to the Broadband Expansion Grant Program**

Good afternoon, Chairman Steffen and Committee members. Thank you for the opportunity to testify in favor of Assembly Bill 303 today.

I serve as the Executive Director of the Wisconsin Cable Communications Association. We are the state trade association for Wisconsin cable video broadband and voice providers. Our members provide these services to roughly 900 Wisconsin communities and include household names like Charter Communications and Comcast as well as smaller regional and community systems like MidCo Cable and Astrea. We have invested billions of dollars in Wisconsin to deploy advanced digital services to over 2 million locations in the state and we continue to invest hundreds of millions of dollars each year to extend, upgrade and service our digital networks.

While Wisconsin's urban areas enjoy near ubiquitous access to broadband service, an estimated 20% of our state rural areas lack access to broadband with speeds of at least 25/3 and roughly 59,000 locations lack even the most basic broadband, unable to receive the current statutory minimum speed of 5 Mbps/600 Kbps. It is widely acknowledged that broadband exist

today where there is a reasonable business case to be made for its deployment, and we all recognize the challenges of extending service to high cost, difficult to reach rural areas of the state. The Broadband Expansion Grant program is an important tool, along with private investment and federal support programs to provide connectivity to all Wisconsin homes and businesses.

Since its inception in 2013, the program has evolved both statutorily and as it is administered by the Public Service Commission. We believe Assembly Bill 303 is another important step in program evolution. If adopted, Assembly Bill 303's modifications, updates and clarifications will better focus the program on its intended mission: to bring true broadband service to Wisconsin locations which are not currently served. The bill would accomplish this primarily by increasing the minimum download and upload speeds which will be considered as broadband, by permitting state broadband grant dollars to only fund project to locations lacking access to broadband at those speeds and by limiting duplication of public broadband resources.

### **Focusing on the Unserved**

Recognizing the public benefits of ubiquitous broadband connectivity, the purpose of state and federal support for broadband is to supplement the capital investment needed for our nation's broadband providers to extend service to areas which are otherwise too expensive to reach under normal return on investment models. Given the limits of public resources, state expenditures on broadband expansion must be focused on reaching locations unserved by broadband. Public funding which is utilized to build a second broadband line to a served

location could and should have been used to connect an address currently lacking any broadband service. It reminds me of my mother's dinner time rule when she was feeding a house full of teenagers: "Everyone gets a chance to eat before anyone goes back for seconds".

What's more, government subsidized broadband expansion to locations already served by an existing provider creates an unfair marketplace advantage for the subsidized service and penalizes the existing provider who put their capital at risk to extend broadband in the first place. This principle is widely recognized by policymakers and underpins most state and active federal broadband expansion programs.

Assembly Bill 303 recognized and codifies this important principle by eliminating the ability of grant awards to "underserved" locations. This important modification to current law will both focus the program where it is most needed – reaching the unserved – and reduce unfair state supported overbuilding of existing broadband provides.

### **Supporting True Broadband**

Under the current program, "unserved areas" are those location lacking access to service at speeds which are at least 20% of the FCC's 25/3 Mbps definition of broadband, which translates to 5 Mbps / 600 Kbps service. Additionally, the program allows grants to be made to serve areas which have access to broadband service. These are the "underserved areas" in the current statutes. At the time this policy was developed it made sense based on the broadband technology being deployed at the time and the locations which could be being upgraded from dial-up service to minimum broadband speeds.

Today however, 5/600 service is no longer recognized as true broadband service. Assembly Bill 303 would establish 100 Mbps down / 20 Mbps up as the minimum recognized



broadband speed, qualifying homes and businesses which only have access to slower speeds to receive Broadband Expansion Grant support and upgrade to service more compatible with today's online necessities. Another important feature of this legislation is a provision which allows the Public Service Commission, after two years from enactment, to modify this speed threshold through the administrative rule process. Additionally, the bill would prioritize grant applications to build 100/100 Mbps symmetrical service. This provision follows closely recent federal funding allocations which also require at least 100/20 service with a preference for 100/100 symmetrical speeds. While no technology is truly "futureproof", highspeed fiber optic connections can deliver robust broadband speeds for many years in the future and should be the prioritized in future grant awards by the Broadband Expansion Grant program. Virtually all Wisconsin cable broadband providers are offering customers 1 gigabit download speeds today, with plans to offer service as fast as 10 gigabits in the near future. Increasing minimum broadband speed thresholds and prioritizing higher speed connections is a wise use of public funding and will result in networks which are capable of serving our state's connectivity needs well into the future.

#### **Maximizing State Dollars by Limiting the Duplication of Public Broadband Support**

Current FCC survey data puts the number Wisconsin addresses unserved by at least 25/3 service at roughly 460,000 locations, virtually all of which are in rural areas. Estimates vary regarding the of the resources needed to connect these 460,000 addresses. At this point, I would simply cite the PSC's estimate that subsidized share of this cost is perhaps \$1.8 billion.

As I mentioned in my opening, connecting all Wisconsin homes and businesses to broadband will take a combination of private, state, and federal investments. In addition to the

required to consider whether the applicant offers a low-cost broadband service option in order to be eligible for BEAD program funding.

### **Conclusion**

It now seems cliché to state the importance of ubiquitous broadband connectivity- it is now stating the obvious. Wisconsin's communication technology sector has invested tens of billions of dollars to make broadband available to 93% of state addresses – including 99% of urban locations - and this for a technology that is barely 20 years old! But to those who are not able to connect this has little meaning. Connecting every location in Wisconsin to broadband has become one of the top priorities of both lawmakers and broadband service providers. Those homes and businesses not connected represent a serious challenge, as they tend to be the high-cost, low density locations most difficult to reach. Wisconsin's broadband providers are ready to do our part to connect the unserved but we recognize the need for public investments to supplement the tremendous private capital still necessary to complete the task.

