Wisconsin Broadband Summit
November 16, 2021

Community Development Institute

Division of Extension

University of Wisconsin-Madison

Sponsored by

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United States Department of Commerce Economic Development Administration
in support of the
Economic Development Administration University Center
at the
Community Development Institute
Division of Extension
University of Wisconsin-Madison.

Mapping, Data and Surveying Panel

Matt Kures

Moderator

Broadband Data Sources

Matt Kures
Economic Development Administration University Center
Community Development Institute
UW-Madison Division of Extension

Federal Communications Commission Broadband Map - https://broadbandmap.fcc.gov/

- Based on FCC Form 477 Data, available at the Census Block level which can be aggregated to other geographies.

- Ability to filter access by speed, technology and year;

- **Overestimates coverage** – one household served = entire census block served;

- Maximum advertised speeds, not necessarily actual speeds.
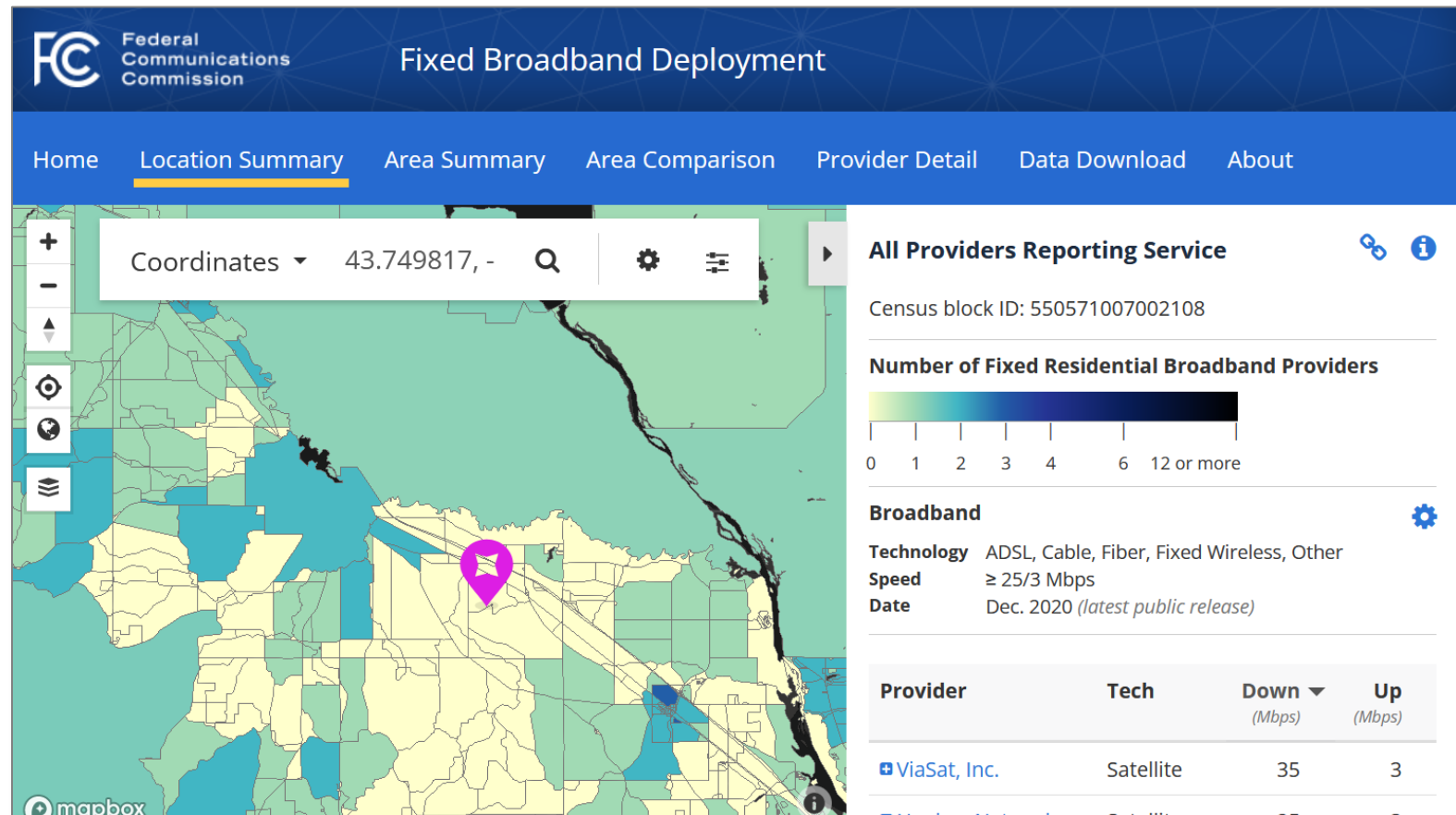
Wisconsin Broadband Map –
Wisconsin Broadband Office, Public Service Commission of Wisconsin
https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/

- Based on FCC Form 477 Data supplemented with submitted provider data

- Coverage layers for wired, wireless, mobile, etc.;

- Additional information on individual providers;

- Ability to map a specific county;

