AGENDA
Eau Claire County
Broadband Committee
Thursday, August 25, 2022
5:00 P.M.

Courthouse – Room #3312
721 Oxford Avenue – Eau Claire, WI

Those wishing to make public comments must submit their name and address no later than 30 minutes prior to the meeting to greg.dachel@eauclairecounty.gov

Join from phone: 1-415-655-0001 Access code: 2599 209 8825

Join from meeting link:
https://eauclairecounty.webex.com/eauclairecounty/j.php?MTID=m61e3ff9791677b90e03e2274d3701067

Join by meeting number: 2599 209 8825 Password: P867nsy2NVm

1. Call to order and confirmation of meeting notice.
2. Roll Call
3. Public Comment (limit to 3 minutes per person)
4. Review/Approval of June 16, 2022, Committee Meeting Minutes – **Discussion/Action**
5. Recognition of Scott Hoffman, Joe Alf, Sarah Lipke, and Ann Nielsen for their past service as the Broadband Committee Chair - **Discussion**
6. Committee Membership Update - **Discussion**
7. Broadband Committee Extension – **Discussion/Action**
8. Internet Service Provider (ISP) Updates – **Discussion**
9. Digital Equity Advisory Group – **Discussion**
    a. Induction of Amber Scharenbroch, - Community Impact Director – Digital Equity
10. SpaceX Starlink Pilot Project Update – **Discussion/Action**
11. Press release promoting the Speed test and survey – **Discussion**
12. Next Steps and future meetings – **Discussion/Action**
    a. Future Meeting: September 15, 2022.
13. Adjourn

PLEASE NOTE: Upon reasonable notice, efforts will be made to accommodate the needs of individuals with disabilities through sign language, interpreters or other auxiliary aids. For additional information or to request the service, contact the County ADA Coordinator at 839-4710, (FAX) 839-1669 or 839-4735, TTY: use Relay (711) or by writing to the ADA Coordinator, Human Resources, Eau Claire County Courthouse, 721 Oxford Avenue, Eau Claire, WI 54703.

MEETING MINUTES
Eau Claire County
Broadband Committee
Thursday, June 16, 2022
4:00 P.M.

Courthouse – Room #3312
721 Oxford Avenue – Eau Claire, WI

Those wishing to make public comments must submit their name and address no later than 30 minutes prior to the meeting to rod.eslinger@co.eau-claire.wi.us

Members Present: Todd Meyer, Luke Hanson, Collin Pomplun, Tim Laubach, Thomas Lange, Lynn Thompson, and Mark Zuber.

Staff Present: Rodney J. Eslinger, Director of Planning and Development, Greg Dachel, Director of Information Systems

Others Present: Dave Hayden, Andy Neborak, Avery Shanahan, Don Mowry

1. Call to order and confirmation of meeting notice.

   The meeting was called to order at 4:01 p.m. and the meeting notice was confirmed.

2. Roll Call – Members present are noted above.

3. Public Comment (limit to 3 minutes per person) – Julie Westphal, property owner from the Town of Clear Creek, addressed the committee regarding her concerns about a lack of highspeed internet where she lives.

4. Election of the Broadband Committee Chair and Vice Chair – **Discussion/Action**

   Mark Zuber nominated Todd Meyer for chair. No one else was nominated for chair; motion for Todd Meyer to serve as the committee chair carried on a voice vote with all in favor of the motion.

   Lynn Thompson nominated Mark Zuber for vice chair. No one else was nominated for vice chair, motion for Mark Zuber to serve as the committee vice chair carried on a voice vote with all in favor of the motion.

5. Appointment of the Broadband Committee Clerk – **Discussion/Action**

   The committee appointed Rod Eslinger as the committee clerk.

6. Recognition of Don Mowry for his past service as the Broadband Committee Chair – **Discussion**

   The committee recognized Don Mowry for his service and time on the broadband committee. Don spoke briefly about the broadband committee's accomplishments since it formed in 2019. He was proud of bringing highspeed internet to the Drammen and Brunswick, and he credited the collaborations with the ISP's, towns, and county for securing grants.

7. Broadband Committee Term (20-21.080) and Membership – **Discussion/Action**

   The committee asked work with Corporation Counsel's office to draft resolution on the committee term and to work with Committee on Administrative to allow hybrid meeting (where meeting virtually is an option). Mark Zuber motioned to approve drafting a resolution on the committee's term, Tom Lange seconded the motion; motion carried on a voice vote with all in favor of the motion.

8. Internet Service Provider (ISP) Updates – **Discussion/Action**

   a. Spectrum/Charter RDOF update – Clerk Eslinger provided the committee an email from Mike Hill regarding Charter's current progress on their RDOF.
   b. Mosaic Communications – no update

9. Digital Equity/Inclusion "United Way" Resolution/MOU – **Discussion/Action**

   Dave Hayden and Andy Neborak updated the committee regarding the Digital Equity and Inclusive United Way Resolution and MOU. They indicated that the funding would support the hire of a staff who oversee the program. Mr. Neborak mentioned that the program will intersect with schools, PC for People, connecting people to digital resources, provide independent living skills to children in foster care, and provide other community support related to digital equity.

   Luke Hanson motioned to approve the Digital Equity/Inclusion United Way resolution and MOU as presented in the packet, Tim Laubach seconded the motion; motion carried on a voice vote with all in favor of the motion.

10. Strategy to serve the eastern Eau Claire County – **Discussion/Action**

    The committee discussed the need for additional mapping of data (speed test/survey) and looking at all funding sources.

11. WI GEO Software – **Discussion/Action**

    Dave Hayden shared an example of the Momentum West speed test and indicated that he's working with county GIS staff to include our survey questions into the speed test. It's important to obtain additional information (dots on the map) that contain data on the levels of internet service throughout the county for future grant opportunities.

12. Verizon 5G project – **Discussion**

    Staff indicated that Verizon made a PSC application for their expansion of 5G in the county.

13. SpaceX Starlink Pilot Project Update – **Discussion/Action**

    Greg Dachel gave the committee an update on the Starlink pilot project and its sunset timeline. All participants will be receiving information from Starlink on how they can continue with their service or how they can end the program. The pilot project will be wrapping up in August.

14. Review/Approval of February 22, 2022, Committee Meeting Minutes – **Discussion/Action**

    The committee reviewed the meeting minutes of February 22, 2022. Mark Zuber motioned to approve the minutes; Tom Lange seconded the motion; motion carried on a voice vote with all in favor of the motion.

15. Next Steps and future meetings – **Discussion/Action**
    a. Future Meeting: August 18, 2022
    b. Update from Charter's progress on the RDOF build out.

16. Adjourn

Adjourn Action: Meeting adjourned by unanimous consent at 5:30 p.m.