Wisconsin's Broadband Expansion Grant program has proven to be a critical tool to connect thousands of unserved locations to broadband service. But as we progress to serve more and more of the hardest and costliest to reach locations, it is time for the program to evolve to be more focused to reaching the unserved and reaching them with a true broadband product capable of the necessities of today's online environment. Assembly Bill 303 will serve to more readily connect all who want to be connected and will do so with a greater cost and time efficiency over the current program.



Wireless  
Infrastructure  
Association

**Testimony of the Wireless Infrastructure Association  
Before the Assembly Committee on Energy and Utilities  
Assembly Bill 303**

Chairman Steffen and Members of the Assembly Committee on Energy and Utilities:

The Wireless Infrastructure (“WIA”)<sup>1</sup> appreciates this Committee’s attention to Wisconsin’s broadband connectivity needs. As the pandemic has cast into stark light, connectivity underpins and powers many facets of participation in modern society. WIA members’ missions are deeply tied to promoting connectivity everywhere and enabling the modern 5G networks that provide mobile and fixed wireless connectivity at previously unimaginable speeds. As such, it is critically important that states create programs like the one proposed by AB 303 to sufficiently fund broadband expansion and adoption so that everyone in the state can connect.

While WIA supports the mission of AB 303, WIA’s members caution against several provisions in the current bill. Primarily, we believe that the bill’s framework of prioritizing projects offering to deliver symmetrical speed<sup>2</sup> will likely reduce the overall effectiveness of the broadband program. While broadband delivered by fiber-optic cable can offer speed advantages, it also has a higher cost to deploy—sometimes significantly so, which will limit the amount of Wisconsin locations that can be connected using this finite amount of funding—and will often take longer to deploy than other technologies capable of delivering the broadband consumers need. Therefore, we urge the Committee to remove the provision prioritizing projects offering symmetrical speed and instead allow all technologies capable of delivering the minimum broadband speeds of 100/20 to compete for these funds.

Allow Flexibility to Maximize Connectivity

We are currently in the midst of a historic moment in broadband funding.<sup>3</sup> Through a combination of private investment and support from the federal and state governments it is possible that we will finally bridge the digital divide in America, bringing social and economic benefits to Americans on a scale unseen since rural electrification. However, to achieve this

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<sup>1</sup> WIA represents the companies that build, develop, own, and operate the nation’s wireless facilities. Our members include infrastructure providers, wireless carriers, equipment manufacturers, and professional services firms. WIA advocates for the widespread, responsible deployment of wireless infrastructure to enable mobile and fixed wireless broadband access for communities everywhere.

<sup>2</sup> Assembly Bill 303 (2023) at pg 6, ln 15 – 20 (Prioritizing projects “that are capable of offering service at actual download speeds of 100 megabits per second or greater and upload speeds of 100 megabits per second or greater”).

<sup>3</sup> See e.g., Internet for All Initiative, <https://www.internetforall.gov/> (last visited June 6, 2023) (detailing the Biden-Harris Administration’s efforts across the federal government to deliver connectivity to all Americans).

common goal it is critical that regulators develop flexible rules that incentivize investment and bring benefits to as many people as fast as possible.

Prioritizing symmetrical speed in the broadband program will mean a single technology will be awarded the entirety of the funds, but this is not without tradeoffs that may be unnecessary. Fiber costs significantly more per connection than a comparable wireless technology. This cost is well noted to sharply increase as states try to reach their most rural populations,<sup>4</sup> which may limit the number of homes that can be connected. Further, the average consumer does not seek out, or utilize, greater upload bandwidth. The gap between downstream and upstream traffic has consistently grown over the last decade, a trend that is likely to increase.<sup>5</sup>

Consumers have shown a rapidly increasing appetite for Fixed Wireless home broadband (“FWA”), with FWA subscriptions capturing 90 percent of net new at-home broadband subscriptions last year.<sup>6</sup> Fixed wireless is capable of delivering high-quality internet service that consumers demand, and its adoption rate shows that it more than meets consumer needs. Further, providing funds for wireless infrastructure has the dual benefit of supporting fixed and mobile connections.

While fiber has its distinct advantages, the technology also comes with some disadvantages which means it may not be the best solution in every deployment scenario. Congress recognized this in not including a symmetrical requirement for the landmark Infrastructure Investment and Jobs Act. Accordingly, we urge the legislature to adopt flexible rules that allow all technologies to compete and give Wisconsinites the best value for their money.

### Mobility Matters

While the first priority is, rightly, ensuring connectivity to every home, mobile connectivity is also a priority for millions of Americans. In fact, nearly one in five rural Americans use their mobile connection as the primary way of accessing the internet.<sup>7</sup> Often, the same infrastructure for FWA will also support mobile services- allowing the state to benefit from improving both services. Further, mobile connectivity is essential to enabling first responders and public safety. For example, first responders rely on wireless broadband as they rush to the front lines for fires,

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<sup>4</sup> See Aca Connects-Cartesian, *BEAD Program: A Framework to Allocate Funding for Broadband Availability - Version 2.0* at 13, <https://acaconnects.org/bead-program-framework/> (Feb. 2, 2023); See also, *Improving the Nation's Digital Infrastructure*, FED. COMM'NS. COMM'N. (Jan. 17, 2017), <https://docs.fcc.gov/public/attachments/DOC-343135A1.pdf>.

<sup>5</sup> *The Asymmetric Nature of Internet Traffic*, NCTA (Mar. 22, 2021), <https://www.ncta.com/whats-new/the-asymmetric-nature-of-internet-traffic>.

<sup>6</sup> Press Release, *About 3,500,000 Added Broadband From top Providers in 2022*, Liechtman Research Group (Mar. 2, 2023), <https://www.leichtmanresearch.com/about-3500000-added-broadband-from-top-providers-in-2022/> (“Top broadband providers added about 3.5 million subscribers in 2022. Fixed wireless services accounted for 90% of the net broadband additions in 2022, compared to 20% of the net adds in 2021.”).