- Allows maps to be exported/printed in a variety of formats.
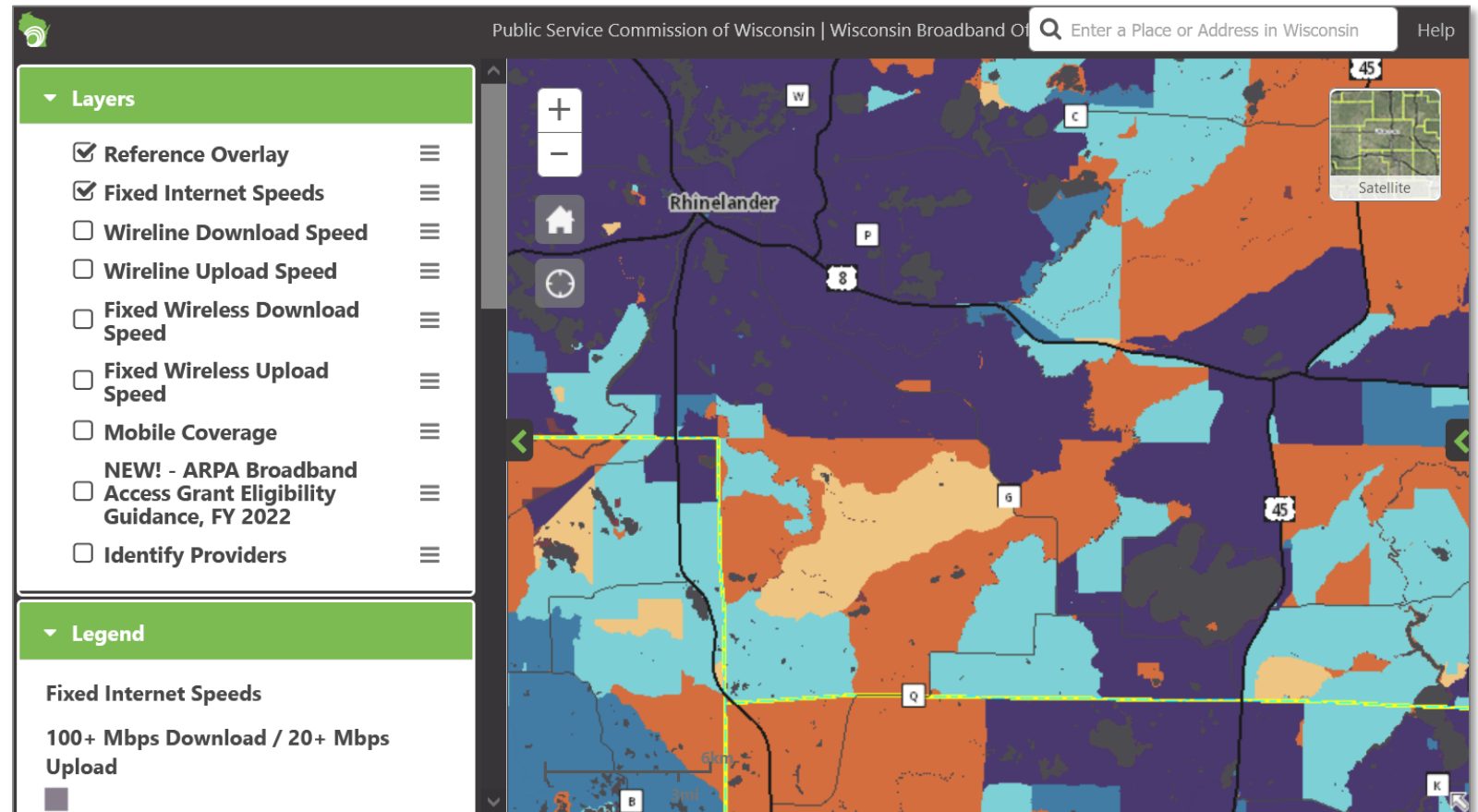
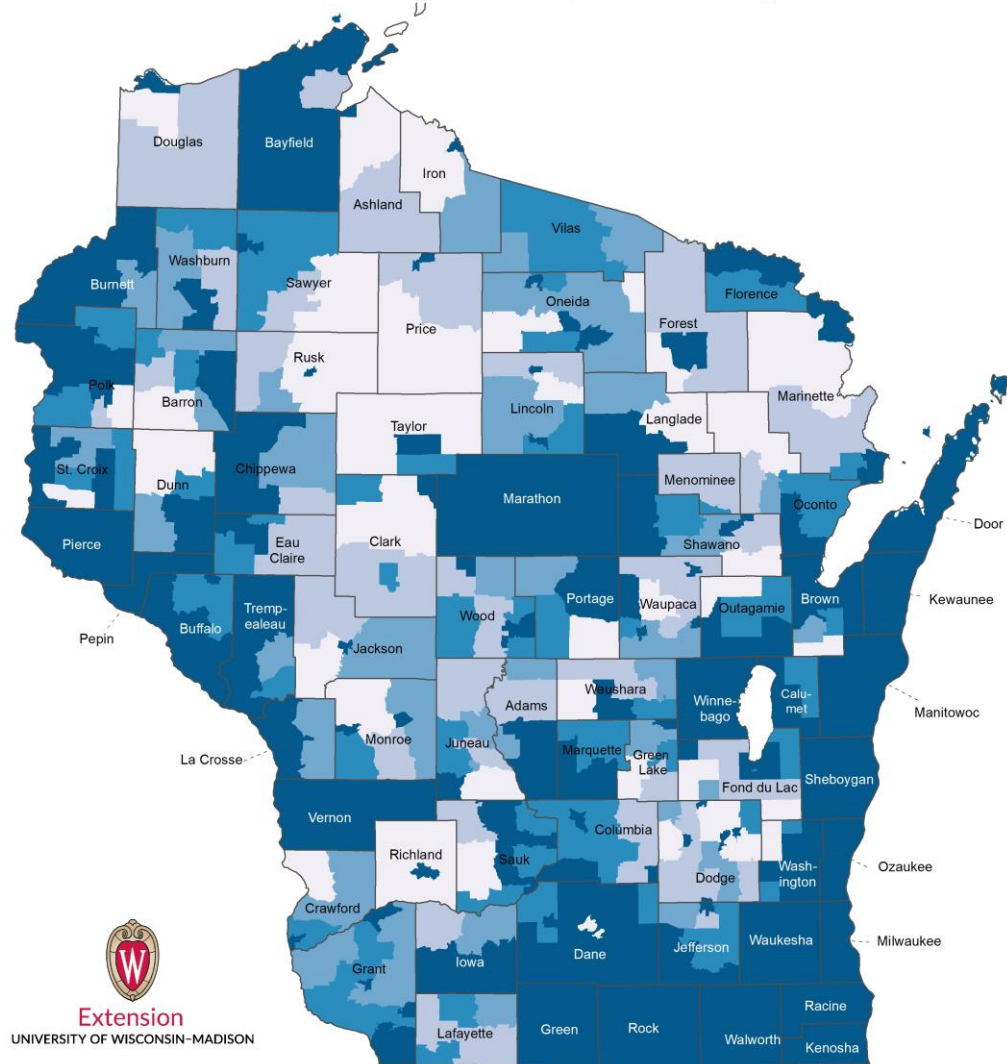# American Community Survey – U.S. Census Bureau
data.census.gov

- Estimates of Internet and broadband access by total households/population and demographic characteristics;

- Some table numbers of interest: S2801,S2802, B28001, B28002, B28003, B28004, B28005, B28006, B28007;

- Available by different geographic levels (county, place, census tract, etc.);

- Estimates include margins of error.

Share of Households with Access to Broadband (25/3 Mbps)
*June 2020 FCC Form 477 Data, Not Including Satellite*

Census Tract Share of Households with Access to Broadband (25/3 Mbps)

- 0.9% to 60.0%
- 60.1% to 70.0%
- 70.1% to 80.0%
- 80.1% to 90.0%
- 90.1% to 100.0%
- County Boundary

Data Source: Federal Communications Commission Form 477. The data are aggreated from census block data where providers report whether they serve a given census block. There may be other addresses or locations within a given census block that do not have access. Upload and download speeds are based on advertised speeds, not necessarily actual speeds reported by users.