Respectively submitted by,

Rodney J. Eslinger,
Clerk for the Broadband Committee
Director of Planning and Development

Eau Claire County
Broadband Committee Membership (as of 8/15/22)

	11 Member Committee		Affiliation/ Business		Email
1	Todd Meyer	Committee Chair	County Board Supervisor	Town of Fairchild Chair	Todd.Meyer@eauclairecounty.gov
2	Mark Zuber	Committee Vice Chair	Town of Drammen Clerk		townofdrammen@outlook.com
3	Luke Hanson		Eau Claire Economic Development Corporation		luke.hanson@eauclaire-wi.com
4	Thomas Lange		CVTC Vice President of IT		tlange8@cvtc.edu
5	Collin Pomplun		Augusta Area School District IT		cpomplun@augusta.k12.wi.us
6	Tim Laubach		Mega Coop IS Manager		Tim.laubach@megacoop.com
7	Lynn Thompson		Former Eau Claire Energy Cooperative, President, and CEO		ojibwalynn@gmail.com
8	Monica Obrycki		Current ECEC President		Mobrycki@ecec.com
9	Don Mowry	Former Committee Chair	Former County Board Supervisor	Emeritus Professor of Social Work, UW-EC	dmowry@uwec.edu
10	Waiting for Application from Marshfield Clinic				
11	Vacate				
	Ex-Officio				
	Rod Eslinger	Committee Clerk	Director of Planning and Development, Eau Claire County		Rod.eslinger@eauclairecounty.gov
	Greg Dachel		Director of Information Services, Eau Claire County		Greg.dachel@eauclairecounty.gov
	David Hayden		Retired IS Director, Eau Clair County – Contracted Support Position		david.hayden@eauclairecounty.gov

Enrolled No. RESOLUTION File No. 22-23/047

EXTENDING THE EXISTENCE OF THE SPECIAL COMMITTEE ON RURAL BROADBAND

WHEREAS, The Eau Claire County Board of Supervisors, pursuant to Resolution No. 19-20/020, Enrolled No. R163-013 created a special committee on Rural Broadband; and

WHEREAS, the Eau Claire County Board adopted Resolution 20-21/080 on October 20, 2020 extending the existence of the Special Committee on Rural Broadband; and

WHEREAS, the Rural Broadband Special committee was charged with the function of identifying under-served rural arears and gaps in broadband service. Identify potential strategies to improve access, and recommend cooperative ventures to improve rural broadband coverage; and

WHEREAS, the Rural Broadband Committee is composed of varied stakeholders who represent educational, technical, Extension, and rural partners; and

WHEREAS, the Rural Broadband Committee has made progress in reaching its goals it has yet to approve a final plan to improve access to broadband services in rural areas of Eau Claire County.

NOW THERFORE BE IT RESOLVED that the Eau Claire County Board of Supervisors extends existence of the special committee on Rural Broadband as created by Resolution No. 19-20/020, Enrolled No. R163-013 until such time as a final plan is approved but not longer than 24 months from the date of approval of this resolution.

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Committee on Administration

From: Buck Webb
To: Rod Eslinger
Subject: Re: Invite to the Eau Claire County Broadband Committee Meeting - 8/18 at 4 pm
Date: Friday, August 12, 2022 3:51:30 PM
Attachments: image001.jpg

Hi Rod.

I will be on vacation all next week and unable to make it.

What I can report is that TCC was awarded the grant for the Town of Pleasant Valley and we will be starting that project next spring. Our part of that project will cover about 26 homes. The Town of Drammen project is complete with construction. Approximately 80% of locations have been connected. The other project that will be starting next year is upgrading our coax facilities in the Village of Fairchild to FTTH. This will be a 2 year project and will be funded by TCC.

At this point we are waiting to see what other funding opportunities will become available. We do know that the Town of Clear Creek has 18 locations that currently are in a doughnut hole between Spectrum and Tri-County and we continue to see what can be done to help them out.

Thanks,

Buck Webb
Chief Operating Officer

Tri-County Communications Cooperative
http://www.tccpro.net | bwebb@tccpro.net
(715) 695.2691 | (800) 831.0610 |

INTERNET - CABLE TV - PHONE

On Fri, Aug 12, 2022 at 2:00 PM Rod Eslinger <Rod.Eslinger@eauclairecounty.gov> wrote:

> All –
>
> You are invited to attend the Eau Claire County Broadband Committee meeting on August 18th, 2022, at 4 pm in room 3312 of the Eau Claire County Courthouse. This is an in-person meeting where you'll have an opportunity to provide the committee any updates you may have regarding broadband in Eau Claire County. If you're unable to attend and you still want to give an update you may do so by

forwarding me your written update and I'll be sure that it's shared with the committee.

On behalf of the committee, I want to thank you in advance for your consideration.

Have a great weekend!

Rodney J. Eslinger

Planning and Development Director

721 Oxford Ave., Suite 3344• Eau Claire, WI 54703

Direct: 715-839-1657 **Cell:** 715-210-2436 **Fax:** 715-831-5802

Email: rod.eslinger@eauclairecounty.gov

Planning and Development

"Success is not the key to happiness. Happiness is the key to success. If you love what you are doing, you will be successful." -- Albert Schweitzer

address above, return the original message to me by mail, destroy any copies you may have made and delete the communication from any computer and/or storage media. Thank you for your cooperation.

Broadband Fact Sheet

What is Broadband?

West Central Wisconsin Broadband Alliance

"Broadband access is the great equalizer, leveling the playing field so that every willing and able person, no mater their station in life, has access to the information and tools necessary to achieve the American Dream."

-Michael K. Powell, former FCC Chair

Frequently Asked Questions

What impacts my internet speed?

Different broadband connection types can support different speeds with fiber optics being the fastest. In addition, your speed can be impacted by things outside the control of your internet service provider, such as your computer equipment & software (e.g., operating system, virus protection), the number of users in your home or neighborhood, and your subscription plan.

When is upload speed important?

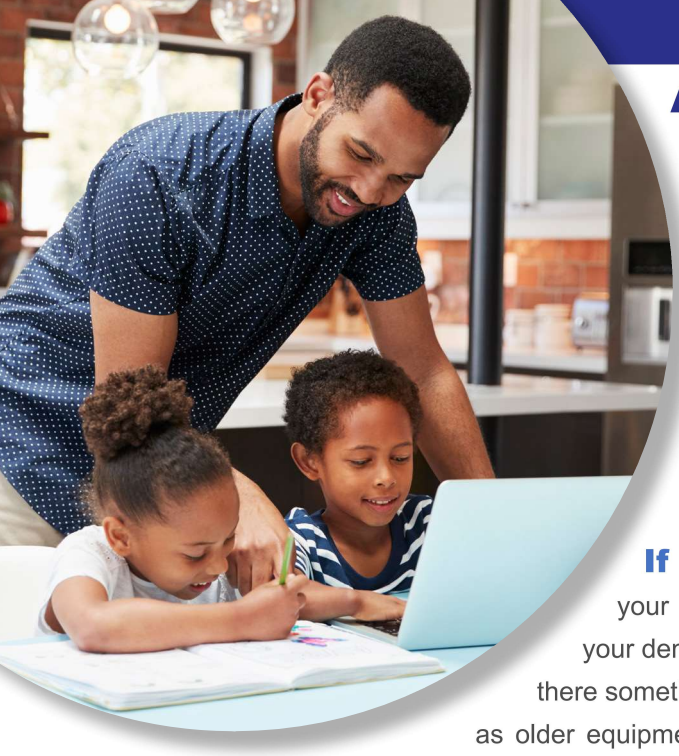
Upload speeds are how fast you can send data from your PC or device to the internet and are important for any activity that requires video conferencing (e.g., distance learning, telemedicine) or the exchange of large amounts of data (e.g., telecommuting, emergency services).