<sup>7</sup> Andrew Perrin, *Mobile Technology and Home Broadband 2021*, Pew Research Ctr. (June 3, 2021), <https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/> (providing a demographic breakdown of smartphone only users).

crime scenes, and disasters and need mobile connectivity on site to protect themselves and the public. In many rural areas, the closest hospital can be an hour or more away. Wireless broadband delivered over 5G networks can turn an ambulance into a mobile emergency room during that “golden hour,” saving lives and preventing disabilities.<sup>8</sup>

WIA urges the Committee not to adopt rules that will unnecessarily require the state to fund a single technology. Rather, the legislature should enable funds to be used for a variety of uses that can be specifically tailored to each community’s need. WIA appreciates your consideration of this important topic and stands ready to work with this committee to craft rules that will develop a program to bring connectivity to all Wisconsin.

Respectfully Submitted,

\_\_\_\_\_/s/\_\_\_\_\_  
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Stephen Keegan  
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\_\_\_\_\_/s/\_\_\_\_\_  
\_\_\_\_\_

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June 6, 2023

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<sup>8</sup> Sanjay Joshi, *5G and Me: And the Golden Hour*, DELL TECHNOLOGIES (Nov. 19, 2019), <https://www.delltechnologies.com/en-us/blog/5g-me-and-golden-hour/>.



BROADBAND  
WITHOUT  
BOUNDARIES

June 6, 2023

Assembly Committee on Energy and Utilities

Chair Steffen and Members of the Committee:

Thank you for holding this hearing on Assembly Bill 303, which proposes changes to Wisconsin's broadband expansion grant program. Access to reliable, high-speed internet service is one of the most vital components to being able to fully participate in modern society – from remote learning and remote work opportunities to telemedicine and entertainment, every aspect of our lives has been touched by internet access.

My name is Tim Michalak, and I am the Director of Strategic Development at Ethoplex, a Wireless Internet Service Provider (WISP) based in Germantown, WI, and serving the much of eastern Wisconsin.

Ethoplex is also a member of **WISPA: Broadband Without Boundaries**, and our CEO, Keefe John, is WISPA's Wisconsin state coordinator. WISPA represents the interests of about 600 small internet service providers, including 15 members in Wisconsin, that deliver broadband internet connectivity services to approximately seven million consumers, businesses, first responders, and community anchor institutions around the country, often in areas where other providers have declined to invest. To provide their services, WISPA members use unlicensed, shared, and exclusive-use licensed spectrum at low-band, mid-band, and high-band frequencies, predominantly in rural, unserved, and underserved areas, as well as fiber optics where it makes economic sense to do so. Often, WISPA's members will deploy both wireless and fiber technologies in the same hybrid network, focusing on using the "right tool for the right job." In many rural and remote areas, WISPA members provide the only terrestrial source of fixed broadband access. In areas with other broadband options, they provide a community-based alternative that benefits customers by fostering competition, thereby lowering costs and improving the quality of broadband services.<sup>1</sup>

Wisconsin's grant program has long recognized that Wisconsin truly needs to be able to consider all technologies to successfully connect every resident and location in our state to broadband internet. Over the long course of our grant history, Wisconsin has done just that, allowing all providers in the state to submit competitive grants, and funding fiber and Fixed Wireless Access (FWA) projects alike. This technology-neutral approach, which focuses on ensuring outcomes rather than delivery methods, has been critical to the continued success of this program.

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<sup>1</sup> See *Liftoff! Internet Service Providers Take Flight with Fixed-Wireless and Hybrid Networks: The 2021 Fixed-Wireless and Hybrid ISP Industry Report*, The Carmel Group (2021) ("Carmel Report") at 6, Fig. 1 (depicting typical fixed wireless network architecture), available at [https://www.wispa.org/docs/2021\\_WISPA\\_Report\\_FINAL.pdf](https://www.wispa.org/docs/2021_WISPA_Report_FINAL.pdf).

Unfortunately, AB 303 undermines this technology-neutral first principle in several significant ways, and would put WISPA's members at a significant disadvantage when applying for state grants.

Most problematically, Section 12 of the bill proposes a priority for 100/ 100 Mbps symmetrical speeds. This provision is nothing more than a way for some companies to write in a preference for fiber without using the word. Speed needs are not, and have never been, symmetrical. An excellent report by the Information Technology and Innovation Foundation (ITIF) (an independent nonprofit, nonpartisan research and educational institute that has been recognized repeatedly<sup>2</sup> as a leading think tank for science and technology policy), finds that demands for symmetrical speeds are smokescreens for fiber. Regarding speed thresholds, ITIF reports:

*Current evidence does not demonstrate a need for symmetrical speeds. In fact, over the last decade, the average down-to-up ratio has grown from 3:1 to over 14:1.<sup>3</sup> Even during the pandemic, when most Americans have switched from in-person work and schooling to virtual experiences, Comcast reported: "Traffic patterns remained highly asymmetrical, as downstream traffic volumes were 14x higher than upstream traffic volumes."<sup>4</sup>*

*Over the past decade-plus that advocates have claimed a need for symmetry, there has yet to be a significant increase in the demand for upload speeds from consumers or applications.<sup>5</sup> While the actual use of upload bandwidth is growing, so too is that of download—and there is little expectation for these growth lines to converge. Most users are still largely consumers, with streaming video taking up the bulk of Internet traffic.*

If funding for broadband expansion were unlimited and all applications that were otherwise eligible without this symmetrical speed criteria could receive funding, some set of priority criteria could be appreciated – however, in the real world, with limited taxpayer dollars whose efficiency must be absolutely maximized, this priority will force the Public Service Commission to waste money on projects that propose inefficient technologies that are not best suited for the geographical factors they will be addressing.