Census Blocks without Access to Broadband (25/3 Mbps)
June 2020 FCC Form 477 Data, Not Including Satellite
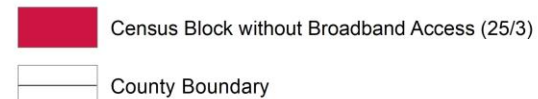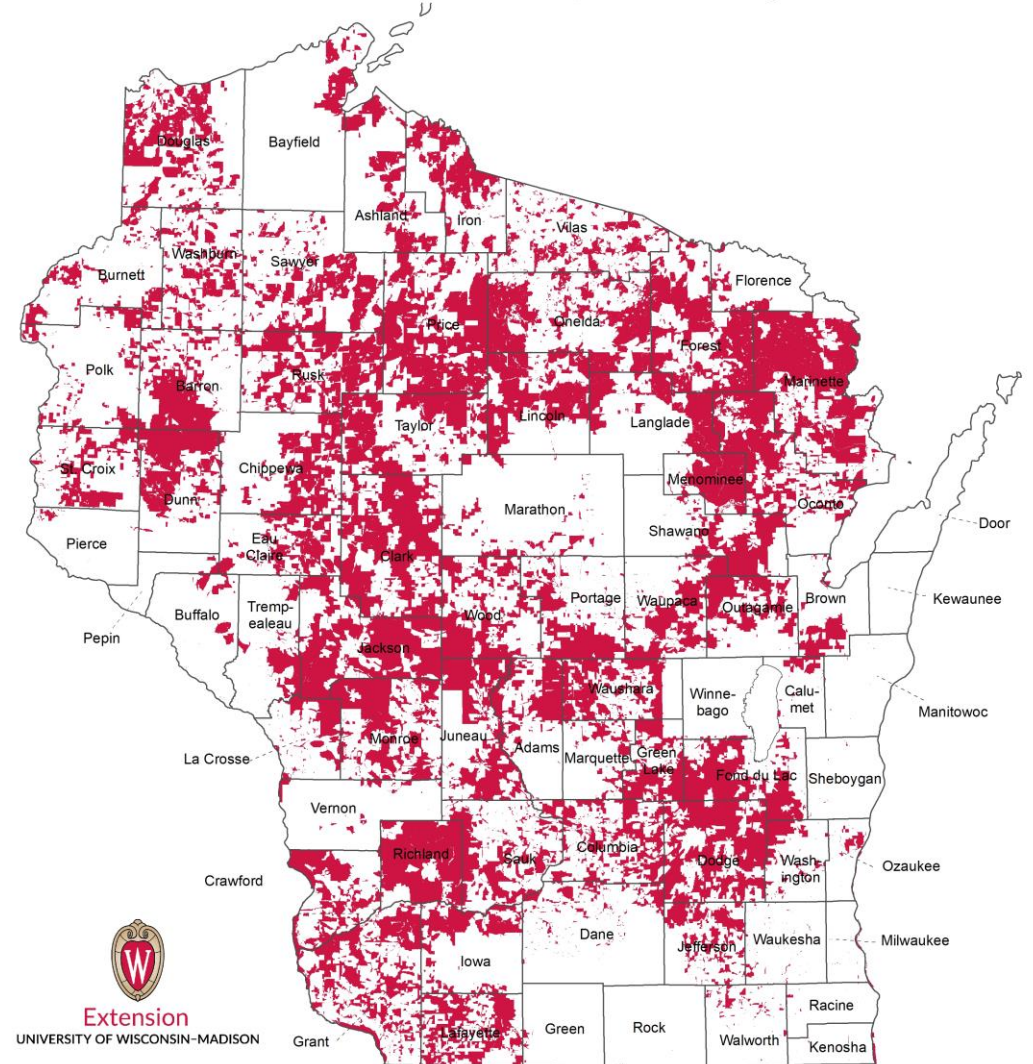
- Census Block without Broadband Access (25/3)
- County Boundary