What is Starlink?

Developed by SpaceX, Starlink is a new satellite service being tested with limited availability as of 2022. Starlink has many of the same pros and cons of traditional satellite broadband service, except that it uses low-orbit satellites to reduce latency and provide higher speeds.

Broadband is a high-speed data transmission in which a single cable or radio frequency can transfer or carry large amounts of data at one time. The official Federal Communications Commission broadband speed definition is 25 Megabits per second (Mbps) download and 3 Mbps upload, though this definition is outdated and these speeds are often inadequate for today's increasing broadband demands.

Common Types of Broadband Connections	Pros	Cons
Digital Subscriber Line (DSL) A always-on, wired connection used over already available traditional copper telephone lines. DSL is effective as broadband up to 2-3 miles without a repeater since a DSL signal degrades with distance.	Infrastructure is in place; existing telephone lines Typically, lower subscription fees	Decreased subscriber speeds with distance Often the slowest wired broadband connection type
Cable Modem This provides broadband using the same cables that delivers sound and pictures to a cable TV set. Most cable modems provide adequate speeds for current residential use.	Medium high-speed connection A steady connection	Cable is not available in all areas Speeds may slow during "peak use"
Fiber (or Fiber To The Premises) Fiber Optics send data by light through glass tubes at speeds of tens or even hundreds of Mbps. The future-proof "gold standard" with the best bandwidth speed options.	Fastest connection available; scalable for future Upload speeds can be symmetrical with download speeds	Limited availability & higher fees Fiber infrastructure is costly to install
Fixed Wireless Wireless broadband connects homes using a radio link between the customer and the ISP's transmitter and are often used in rural areas as a last-mile alternative where wired broadband infrastructure is too costly.	Lower infrastructure costs than wired broadband types Can have speeds similar to or even faster than DSL	Transmitted signal only effective up to 5-10 miles Line-of-sight & interference can be challenges
Satellite Satellite may be an option when a higher speed connection is not available. Due to the distance that the signal must travel, most satellite broadband service has high latency (transmission delays). Must have good line-of-sight.	Coverage is almost limitless, if line-of-sight SpaceX Starlink project may offer a lower-latency option	High installation/ equipment costs Slower effective speeds; weather can disrupt



Addressing your Broadband Needs at Home

To help get started: Determine the internet speeds you need. Each type of broadband connection offers different speeds, so it is important to know which one is right for you. The chart below provides examples of what you can do with different internet speeds. It is estimated that the average U.S. household has 10 Internet-connected devices.

If you do have broadband internet: Test your current internet speed. Do you have the right speed for your demands? Are you getting the speed you are paying for? Is there something on your end that may be impacting your speed, such as older equipment? Work with your Internet Service Provider (ISP) to address your concerns and if needed, explore other ISP options.

If you do NOT have broadband internet: Ask your neighbors what ISP they are using and if they are happy with the service. There are also several resources provided at the web address below to help see what ISPs are available in your area. If the broadband service you need is not available, download the West Central Wisconsin Broadband Alliance's Community Broadband Toolkit for ideas.

Internet Download Speed	Number of Connected Users or Devices	What You Can Do
5 Mbps	1 or 2	Online browsing, research, email
25 Mbps	3 to 5	Large-file downloading, basic Wi-Fi, business communication
75 Mbps	5 to 10	Video streaming, frequent file sharing, numerous POS transactions
150 Mbps	10 to 15	Frequent cloud computing, video conferencing, data backups
250 Mbps	15 to 20	Server hosting, seamless streaming and conferencing
500 Mbps	20 to 30	Multiple-server hosting, constant cloud-based computing, heavy online backups
1 Gbps	30+	Extreme-speed operating for enterprise-ready offices with near-zero interruptions

Table Source: Business.org

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Visit the West Central Wisconsin Regional Planning Commission website for more information and fact sheets at: ***www.wcwrpc.org/Broadband.html***

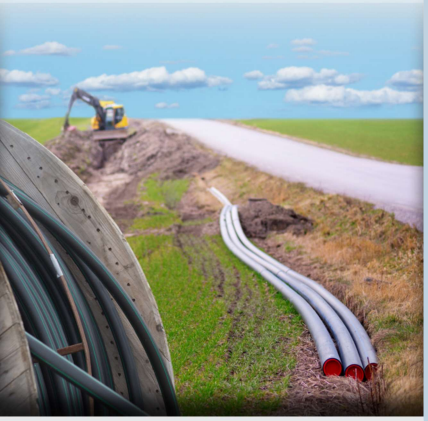
Broadband Fact Sheet

Why is Broadband Essential?

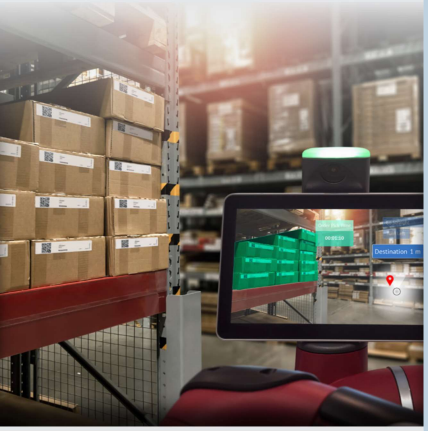
West Central Wisconsin Broadband Alliance

Broadband is the road to the future. Rivers, roads, railroads, & air travel have played an important role in our lives. Broadband is the next step as it complements the past and embraces the future.

Broadband & Community Growth



Companies looking to relocate often require a direct fiber connection and redundancy.



Research shows 5G will create 4.6 million jobs from now to 2034.

The Importance of Broadband: Access to high-speed and affordable broadband positively impacts our smaller communities. Many aspects of our day-to-day lives are greatly improved in areas such as education, health, public safety, government and cultural enrichment. Without proper access to broadband, communities struggle to keep pace in an age of ever-increasing technological dependence and the global market place.