The prioritization of a grant match of 40% will further erode WISPA members' ability to apply for grants and further impede Wisconsin's ability to expand beyond the "low hanging fruit" and to reach the most difficult-to-serve parts of the state. As Wisconsin finally pushes broadband projects into the most sparsely-populated areas, it will find these communities least able to contribute a matching percentage. Similarly, our members, who have already invested significant amounts of their own capital into connecting these communities, often have fewer resources to provide matches. These proposals already face stiff challenges in the application process, and WISPA fully recognizes the state's legitimate interest in ensuring that providers and communities have "skin in the game." But allowing the PSC to identify communities that otherwise could not afford to support a

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<sup>2</sup>See *2020 Global Go To Think Tank Index Report*, University of Pennsylvania (2021), available at: [https://repository.upenn.edu/cgi/viewcontent.cgi?article=1019&context=think\\_tanks#page=199](https://repository.upenn.edu/cgi/viewcontent.cgi?article=1019&context=think_tanks#page=199)

<sup>3</sup> See *The Asymmetric Nature of Internet Traffic*, NCTA (March 22, 2021), available at: <https://www.ncta.com/whats-new/the-asymmetric-nature-of-internet-traffic>.

<sup>4</sup> See *Comcast Releases 2020 Network Performance Data, Highlighting COVID-19 Impact*, Comcast, available at: <https://www.broadbandtechreport.com/docsis/article/14198814/comcast-releases-2020-network-data-highlighting-covid19-impact>

<sup>5</sup> FTC Staff, "Broadband Connectivity Competition Policy"



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broadband expansion program, and ensuring that they are given due consideration, is an appropriate policy to maintain.

Moreover, the benchmark of a 40% match goes beyond definitions in other, comparable, regulations and will create a patchwork of confusing regulations. The Broadband Equity, Access, and Deployment (BEAD) program, which will likely provide Wisconsin with roughly \$1 billion in federal funding for broadband expansion, requires a 25% match component – and state broadband officers across the country are pushing back on even that requirement, saying it is too onerous to allow them to connect the most rural areas of their states. Adding a preference for a 40% match will push grants toward projects that overbuild existing networks or expand to areas that are more able to attract broadband investment on their own, and will not push connectivity to the areas that are desperately unserved today.

Mandating participation in the Affordable Connectivity Program (ACP) presents a similar challenge and barrier to our members: although we offer plans that meet anyone's reasonable definition of "affordable," many of our rural providers are small companies that do not have the staff capacity to fill out onerous government forms in order to participate in the ACP, even where they would otherwise like to. Our members are like many of you – they see their "constituents" every day in grocery stores, at the park, or while otherwise out and about in their communities. Penalizing the small, community-based companies that were founded explicitly in order to serve their communities and meet the needs of their neighbors because they are not large enough to fill out some bureaucratic paperwork is unwise, and will have profoundly negative consequences on the smallest, most responsible providers.

Finally, WISPA encourages the Legislature to remain jealous guardians of its own powers, and not cede the authority for setting the definition of an "unserved area" to the Public Service Commission. The Legislature is the appropriate policymaking body to determine if their constituents are being appropriately served. Unilaterally ceding authority does not add speed or flexibility: the rulemaking process used by the PSC is necessarily lengthy, while the Legislature can act swiftly when necessary, and hear from a more diverse range of stakeholders, including a significant degree of public participation. We encourage you to strike this provision from the bill.

I should be clear: there is much in Assembly Bill 303 that represents a positive step forward. This is an appropriate time for the Legislature to be increase the speed definition of a "served" area to 100/ 20 Mbps service. Changing the priority of the program to areas that are "difficult to connect," rather than merely "large geographic areas," is also wise.

However, I would encourage you to think carefully about the impact this bill will have on the small providers who have done the most to step in and close the digital divide. Our members are doing the work every day – tilting the grant process toward certain large providers and incentivizing certain kinds of technologies over others will weaken, not strengthen, this important program.

At this time, I am happy to answer any questions you may have.



# **THE ASSEMBLY COMMITTEE ON ENERGY AND UTILITIES**

**Testimony on Assembly Bill 303  
The Broadband Expansion Grant Program  
Stephanie Cassioppi  
Head of State Government Affairs, UScellular  
June 6, 2023**

Chairperson Steffen and members of the Committee, my name is Stephanie Cassioppi, the Head of State Government Affairs for UScellular. On behalf of UScellular, our over 1 million Wisconsin subscribers, and our large base of employees who call Wisconsin home, thank you for the opportunity to testify on Assembly Bill 303 (AB303). UScellular has been providing wireless service in Wisconsin since 1988. We take pride in the strength of our network, in both urban and rural areas of Wisconsin.

I am testifying in opposition to AB303, unless amended to reflect technology neutral standards that will lead to more robust competitive options for Wisconsin citizens. As written, AB303 effectively picks one technology, fiber, to bridge the digital divide in Wisconsin. While fiber may be the best choice for many areas, there are other technology solutions that are faster to deploy, costs significantly less money, and offer consumers other alternatives like high-speed mobile broadband in areas that lack 5G or even 4G in many areas. There are more cost-effective, faster-to-deploy, and just-as reliable technologies, such as 5G Fixed Wireless, which can achieve the same goal – connecting all Wisconsinites. Even with all combined sources of government investment, there is not enough federal or state money to deploy fiber to every resident of Wisconsin, nor is it a practical or wise use of taxpayer dollars. As a result, this bill, if enacted, will leave the most rural areas and residents of the state without broadband connectivity.