Data Source: Federal Communications Commission Form 477. The data are aggreated from census block data where providers report whether they serve a given census block. There may be other addresses or locations within a given census block that do not have access. Upload and download speeds are based on advertised speeds, not necessarily actual speeds reported by users.
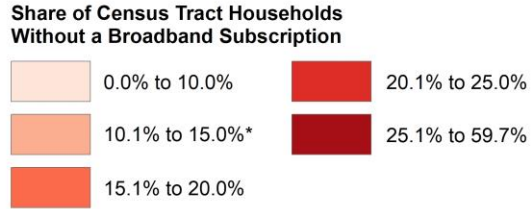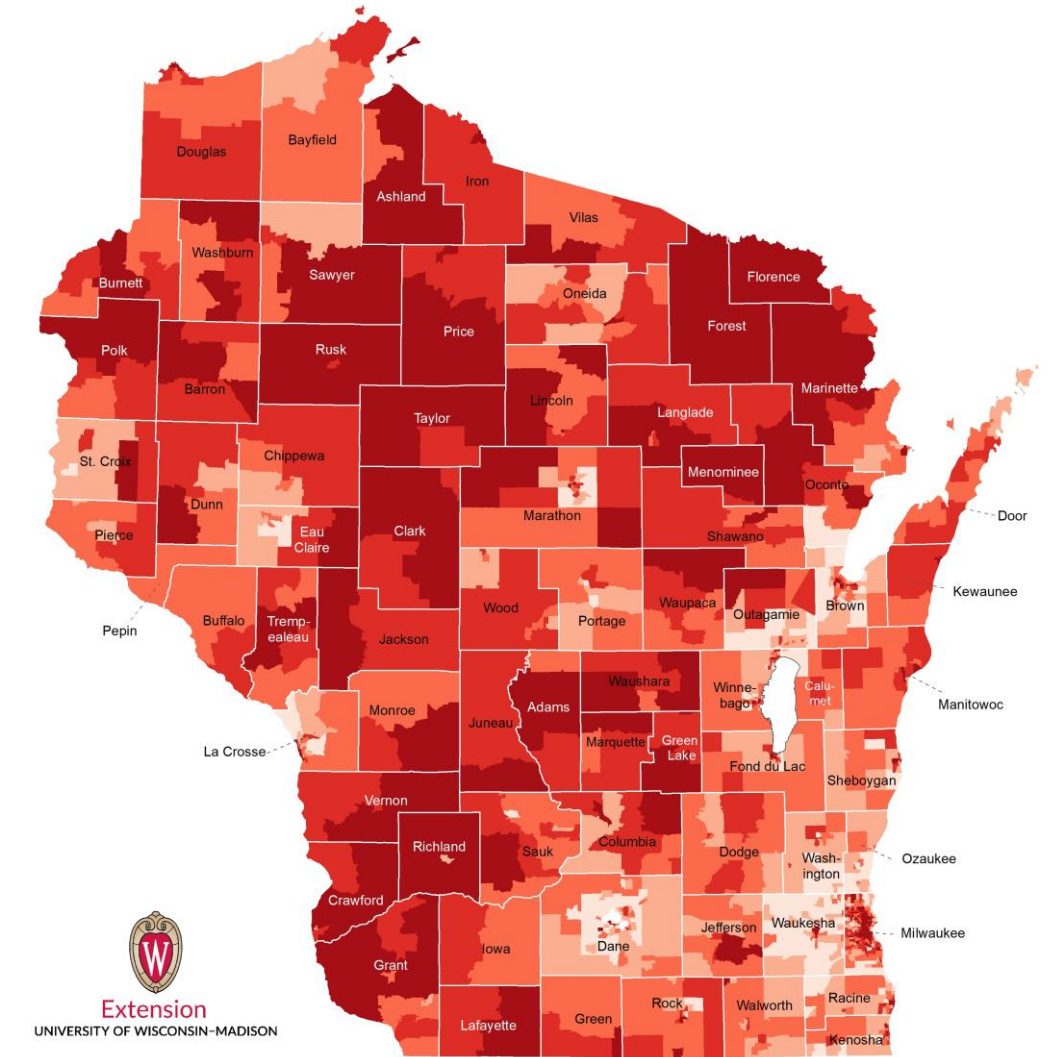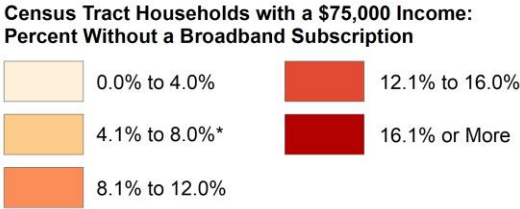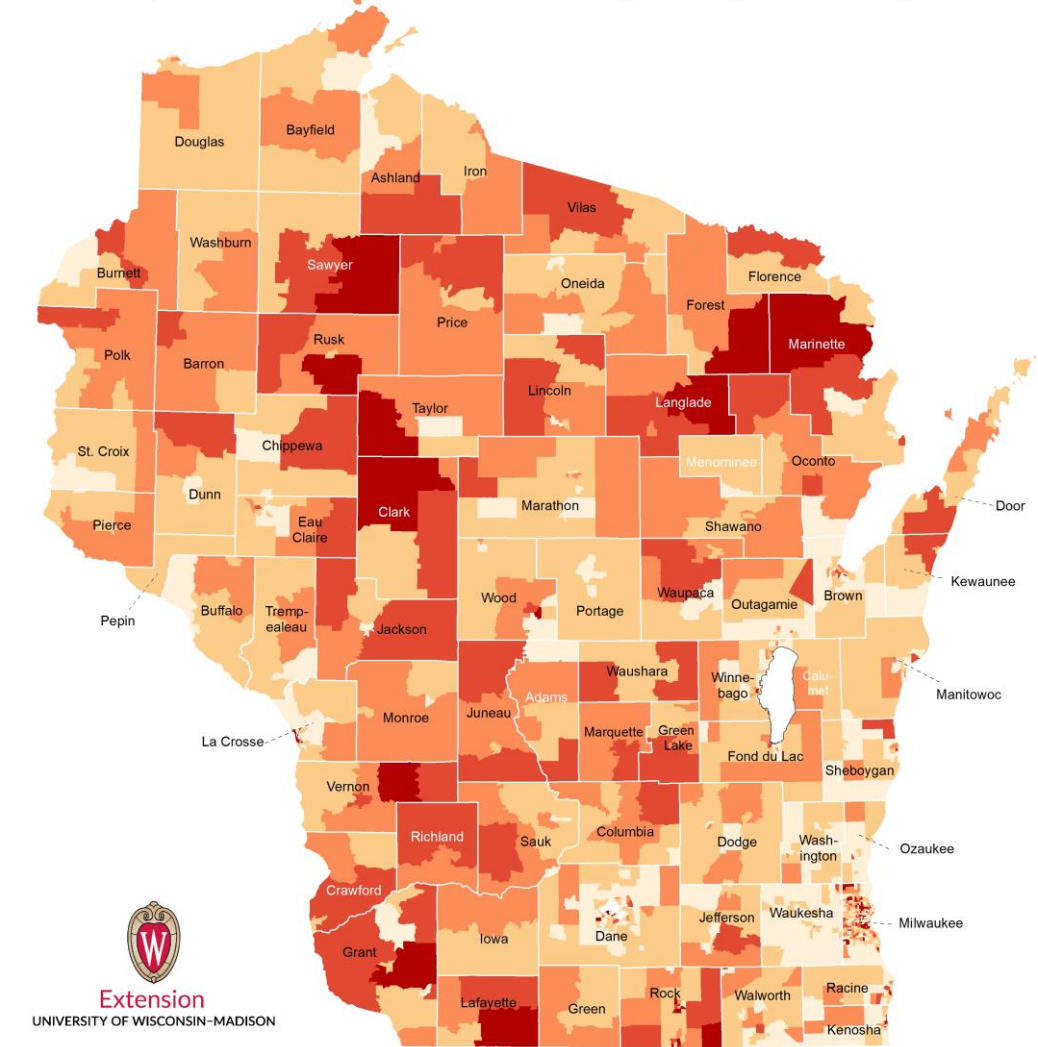
Share of Census Tract Households without a Broadband Subscription
(2015-2019 American Community Survey Estimates)

Share of Census Tract Households Without a Broadband Subscription

- 0.0% to 10.0%
- 10.1% to 15.0%*
- 15.1% to 20.0%
- 20.1% to 25.0%
- 25.1% to 59.7%

Data Source: U.S. Census Bureau 2015-2019 American Community Survey. An Internet "subscription" refers to a type of service that someone pays for to access the Internet such as a cellular data plan, broadband such as cable, fiber optic or DSL, or other type of service. This will normally refer to a service that someone is billed for directly for Internet alone or sometimes as part of a bundle.