Why Broadband Should Be a Priority

Higher Quality Education

The internet offers the opportunity to broaden educators' reach and resources beyond the bookshelves in their classrooms. For primary and secondary schools, education outside the classroom can be challenging. 7 out of 10 teachers now regularly assign homework that requires internet access, according to a report from the Federal Communication Commission. Broadband expands education beyond the traditional classroom, opening opportunities for online certificates and access to distance learning from around the world.

Improved Health

Equitable access to healthcare depends on affordable broadband for all. Yet, according to the American Public Health Association, "34 million people are disadvantaged – especially in health status – simply because they lack access to appropriate broadband." Individuals living in rural areas with chronic health challenges can be at an even greater disadvantage without access to remote monitoring and other broadband- enabled devices.

Economy

Web-based retail and marketing. Cloud-based data storage. Video conferencing. Global file sharing. Remote workers. These are a few of the many growing reasons why the economic impact of broadband is huge and no longer a luxury. A 2021 UW-Madison Extension report—Broadband & the Wisconsin Economy—references studies that show how broadband in rural areas is important for attracting new businesses, fostering entrepreneurship, enhancing farm profits, and increasing the value of rural housing. The report also suggests that increased broadband availability has a positive impact on employment and population growth.

Improved Quality of Life

Today, the average American household has 25 connected devices which range from cell phones and computers to televisions and appliances (www.corning.com/muni). Broadband also improves employment rates and supports higher-paying jobs, continuing education, and entrepreneurship.

For additional information on these topics, see the other fact sheets in this series.

Some Ways Broadband Helps Rural Communities

Small Businesses: In rural America, small businesses create nearly two-thirds of available jobs; broadband access is increasingly important as these businesses become more technology-dependent. A University of Wisconsin-Madison and University of Missouri-Columbia report found that an increase in female entrepreneurship and broadband access are directly related as many women still act as primary caregivers in the home while continuing to work professionally.

Real Estate: Housing with broadband can help communities attract workers that their businesses need. According to the REALTORS Association of NW Wisconsin, the number one question asked of their rural realtors is "How is the Broadband?". Fast internet has climbed to the top of the list for prospective home buyers with nearly 90% indicating it was very important to them. Washington state now requires home sellers to disclose whether their home has internet connection and what provider they use. Land availability and curb appeal is no longer enough. The Pierce County Economic Development Corporation conducted a study that identified a potential $2.5 to $3.7 million increase in property values with improved broadband access, benefiting local jurisdictions through increased tax revenue.

Agriculture: Like most industries, food production has seen an increase in technological capabilities over the past several decades. Broadband access allows Wisconsin's farmers to participate in online marketing, purchasing, selling, and use "smart farming" technology. A 2020 FCC study found a positive correlation between broadband availability and crop yields due to precision agriculture. The Executive Director of Wisconsin Agri-Business Association says, "rural broadband has long been likened to the rural electrification of the 1930's."

Tourism: Tourism and outdoor recreation is a major contributor to the rural economy; which is also changing due to broadband. Touchless pay has become the norm in retail, requiring high-speed internet. Public access Wi-Fi has become essential for many travelers, with 85% of leisure travelers deciding on their activities after they arrive at their destination, according to www.thinkwithgoogle.com. Another societal shift that bodes well for tourist economies is the "work-from-anywhere" policy, which allows people to take longer vacations or even move permanently to their cabin communities.

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Broadband Fact Sheet

Broadband & Education

West Central Wisconsin Broadband Alliance

"The Internet is the first technology since the printing press which could lower the cost of a great education and, in doing so, make that cost-benefit analysis much easier for most students"

-John Katzman, Educational Technology pioneer

Frequently Asked Questions

What is the Digital Divide?

The 'gap' or difference between demographic groups and/or geographic regions regarding their ability to access modern information and communication technology.

The digital equity gap is often greater in rural areas that lack access to broadband as well as among low-income households where affordability can be a barrier to adoption.

What broadband speed do I need for remote learning?

A wired connection with 30 Mbps down/15Mbps up with 60ms or less latency would be excellent for most remote learning. Higher speeds may be needed for virtual reality simulation or if your home has additional internet connected devices in use at the same time. Data caps on cell plans can also be a barrier to remote learning.

Does internet access improve education?

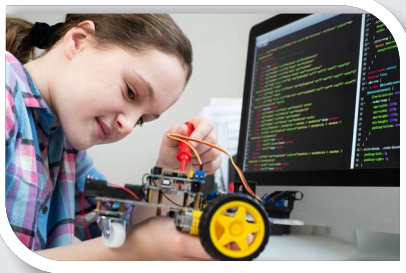
According to a 2021 study from Rice University on Texas public schools, not only did graduation rates improve with increased internet access, but there were also higher numbers of students meeting SAT/ ACT criterion and completing advanced courses.

The Importance of Broadband in Schools: The COVID-19 pandemic exposed the digital divide within our society, highlighting many students' inability to access one of their basic rights - the right to an education. Improved access to broadband allows students and teachers to expand learning beyond the confines of their physical classrooms. Learning can be highly personalized and interactive, often at a lower cost.

Aspects of Broadband in Education

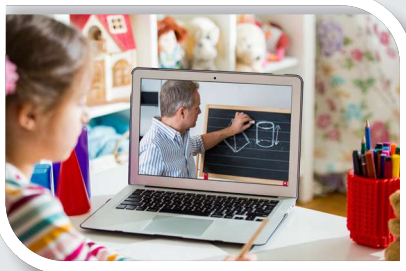
Homework

Educators are increasingly posting assignments, classwork, and additional learning content online using various education platforms or applications. This not only improves communication between parents, students and teachers, but also helps students with different learning styles identify opportunities for increased academic success.



In-Person Learning

Technology's role in the classroom is growing. 92% of secondary school teachers in a Pew Research Center survey stated that the internet is having a major classroom impact by increasing access to educational materials. A Michigan State University study found that broadband access to learning resources positively correlates with better school outcomes for students. Broadband also saves time for teachers and lowers costs for schools.



Distance Learning

Remote or distance learning is increasing at all levels of education, including for workforce training and professional credentialing. School closures during the COVID-19 pandemic forced many educators to adapt to fully remote-learning environments, and many of these tools are continuing as classrooms reopen. Ensuring broadband availability makes our communities more resilient should classrooms close again, regardless of the circumstances.

Sports/Arts

During the height of the COVID-19 pandemic, some sporting, music, arts, graduations, and other events continued, though spectators were sometimes limited or not allowed. Institutions turned to live streaming so family, fans, and alumni could virtually attend these events. With broadband infrastructure in place, this option can continue.

WISCONSIN DEPARTMENT OF
Public Instruction

Improving Digital Equity in Wisconsin: Closing the digital equity gap is a priority to ensure high-quality learning for all children in Wisconsin through access to robust broadband and digital learning resources, especially in rural areas and households lacking internet access. The Wisconsin Department of Public Instruction (DPI) is leading a variety of initiatives to help bridge the gap in digital learning access faced by many children and families in Wisconsin and provides leadership as a member of the Governor's Task Force on Broadband Access.