We urge the committee to amend this bill to reflect more appropriately standards to allow a mix of technologies to close the digital divide. Fiber is important. In fact, UScellular runs fiber to our wireless towers to offer a robust, reliable, high-speed service. But fiber should not be the only solution. By prioritizing speed standards of 100 Mbps down and 100 Mbps up, this bill requires the use of fiber at the expense of Wisconsin residents that may have priorities beyond home broadband, like next generation mobile broadband as well. Instead, the best technology and solution should be used to connect the most unserved residents in Wisconsin. We urge the committee to remove the prioritization of 100/100 speeds in AB303.

Symmetrical speeds, and particularly, the bill standard of 100/100, is unnecessary, and does nothing but eliminate optionality and flexibility. Fiber is the only technology that has symmetrical speeds. Yet, use cases do not support symmetrical speeds, and certainly not an upload speed of 100 Mbps. Even during the pandemic, usage patterns showed that consumers were much more reliant on download streams than upload streams. (For example, please see the attached slide showing the broadband use in an example home.) Even with various people in the home simultaneously using video conferencing software and streaming video entertainment, the total downstream use is 40.2 Mbps and the total upstream use is 8.5 Mbps. In this example, upstream use is significantly lower than 100 Mbps and less than half of the 20 Mbps that the federal government requires.

Usage patterns simply do not support deploying resources for 100 Mbps upload speeds. A study on Household Bandwidth Demand Study by leading communications and digital media consultant, Cartesian, concludes, "Even as internet traffic has greatly increased, downstream demand has grown faster than upstream, and we expect this pattern to continue as households increase the amount of time spent using downstream-intensive applications such as video streaming." And, according to Ericsson, a world leader in communications technology, fiber networks utilize a download to upload ratio of 11:1, In other words asymmetrical now and a 7-year bandwidth forecast to get to 7:1 ratio, not 1:1. (Please see the broadband usage is asymmetrical slide that shows the download to upload ratio between 2010 to 2021 which has ranged from 3.0 to 14.4 - all in favor of download usage.)

The federal government appropriately changed its standards for federal funding with the IIJA (Infrastructure Investment and Jobs Act) from 100/100 to 100/20, recognizing the need for multiple technologies to solve the digital divide. In fact, AB303 is in conflict with the federal standards under the IIJA BEAD (Broadband Equity, Access, and Deployment) program. Eliminating technologies other than fiber with this speed prioritization also ignores the benefits that other technologies have over fiber – particularly in rural areas.

Wireless networks provide both broadband to the home (with Fixed Wireless) and wireless outside the home – mobility. It's a double benefit, and there are many areas of the state that need better mobility, as much as home broadband. A fiber solution will not provide mobility. A wireless solution will also support next-generation 911 accessibility to everyone in Wisconsin. It also enables internet access on-the-go, and outdoors.

The Fixed Wireless service offered by wireless providers, today, is growing by leaps and bounds. The technology uses our infrastructure and dedicated spectrum to provide reliable, secure, and quality service comparable to that provided by other technologies. We can cover entire areas with our cell towers, rather than stringing fiber to every pole on every road and driveway. A cell tower connects to an antenna on or in a home, which connects to a WiFi router, which connects to devices in consumers' homes. (Please see the attached broadband overview slide to see a graphical representation of how this works.) Fixed Wireless is cost-effective and speedier to deploy. It is increasingly the technology of choice for broadband consumers. In fact, over 67% of the consumers in the federal ACP (Affordable Connectivity Program) program elected wireless technology for their broadband needs and for the full year 2022, over 90% of net incremental broadband subscribers chose Fixed Wireless for Home Internet use over fiber. (As reported by Leichtman Research Group)

Mobility and Fixed Wireless will continue to be a catalyst driving economic growth in rural America, and any infrastructure efforts that do not ensure mobile broadband and 5G fixed wireless services could create a new digital divide. Requiring symmetrical broadband deployment, specifically the requirement for a 100 Mbps upload speed, will be detrimental to deploying broadband in sparsely populated, rural areas in Wisconsin. Given funding limitations requiring such an upload speed will favor deployment in more populated areas where fiber deployments are economically practical. The likely result is that state and federal broadband expansion funding will be exhausted prior to reaching unserved rural communities in Wisconsin. (Please see the attached "Internet for All" slide.)

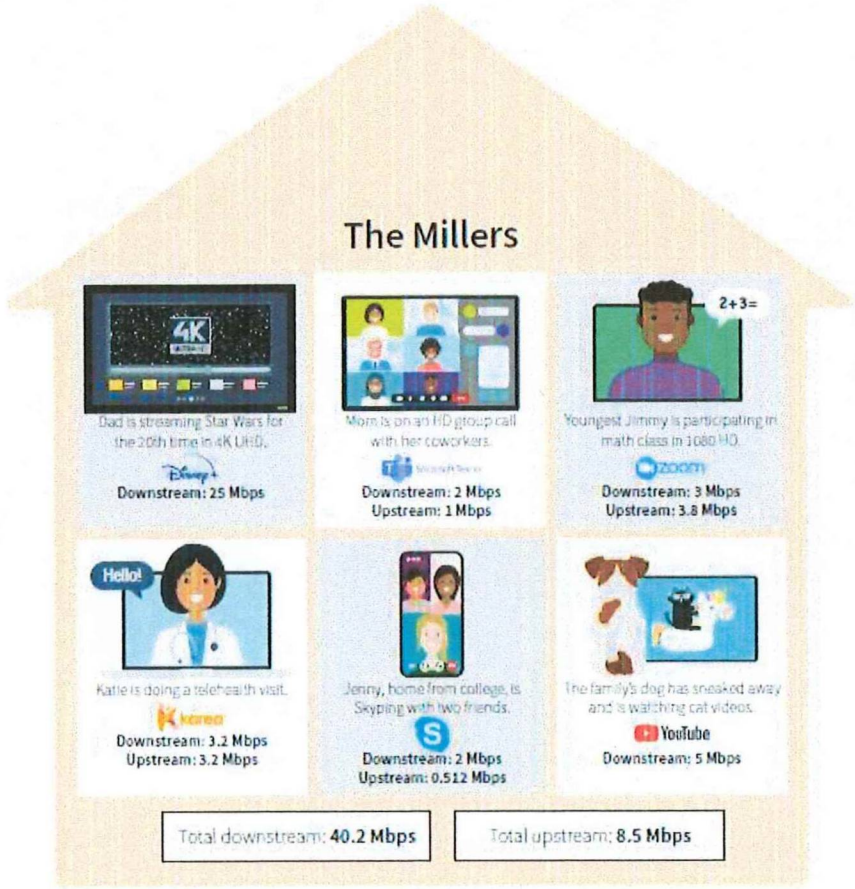
According to the Legislative Fiscal Bureau, the Wisconsin PSC expects between \$700 million and \$1.1 billion in federal BEAD funding and estimates it would cost \$1.8 billion to expand reliable broadband services to areas of Wisconsin that currently lack it. Similarly, an Ericsson study estimates that Wisconsin has 285.2k unserved locations (according to recent Federal Communications Commission maps) and \$1.41b estimated federal BEAD broadband funding. This level of funding can support an average fiber cost per household of up to \$7,075, but the current average estimated cost per household is over \$10,000. Consequently, a bill prioritizing 100/100 (fiber) would leave 30% of the unserved locations behind.