* National Average = 13.6%   Wisconsin Average = 14.0%

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Census Tract Households with a $75,000 Income -
Percent without a Broadband Subscription
(2015-2019 American Community Survey Estimates)

Census Tract Households with a $75,000 Income: Percent Without a Broadband Subscription

- 0.0% to 4.0%
- 4.1% to 8.0%*
- 8.1% to 12.0%
- 12.1% to 16.0%
- 16.1% or More

Data Source: U.S. Census Bureau 2015-2019 American Community Survey. An Internet "subscription" refers to a type of service that someone pays for to access the Internet such as a cellular data plan, broadband such as cable, fiber optic or DSL, or other type of service. This will normally refer to a service that someone is billed for directly for Internet alone or sometimes as part of a bundle.

* Wisconsin and National Average = 5.6%

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Share of Households with Access to Broadband (25/3 Mbps) vs. Share of Households without a Broadband Subscription

Data Sources: FCC Form 477 June 2019 and U.S. Census Bureau 2015-2019 American Community Survey
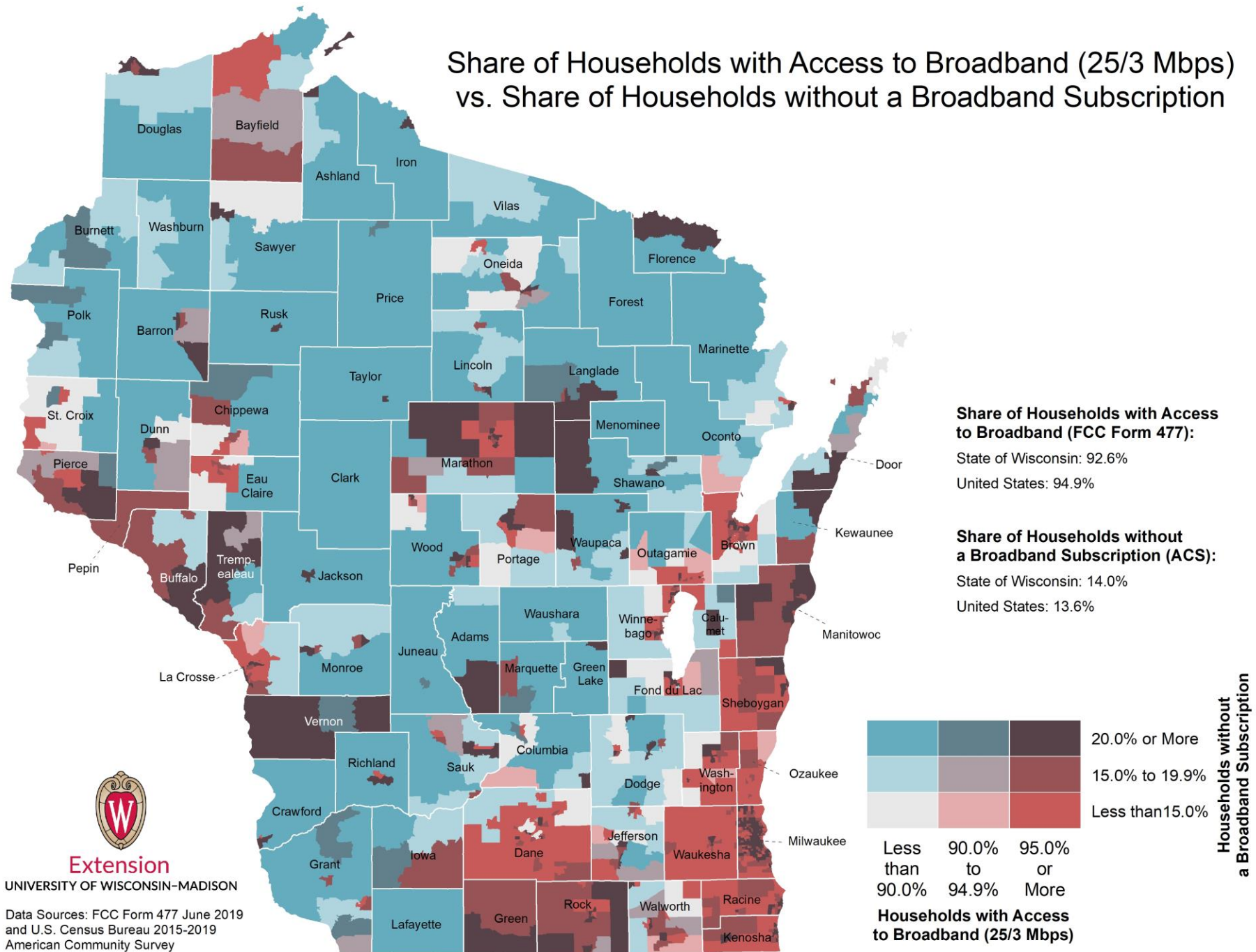
National Telecommunications and Information Administration (NTIA)
Indicators of Broadband Need
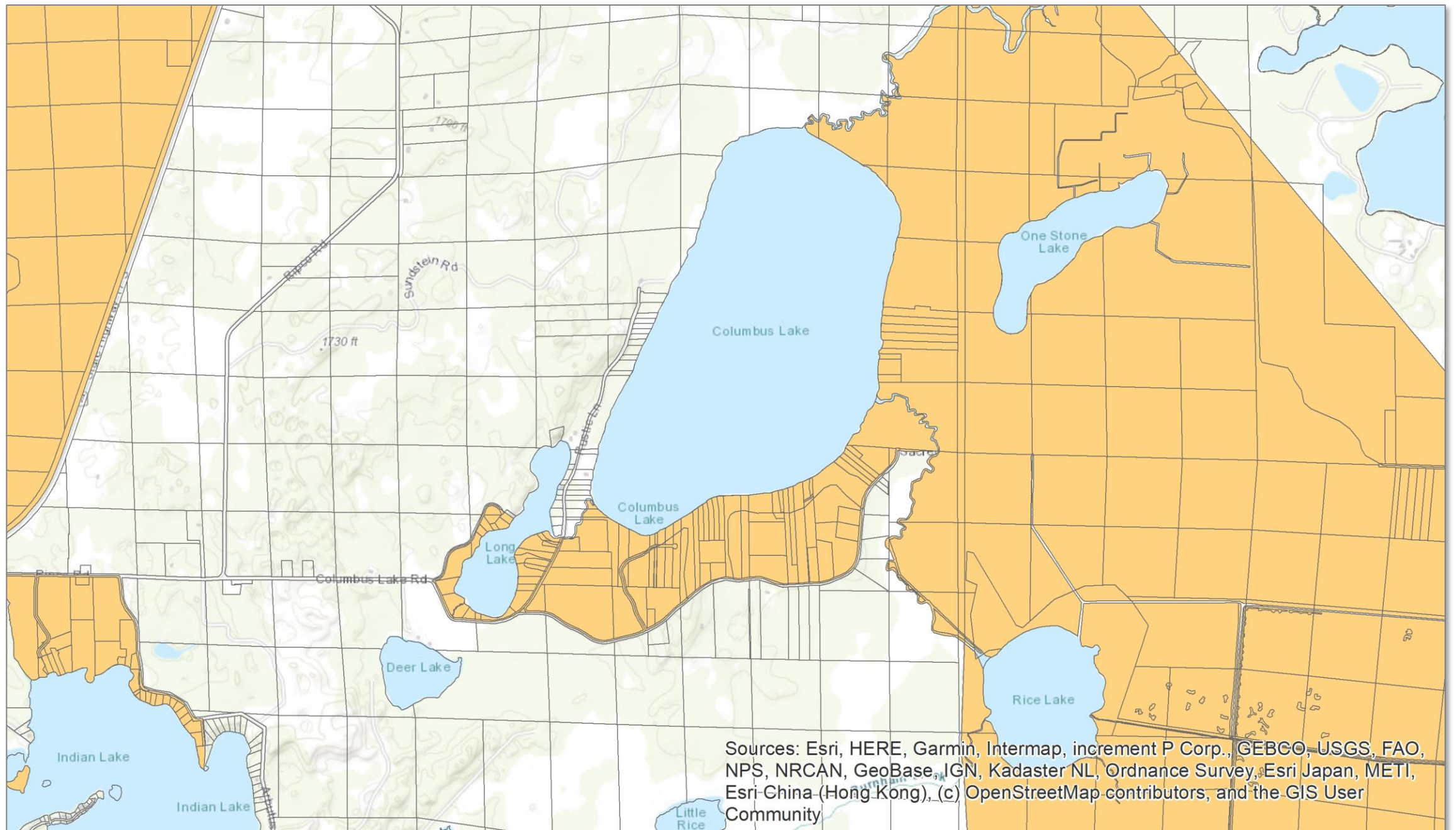### https://broadbandusa.ntia.doc.gov/resources/data-and-mapping