2021-2022 Digital Equity Data for Wisconsin Students:

56.3%

or **480,881** enrolled students counted

3.1%

or **14,973** students confirmed no internet access

Of students who confirmed access to the internet, **22.1%** or **106,160** students reported they can't stream video on their primary learning device without interruption

Data Source: Wisconsin Department of Public Instruction, WISEdash Public Portal.

Additional Tools & Resources

Learning from Digital Equity Data

DPI is helping school districts collect and use their data on broadband speed and availability to better target initiatives to help get access to those who need it.

Wisconsin Digital Learning Bridge

This program that allows school districts to purchase discounted hardware, software, and internet access for families to support blended learning.

Broadband Discounts for Families

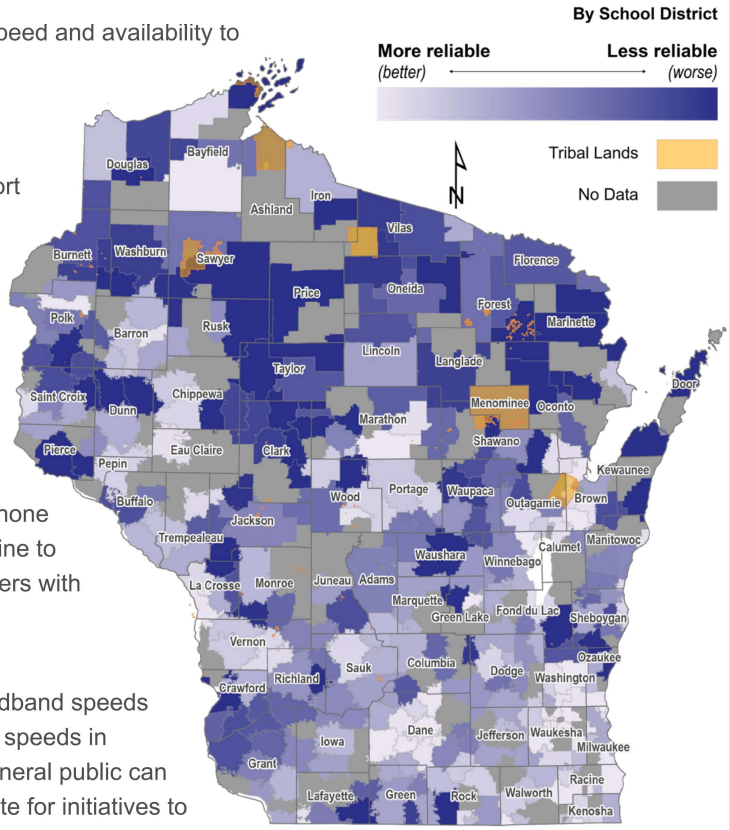
The DPI website includes a Funding Quick Reference Guide with a list of discounts available to families to assist with broadband (and other) costs as well as broadband-related and other funding available to public school districts. These assistance programs change over time, so please visit the DPI website to view the most recent list of discount programs: https://dpi.wi.gov/broadband/funding-quick-reference-guide

The Wisconsin Public Service Commission (PSC) offers an Internet & Phone Helpline at (608)267-3595. Wisconsin consumers can contact the Helpline to speak with dedicated PSC staff members who will help connect consumers with discount options.

Broadband Speed Testing

DPI is partnering with Measurement Lab (M-Lab) to collect data on broadband speeds across Wisconsin. M-Lab provides detailed public reports on broadband speeds in schools. Districts, researchers, broadband advocacy groups, and the general public can use this data to understand the state of internet connectivity and advocate for initiatives to improve broadband access across the state.

Map of Internet Reliability in Student's Homes 2021-2022 School Year



Map Data Source: Wisconsin Department of Public Instruction as of 4/15/2022.

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Broadband Fact Sheet

Telecommuting & the Economy

West Central Wisconsin Broadband Alliance

"People today really value workplace flexibility and remote work because it allows them to focus their energies on work and life as opposed to commuting"

- Ken Matos, VP of Research at Life Meets Work

Telecommuting Needs

Internet needs vary greatly across industries. Some jobs only require the ability to send and receive email while other professionals, such as radiologists or architects, may need to download/upload large images or X-ray scans that can reach upwards of 30 Gigabytes or more in size.

Below are some common teleworker tasks and their recommended internet speeds:

Internet Speed (download)	What You Can Do
5 Mbps	Online browsing, research, email
25 Mbps	Large-file downloading, basic Wi-Fi, business communication
75 Mbps	Video streaming, frequent file sharing, numerous POS transactions
150 Mbps	Frequent cloud computing, video conferencing, data backups
250 Mbps	Server hosting, seamless streaming and conferencing

Good upload speed (10+ Mbps) is important for video-conferencing, desktop sharing, and cloud computing.

As more devices are connected, higher speeds will be needed.

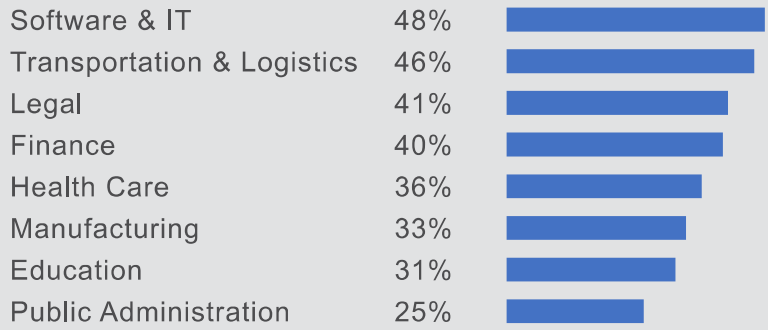
What are the Trends?

Telecommuting prior to the pandemic was a luxury that few employees enjoyed. Now, according to a recent LinkedIn Workforce Confidence survey, some industries have allowed nearly half of their employees to continue working remotely. Many employees note the value of telecommuting comes with the ability to work full-time while also having the flexibility to work from locations other than the office. This trend bodes well for rural areas, as the U.S. has recently seen dramatic population outflow from bigger cities to smaller communities, allowing residents to live where they want and still pursue a rewarding and challenging full-time career.

Which industries are embracing a future with remote work?

U.S. workers in the tech industry were more likely to say that their employer is offering options for full-time remote work, while those in public administration were less likely.