Technological innovations in wireless are happening at a rapid pace, and wireless is at the forefront of global innovation. (In fact, if you look at the "Future Proof" slide, you will see that the speed of Fixed Wireless has increased dramatically since the advent of wireless internet – and will continue to do so as the industry continues to innovate, dispelling the myth that only fiber is "future proof.") The ability to

participate in these broadband programs is critical to connecting the whole state the way consumers want to be connected – wherever and whenever they desire. The future has been and is wireless, indoors, and outdoors.

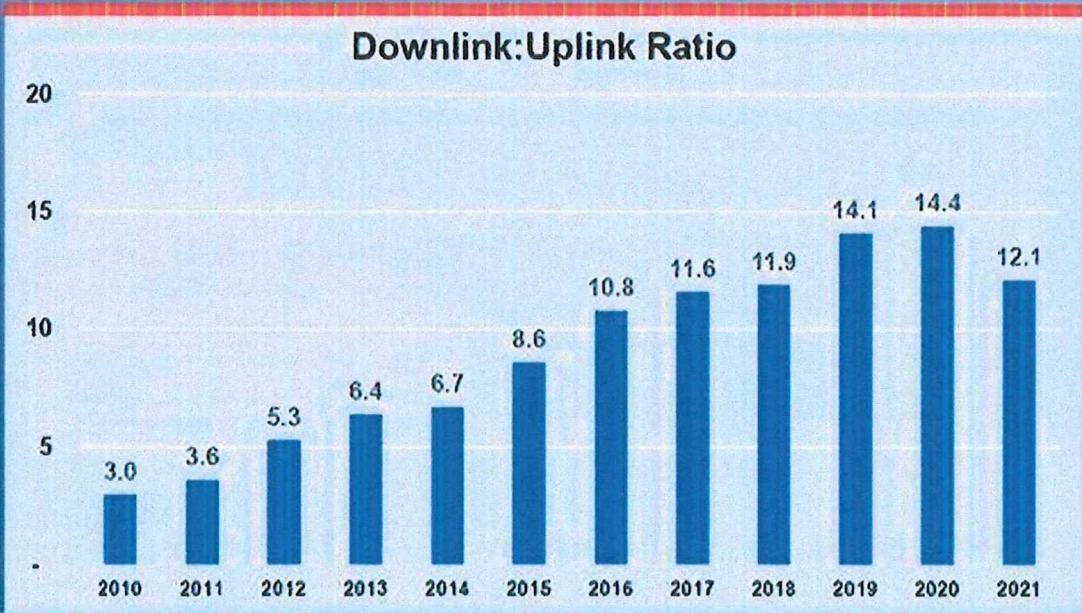
Again, thank you for the opportunity to testify on AB303. What matters is not if you have fiber, it's if you have sufficient connectivity. On behalf of UScellular, we respectfully **request this legislation be amended to remove the prioritization of 100/100 broadband speeds**. This change is vital to enhance the economic viability and lives of all those who call Wisconsin home. UScellular is dedicated to bringing broadband service to the hardest-to-reach residents and areas of Wisconsin.

# A broadband connection capable of 100/20 Mbps is more than sufficient to all an entire family to operate online simultaneously. (CTIA 2021)