- Census Tracts with 25% of households reporting no internet access or without a device;

- Speed Tests from Ookla and M-Lab;

- Connection speeds from Microsoft;

- High poverty Census Tracts

- Eligible Minority Serving Institutions (MSIs) under NTIA's Connecting Minority Communities grant program
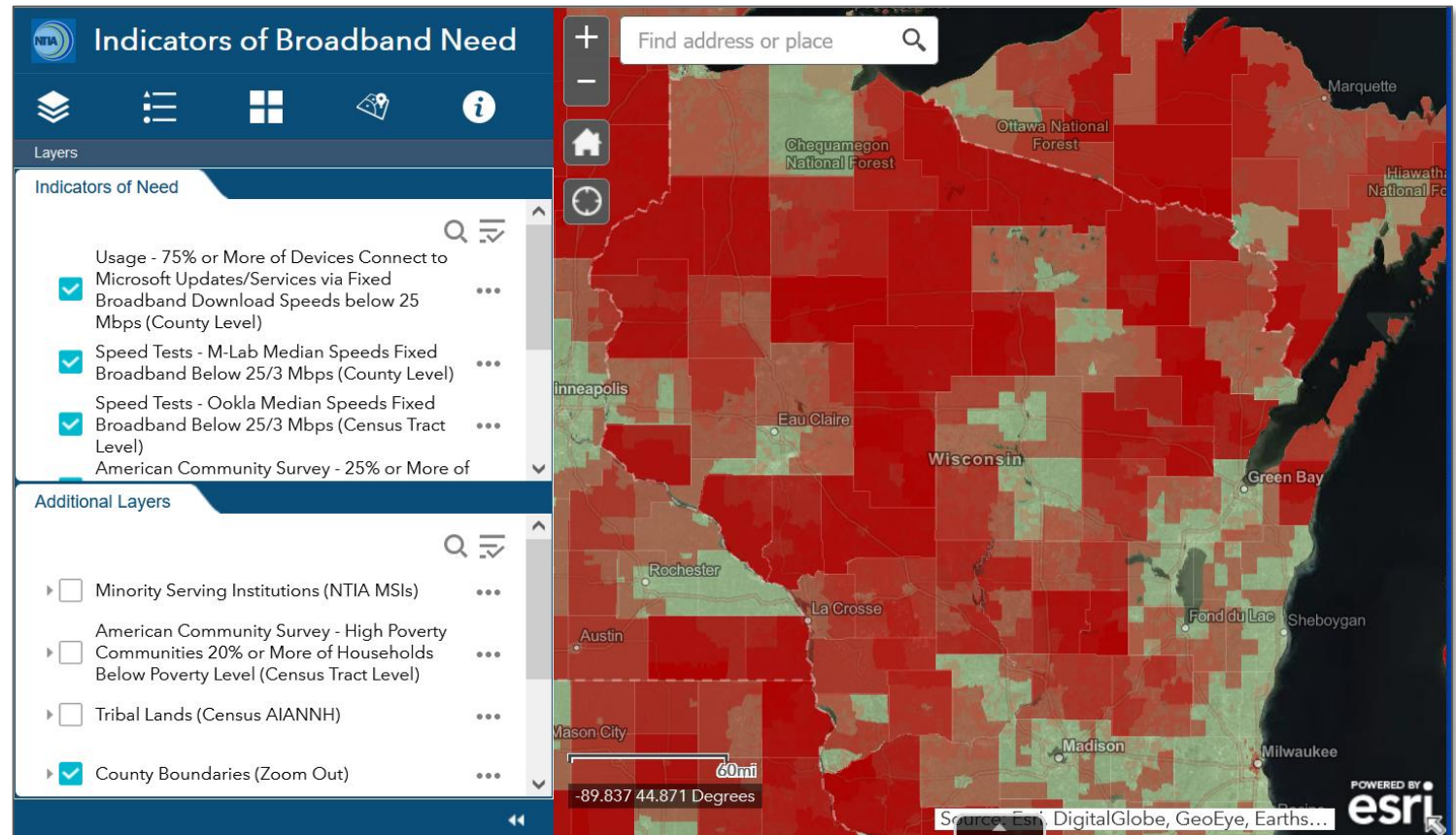
Additional Resources

- Michigan State Broadband Integrated Time Series (BITS) - https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250732

- Speed Tests – M-Lab, Ookla, Local and Regional Efforts (Brown County, MadREP, New North, DPI, etc.);

- Surveys – New North, Dunn County, Iowa County, etc.