% whose employer will offer full-time remote work options long term

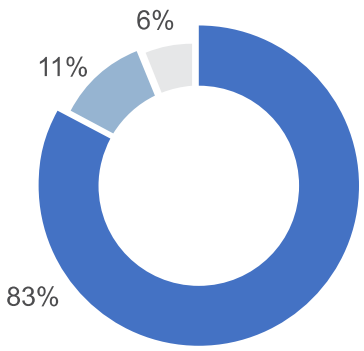


Source: LinkedIn, June 2021

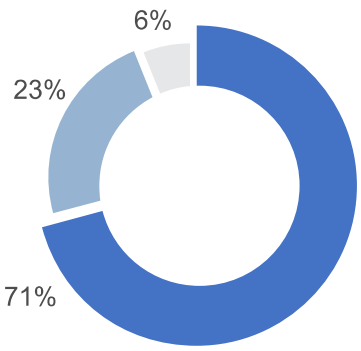
While many companies initially thought they would return to in-person work quickly as COVID-19 declined, employees and employers found remote work to be highly successful. For companies that still feel in-person work is critical for their workforce, video conferencing is now a common practice and will likely remain an integral tool for how workers communicate.

How successful has remote work been?

- Successful
- Mixed results
- Unsuccessful



Employers



Employees

Source: PricewaterhouseCoppers (PwC), January 2021

Why should we care about telecommuting?

Geographic Flexibility...

Many companies are instituting work-from-anywhere programs in order to attract and keep the workers they need. For dual-career families, a telecommuting option can be a deciding factor when the partners or spouses are working in different communities miles apart. Remote workers also identify an improved quality of life with the ability to visit or be closer to family (Harvard Business Review). The lack of housing options in many of our communities and the costs of daily commuting are additional reasons why remote working is growing.

...And Lifestyle Flexibility...

A mix of remote and office work means less time commuting and more time to enjoy life. A home office with broadband allows the worker to pick-up the kids at school, care for a loved one, or continue working safely as the snow accumulates outside. Remote working provides a sense of empowerment with opportunities for a more flexible work schedule to meet the competing demands of daily life. And many one-person, small businesses can be operated anywhere as long as broadband is available.

...Means a Happier Workforce

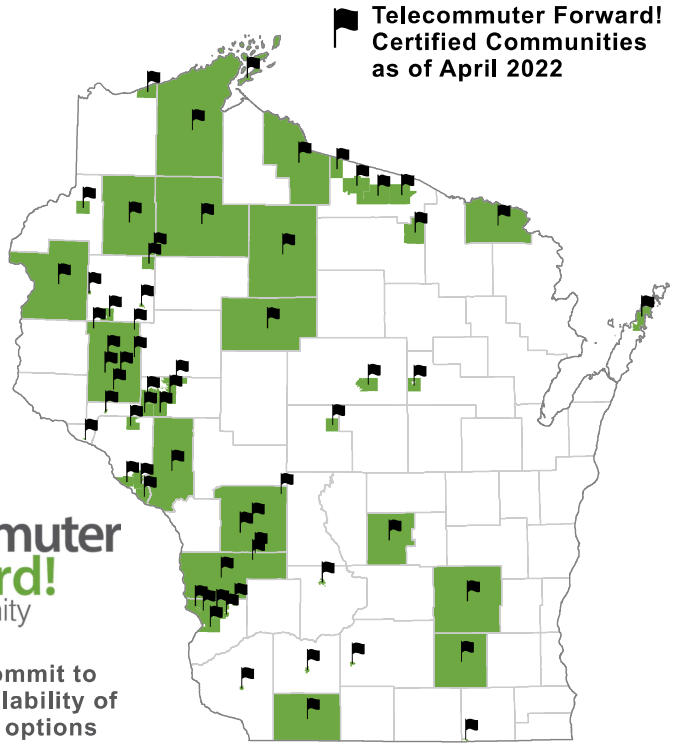
A 2019 Oxford study found that workers are 13% more productive when happy. A 2019 Owl Labs study reports that remote workers are 22% more happy and tend to work longer hours than workers who never work remotely. While remote work is not without its challenges, it is worth considering given our region's workforce shortages and the fact that only 12% of knowledge workers wanted to return to the office full time as the pandemic diminished (slack.com).

TELECOMMUTER FORWARD! COMMUNITY CERTIFICATION PROGRAM

Presented by the Wisconsin Broadband Office

Created in 2017, Telecommuter Forward! is a voluntary program for local units of governments (city, village, town, or county) to signal they support and commit to promoting the availability of telecommuting options in their communities. As of April 2022, the State of Wisconsin has certified over 65 communities, with the majority found in western Wisconsin.

Bayfield County, Wisconsin was the first Telecommuter Forward! certified community in the Nation. With marketing taglines such as "Love Where You Work" and "Telecommuting Optimized", the County has made broadband and telecommuting a centerpiece of their efforts to attract needed workforce with much of their outreach targeting tourists to the area. Between 2010 and 2020, the County's population increased by 8%, with local officials crediting broadband access as a driving force for this growth.



telecommuter forward! Community

Support and commit to promote the availability of telecommuting options

Source: Public Service Commission of Wisconsin

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Broadband Fact Sheet

Broadband & Healthcare

West Central Wisconsin Broadband Alliance

Broadband Internet Access is a Social Determinant of Health!

- American Journal of Public Health, 2020 August

Frequently Asked Questions

What is telehealth?

Telehealth, or telemedicine, refers to a variety of healthcare communication options, administered through the internet. Communication channels can include videoconferencing or a phone call with a healthcare professional. Remote monitoring devices can also track vital signs, in real time, identifying critical trends.

How does telehealth save you time?

According to a Michigan Medicine study, an in-person visit took 80 minutes from check-in to check-out, compared to just 24 minutes for a similar video appointment to be completed. The same study also found that the amount of face-to-face time between physician and patients increased by over 25%.

What types of appointments are available via telehealth?

Telemedicine can be used for a wide variety of general and specialized appointments, such as reviewing lab test or X-Ray results, mental health therapy, dermatology, prescription management, urgent care (for minor illnesses), post-surgical follow-ups, and many more.

Changes in healthcare delivery: COVID-19 placed enormous strain on the healthcare system, however telemedicine was able to lift some of the load off of providers. Fair Health reported that from April 2019 to April 2020, telehealth insurance claims increased by 8000%. This allowed patients to avoid waiting rooms and other physical interactions, keeping everyone safer. Rural residents without access to local healthcare may experience the greatest benefit though reduced travel time and costs.

Broadband Benefits for the Individual

Communication

Improved broadband connectivity in healthcare can mean the difference between life and death for patients, says a study by Digital Planet. Researchers found that a mere 1% increase in broadband access reduced the COVID mortality rate by 19 deaths for every 100,000 cases. Improved connections also directly benefit communication between patient & doctor and Emergency Services & Hospitals. According to the U.S. Department of Health & Human Services, Medicare telehealth visits increased from 840,000 in 2019 to 52.7 million in the year of 2020.

Monitoring

Monitoring technology can track how a patient's health changes over time, rather than taking a snapshot at each appointment. Not only does this provide better health outcomes, it also reduces the need for around the clock care. Examples of common Remote Patient Monitoring (RPM) devices that are enabling this shift are blood pressure and heart monitors, CPAP machines, and Glucometers. New innovations are incorporating some medical devices in to everyday objects, eliminating the need to change habits.