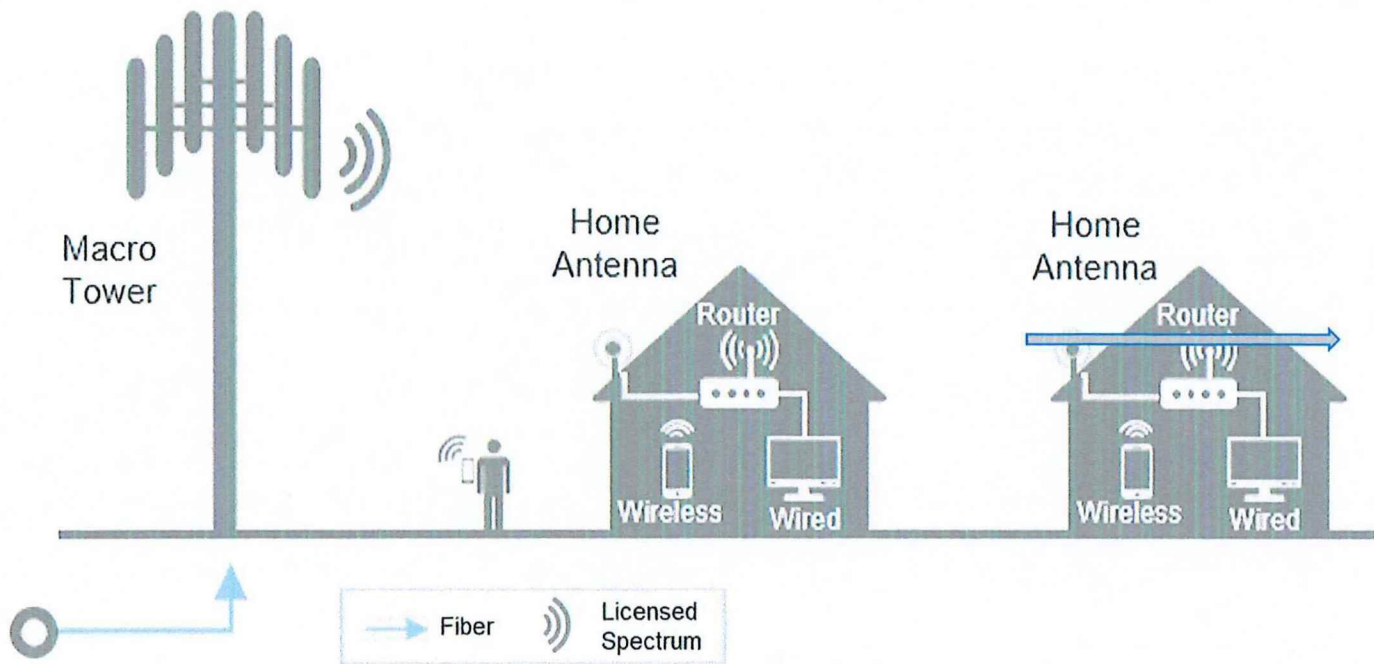
# Broadband usage is asymmetrical with far more download than upload.

Rules that require symmetry do nothing but limit competition and ignore usage trends...



Data Source: Commscope

# 5G Fixed Wireless provides high speed broadband to rural communities – A reliable, quick to deploy and cost-effective investment for the "last mile."



Rural External Antenna



Rural window Antenna



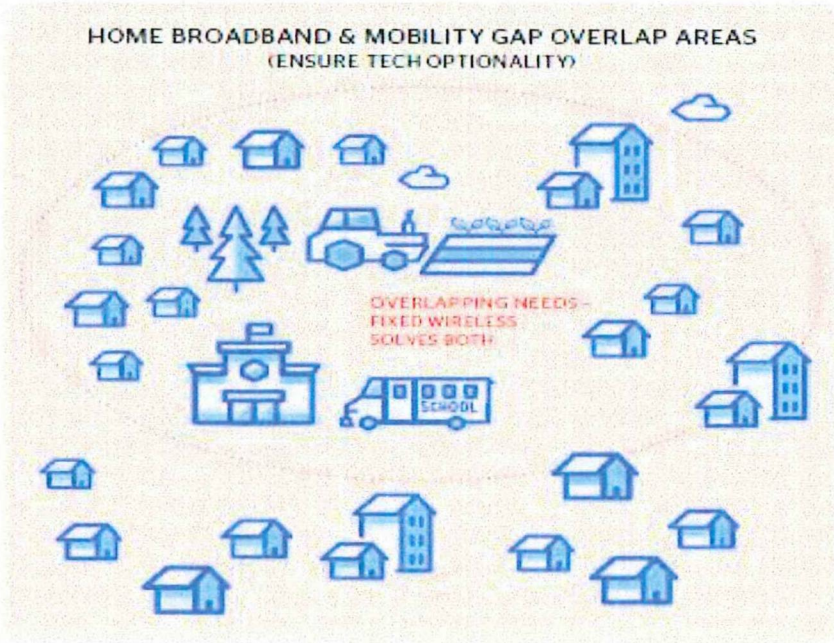
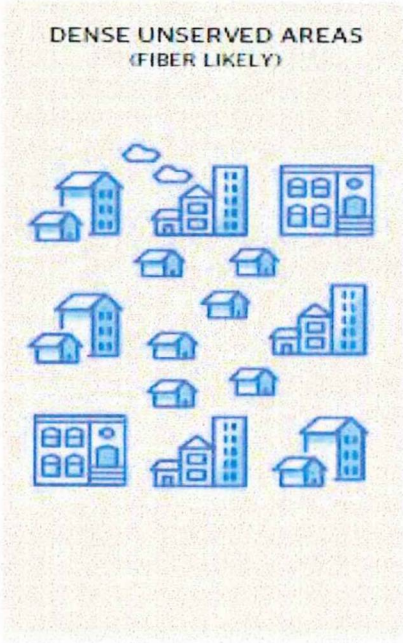
Internal Antenna/Router



- UScellular deploys quality licensed spectrum for 5G FWA. Recent licensing in the mid-band spectrum range provides BEAD qualified broadband speed.
- The same tower and spectrum **ALSO PROVIDES MOBILE BROADBAND** to communities that also lack coverage. Thus, a dual benefit for struggling rural areas.

It will take multiple technologies to achieve “Internet for All.” For many people in the middle and right sections of this diagram, what matters isn’t if you have fiber or not, it’s if you have sufficient connectivity at all.