- Statewide Parcel Dataset - https://maps.sco.wisc.edu/Parcels/

- Broadband Now

  - National Broadband Map: https://broadbandnow.com/national-broadband-map

  - Zip Code Pricing Data: https://github.com/BroadbandNow/Open-Data

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Contact Information

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Mapping, Data and Surveying Panel

August Neverman
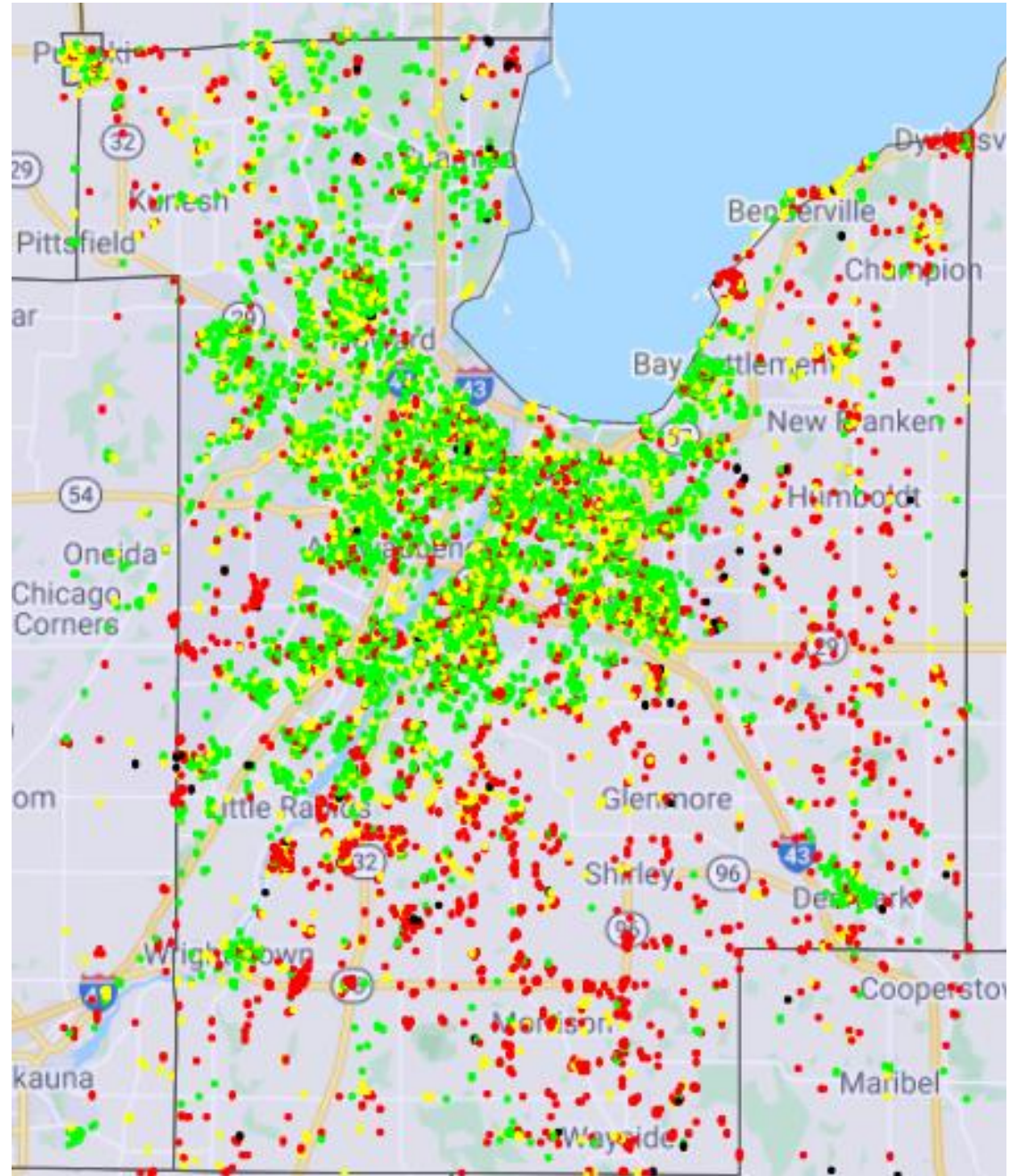
Brown County Broadband and BCCAN Director.

Broadband Champion, I/T Team leader, cyber security evangelist, futurist and geek.

VP and writer for CommonSenseHome.COM, Former Brown County CIO, IT Director Medical College of Wisconsin, IT Manger with Prevea and Hospital Sisters Health System, private consultant, and served in the MN Air National Guard