Timeliness

Waiting for health care appointments can be stressful. A study published in the National Library of Medicine found that in-person appointments typically had a 3.5 day wait time, as opposed to a 1.8 to 2.2 day wait time for a telephone or video visit. Tele-health visits also save rural residents from spending their time and money travelling long distances.

Cost

The cost of healthcare is also a barrier for many Americans. For instance, an in-person consultation for an acute respiratory infection (bronchitis or sinus infection) is typically around $146, compared to a telehealth appointment for a similar illness being just $79. Another factor to consider is transportation costs. Increasing gas prices compounded with long travel times can be a major inhibitor to low-income patients attending appointments.

Healthcare as an Economic Driver

Impact on the State

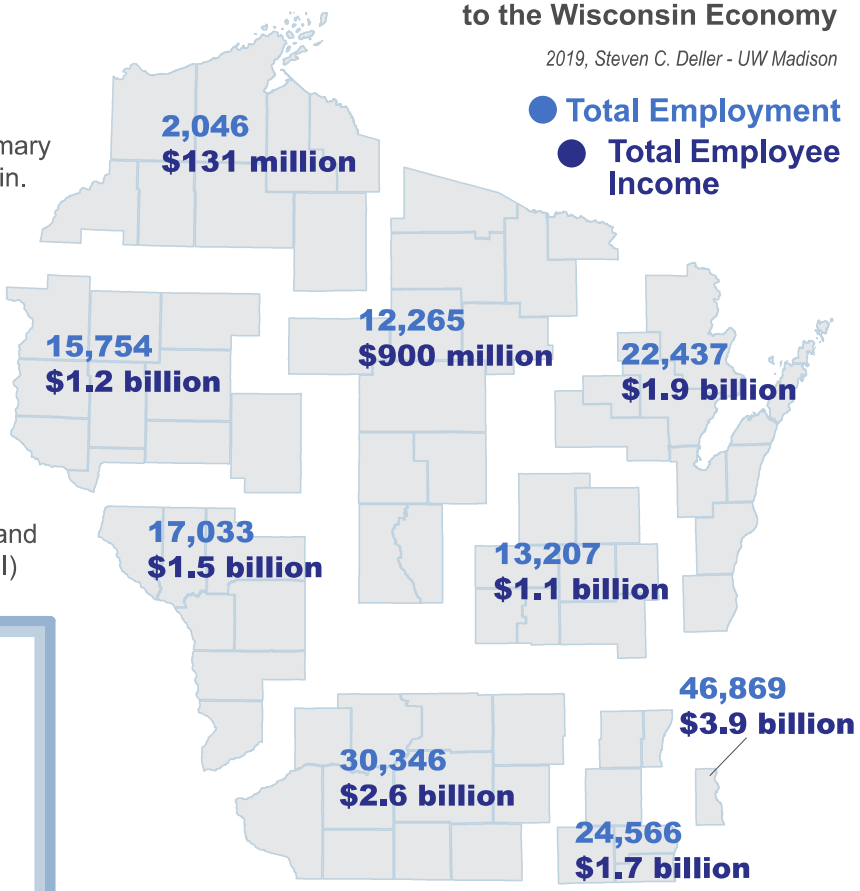
Hospitals and healthcare facilities rank as primary employers and economic drivers in the State of Wisconsin. Contributing over $119 billion in labor income, total income, other sales, and revenues to the State's economy. The jobs provided by this sector provide stability, and account for over 15% of Wisconsin's total employment, according to the Wisconsin Hospital Association (WHA).

Impact on the Region

Healthcare and social assistance is the second largest industry in West Central Wisconsin with nearly 32,000 jobs, $2.4 billion in gross regional product, and over 2,250 payrolled business locations in 2021. (EMSI)

The Contribution of Hospital Facilities & Services to the Wisconsin Economy

2019, Steven C. Deller - UW Madison



Emergency Management

Emergency services are on the front line of the healthcare industry, making split second decisions to save a life. Broadband connectivity can play a critical role in optimizing a paramedics time with their patient. This includes the use of Smart Ambulances, real-time communications with emergency room specialists to start critical triage & treatment, and location-optimized route planning to get the closest ambulances to-and-from the scene.

FIRSTNET™

The 9/11 Commission, created to investigate the terrorist attacks, identified several communication challenges during the tragedy. This led to the establishment of a single, interoperable network for public safety communication.

The First Responder Network Authority (FirstNet) was established in 2012, collaborating closely with public safety stakeholders to create the first ever nationwide broadband network dedicated to saving lives and protecting communities.

Behavioral Health

Mental or behavioral healthcare has been an area of growing concern across the country. According to the Kaiser Family Foundation (KFF), 3 out of 10 Americans reported symptoms of consistent depression or anxiety disorder since April of 2020. Half of US adults reporting a mental illness said they were not receiving treatment (Mental Health America).

Hudson Hospital & Clinic

Rural communities often lack resources or access to adequate behavioral health support. With the goal of closing this gap in treatment, the Hudson Hospital & Clinic in St. Croix County, Wisconsin is developing the "Emergency Department Behavioral Health Televideo Program". Serving eight hospitals across three separate counties, this program uses broadband technology to virtually provide behavioral health treatment and support to the area.

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Broadband Fact Sheet

Broadband Expansion Funding

West Central Wisconsin Broadband Alliance

""I promised to work to ensure every Wisconsinite had access to high-quality, high-speed internet, and our State Broadband Expansion Grant Program is one of the fastest and most efficient ways we have to do just that."

- Wisconsin Governor, Tony Evers

Frequently Used Terminology

What is the 5th Utility?

Broadband and the transfer of data has become a necessity for today's economy and lifestyle, joining four other utilities that we expect to be available anywhere—electricity, gas, water, and telephone.

What is Broadband Expansion?

The development and deployment of infrastructure through which advanced telecommunications capability (broadband) can be delivered to underserved areas.

What is the Middle Mile vs. Last Mile?

The middle mile is the high-capacity broadband infrastructure required to connect global internet networks (backbone) to the end users (last mile). In some cases, middle mile may connect anchor institutions, business parks, or other large, critical end users. Middle mile can be expensive to build, especially for smaller broadband providers.

Public-Sector (Government) Involvement

This is often necessary to address existing gaps in broadband service. Broadband started to replace dial-up service in the early 2000's. By 2020, 95% of urban Wisconsinites had broadband access whereas, in most rural counties, just 63% had access (UW-Madison Extension study). **Internet Service Providers (ISPs) have largely provided broadband service to those areas where they could attain a profit or reasonable return on investment.** Some areas may also have broadband service that is insufficient for today's growing technological demands. For such unserved or underserved areas, financial assistance or more active involvement from the public-sector is often needed.