**ANY STATE USA**







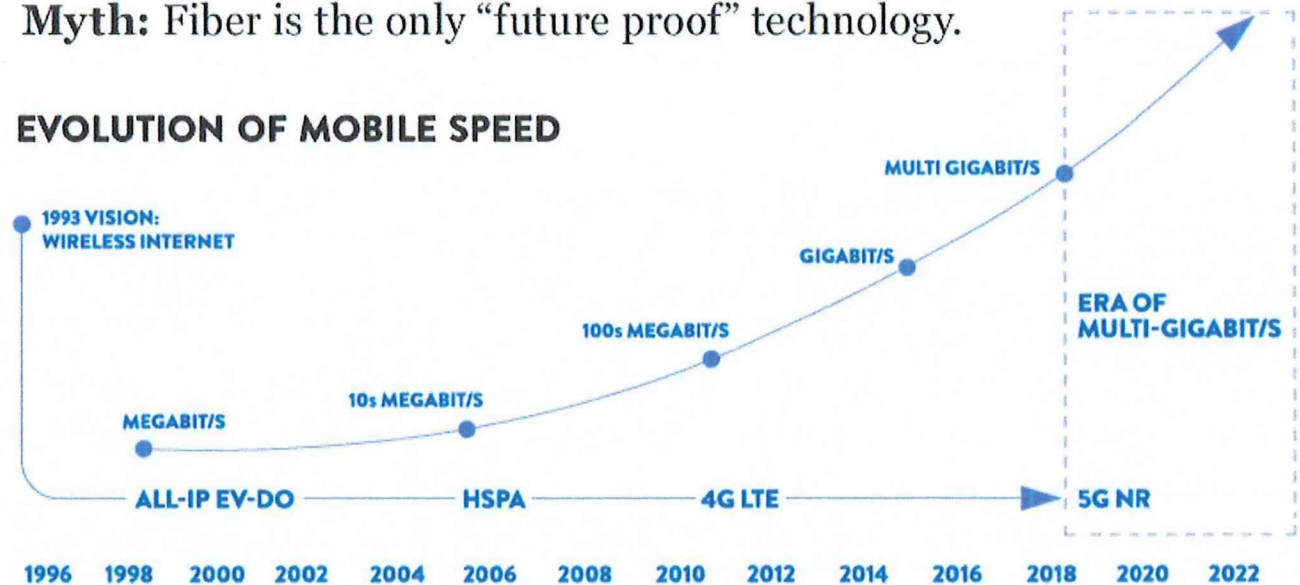
MYTH

VS.

FACT

**Myth:** Fiber is the only “future proof” technology.

### EVOLUTION OF MOBILE SPEED



**Fact:** Wireless technology is at the center of global innovation. With exclusively licensed spectrum and technological advances, 5G FWA is reaching new heights in service excellence, pushing the edges of distance, without the historical challenges of line of sight, and forecasting throughput at multigigabit levels.



# Public Service Commission of Wisconsin

Rebecca Cameron Valcq, Chairperson  
Tyler Huebner, Commissioner  
Summer Strand, Commissioner

4822 Madison Yards Way  
P.O. Box 7854  
Madison, WI 53707-7854

## Testimony on Assembly Bill 303 before the Assembly Committee on Energy and Utilities

June 6, 2023

Matt Sweeney

Public and External Affairs Director  
Public Service Commission of Wisconsin

Chairman Steffen and committee members, thank you for the opportunity to testify for information on AB303. My name is Matt Sweeney, I am the Public and External Affairs Director at the Public Service Commission (PSC or Commission). As you know, the PSC is Wisconsin's independent utility regulator. It is the PSC's mission to ensure the delivery of safe, reliable, affordable, and environmentally responsible utility services and equitable access to telecommunication and broadband services.

While other utilities in Wisconsin like electricity, water, and natural gas are regulated, the provision of high-speed broadband internet is largely unregulated. In the context of this hearing, this means that broadband providers cannot be required to serve unserved areas, and where service is offered, the quality and standard of service is unregulated. If an area does not have access to broadband service, the residents and businesses have to wait until a provider decides to expand there or the current provider decides to improve the internet service to provide broadband. Broadband providers are reluctant to expand into areas where there are too few customers or if the area is more expensive and difficult to serve. The unfortunate result of these circumstances is that portions of our state and hundreds of thousands of our fellow Wisconsinites cannot access or rely on high-speed internet service, while many others have had access for decades.

In July 2013, the State Legislature created the Broadband Expansion Grant Program to help meet the demand for improved broadband and encourage its development in Wisconsin's unserved and underserved areas by providing grants to providers to help make up for that lack of return on their investment. Since the first grant round in 2014, the state grant program has awarded nearly \$214 million in grants including \$16.6 million awarded just last month.

The state grant program has been incredibly successful. It has funded 363 projects that will add or improve broadband access to hundreds of thousands of homes and businesses when construction is complete. It has funded the construction of over 200 miles of middle mile infrastructure providing the needed resources for future expansion into unserved areas of the state. That \$214 million in state investment has leveraged an additional \$352 million in private and local matching investment into our state's broadband infrastructure.

Much of the program's success can be attributed to how the State Legislature structured the program and placed it at the PSC. The PSC has special expertise to make decisions in the public interest by assessing complex information within established statutory guidelines for utility construction projects and changing utility rates, among other things. Allowing three independent

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Commissioners to apply the eligibility and merit criteria in statute along with their expertise and best judgement ensures that the projects that are awarded these limited funds are in the public interest and are the best use of those dollars. Not everyone is going to agree with the PSC's decisions, but Commissioners have significant expertise and experience in looking at the big statewide picture along with the merit and value of each project and make those hard choices. This ability to nimbly adapt and change as industry, coverage, and technology changes has been the basis for the success of the grant program.

The grant program gives our state the ability to fund the most viable projects that also coincide with the highest need areas. If providers will not expand to an area because the return on investment is not there, or if an area or project is not eligible to receive federal funding for expansion, or if barriers in state law are insurmountable for a community to provide broadband service to its own residents, our grant program can come in, fill that gap, and make sure that no one is left unserved.

The most recent estimates from the Wisconsin Broadband Office using the new National Broadband Map show about 464,000 locations that would be considered "unserved" under this bill. The Commission has been tremendously successful at awarding and administering funding to deploy broadband in high need areas of the state. We thank you again for the opportunity to provide this information.