Three Alternative Approaches

If ISPs have been unable to address local demand, a local unit of government is most likely to get actively involved in one of three ways:

Private-Public Partnership

Most commonly, a local unit of government will partner with an ISP and/or other private-sector partners to develop and implement a broadband expansion project. This often includes the unit of government making a cash contribution, helping to secure grant funding, and/or providing access to favorable bond financing. In such a case, the local municipality or a community group can partner with an ISP to "fill the gap" between actual capital costs and allowing the ISP a reasonable return-on-investment or to break even (if non-profit). Applications to the Wisconsin Broadband Expansion Grant Program will score higher if the project includes a strong private-public partnership.

Local Government-Owned Infrastructure

A municipality, a utility/commission established by the municipality, or other public-sector collaborative constructs their own broadband infrastructure for government use or to provide services within all or part of the community. State rules limit the ability of most municipalities to act as an ISP. Instead, some municipalities have installed conduit and fiber, which is leased to one or more ISPs.

Community Area Networks (CANs)

CANs are broadband communication networks that are collectively designed and managed, with costs shared by the members or end users. CANs in Wisconsin most commonly serve local units of government, state government, educational institutions, libraries, health care and nonprofits.

The above general approaches are not meant to limit creativity or other options (e.g., creation of a new cooperative). Regardless, it is important to be strategic and "big picture" in your planning. A project that is limited to the most profitable areas or largest customers can exacerbate a local digital divide by making it less desirable and less profitable for a second ISP to provide service to the remaining unserved areas. Further, the second ISP may also lack control or ownership over the "middle mile" in such a scenario, which may limit their options or impact service levels.

In 2020, Taylor County approved a $9.5 million bond and, through a request-for-proposals process, selected WANRack to help develop and manage a fiber network that will span 74.6 miles throughout the county. In addition, other ISPs will be able to affordably lease any portion of the new fiber to provide high-speed service to residents.

Broadband Funding Sources

Financing broadband expansion can be complicated and may involve a mix of funding sources and partners. The following are some of the more common funding sources:

- **Federal & State Funding** **A list of the most commonly used programs for units of government is available at www.wcwrpc.org/Broadband.html**, though this list does change over time. Private foundation grants for broadband expansion capital are rare. ISP partners will often assist in preparing grant applications.

- **Private Equity & Financing** by ISPs, investors/investment banks, developers, local residents, and businesses, including private equity or debt financing, mezzanine funding, private-public development agreements, and crowdfunding with patient capital.

- **Municipal Financing & Leasing,** such as tax-exempt debt financing, general obligation bonds, revenue bonds, industrial revenue bonds, avoided costs, and the leasing of public land or structures to an ISP for broadband infrastructure. This could include the installation and lease of "dark fiber" by the municipality to reduce capital costs to ISPs. When an ISP is unable to secure needed financing terms on their own, some municipalities have used their borrowing capacity to issue bonds to help finance broadband infrastructure as part of an agreement where the ISP has the primary obligation to repay the loan over time (through their subscription revenues) and the municipality is the second bond guarantor.

- **Tax & Assessment-Based Financing,** such as Utility Assessments, Tax Assessment Districts, Property-Assessed Broadband (landowner driven), Tax Increment Financing, Business Improvement Districts, Opportunity Zones, New Market Tax Credits, and utility connection fees.

Broadband Equity, Access & Deployment (BEAD) Program

As part of the 2022 Bipartisan Infrastructure Law (BIL), Wisconsin is expected to receive $700 million to $1.2 billion in BEAD funding for broadband infrastructure deployment prioritizing locations lacking 25/3 Mbps service. States are first required to complete a 5-year broadband implementation plan. The Wisconsin Broadband Office expects to have their plan complete in Summer 2023, with the initial round of BEAD grant applications opening during the second half of 2023. BIL also created a new Enabling Middle Mile Broadband Infrastructure Program, which is administered by the National Telecommunications & Information Administration (NTIA).

NEW FCC Broadband Mapping & Proposed Increase to Minimum Speeds

Many broadband grants, including Wisconsin's Broadband Expansion Grant Program, target unserved or underserved areas. Good data is vital to a competitive grant application. Facilities-based ISPs are required to file data (Form 477) with the FCC twice per year. The FCC launched a new broadband data collection program in June 2022 that should result in better, more accurate broadband maps. It is expected that the new maps will be available starting Fall 2022. In July 2022, the FCC Chair proposed increasing the national standard for minimum broadband speeds to 100/20 Mbps, recognizing that the current 25/3 speed metric is insufficient for today's needs.

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The Need for Speed

Taking a simple internet speed test is important for bringing high-speed broadband to Eau Claire County.

EAU CLAIRE COUNTY
BROADBAND COMMITTEE

For Immediate Release **8/????/2022**

(Eau Claire, Wis.) – By now most of us know the reality; high-speed internet access is an essential tool for functioning in everyday life. Whether we are making a doctor's appointment, buying groceries, or going to school; having access to high-speed internet is critical in today's society. Many of the residents of Eau Claire County still lack access to broadband or have slow internet speeds.

With this release, the Eau Claire County Broadband Committee announces that it has partnered (or teamed up) with Momentum West, the Wisconsin Economic Development Corporation (WEDC), and other parties in the Chippewa Valley to offer an internet speed test survey.

The mission of the Eau Claire County Broadband Committee is to serve as a collaboration and connection hub that works with citizens, businesses, industries, agriculture, units of government, and broadband providers to increase the availability, delivery, and utilization of high-speed internet services countywide. To achieve this mission, the committee is asking all community residents to take the speed test survey. There is also an opportunity to provide comments if you would like to. This information will help the committee further identify areas of greatest need and assist the committee to identify appropriate funding and project priorities . OR The data collected from the speed test survey will support internet service providers (ISPs) and Eau Claire County communities when seeking future broadband grants and other financial assistance to improve broadband infrastructure in the county.

We as policymakers rely upon you for good information. This speed test provides the sort of critical basic data that should drive policy decisions. If you care about internet access for economic development and equity of opportunity, logging on and taking the test is as important as voting. Please help us make the best choices for our entire community. Eau Claire County Broadband Committee Chair: Todd Meyer

Eau Claire County residents are encouraged to take the speed test survey at this link: Eau Claire Broadband Survey (arcgis.com) www.eau-claire-broadband-survey--eccounty.hub.arcgis.com or contact Rod Eslinger, Director of Planning and Development at 715-839-1657 to receive a paper copy of the survey. I'm not sure this is necessary. Thoughts?

##

Incorporated in 1856, ***Eau Claire County's*** *mission is "To provide quality, innovative and cost-effective services that safeguard and enhance the well-being of residents and resources." Covering 655 square miles in northwest Wisconsin, Eau Claire County government services touch those who live in the county, visitors, and others in the Chippewa River Valley. For more information, visit our website at www.co.eau-claire.wi.us or go to our Facebook page at www.facebook.com/EauClaireCounty.*

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Where Communities Come Together