https://www.linkedin.com/in/augustneverman/

What we did in Brown County

- Started Rural Broadband Sub-Committee of County Board

- Got Townships and Villages to share link to speedtest

- Social Media Blitz with link to speedtest

- QR code linking to Speedtest with printable handouts for Libraries, schools, local gov.
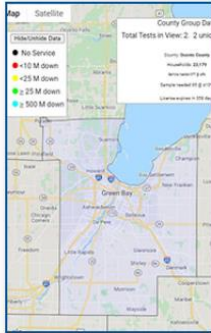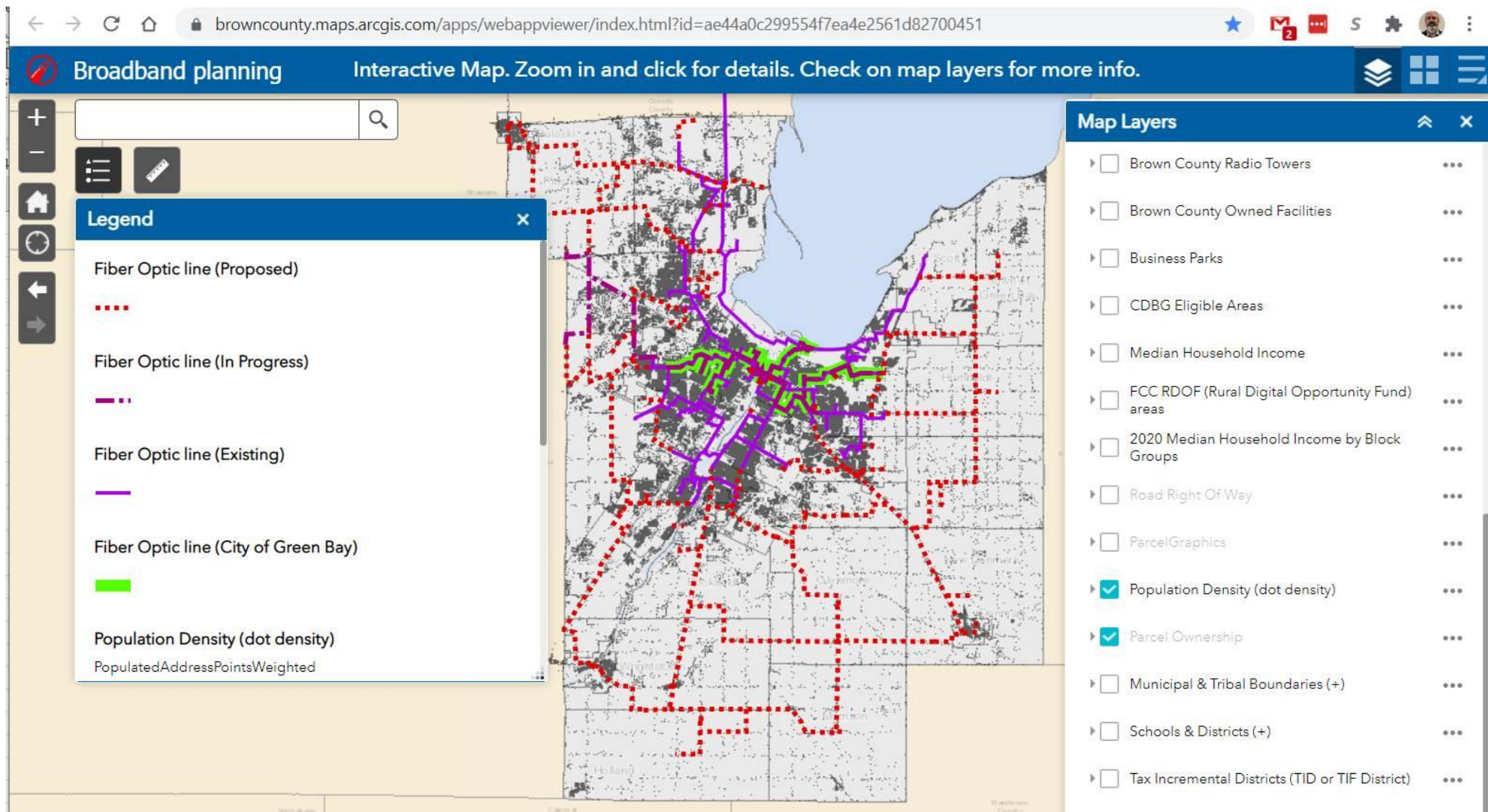
- Got on TV

Communication: https://www.browncountywi.gov/broadband

We did a vanity URL on the website to simplify public access.

Data layers help ALL utilities

Results

Direct access to raw data (even after the survey ends) we keep the data

Information isn't perfect because some people clearly chose not to pay for service. Also we know some data is flawed because people could have been doing uploads/downloads.

Even with those limitations we have **good data**

1. Found out nearly entire region is below 100mbps down and 20mbps up

2. Rural areas below even the minimum 25/3

3. We can share population data mixed with speed tests to help smaller providers know WHERE to provide services.

4. We can ensure ARPA, NTIA and other grant compliance

5. Utilities are aware of the municipal fiber and that they can lease it at cost.

Regional Progress NewNorth 18 County Region
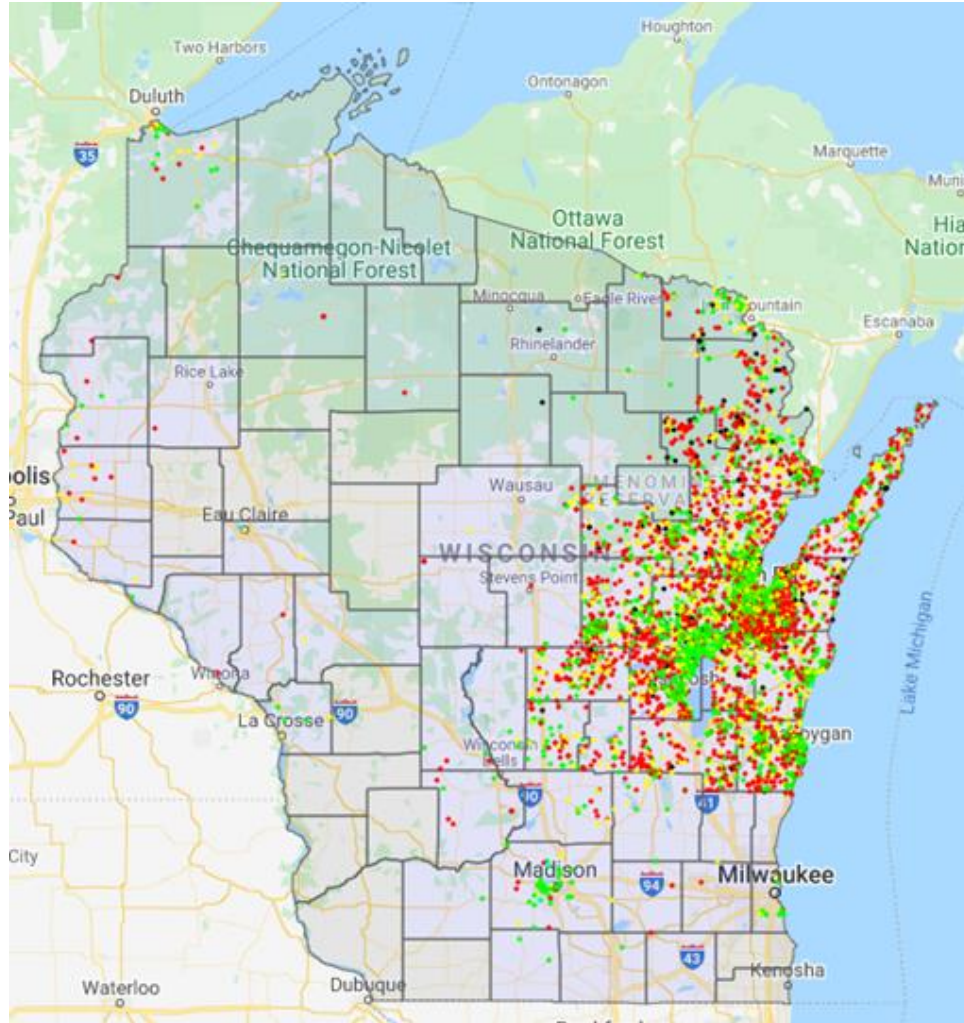
October 22nd
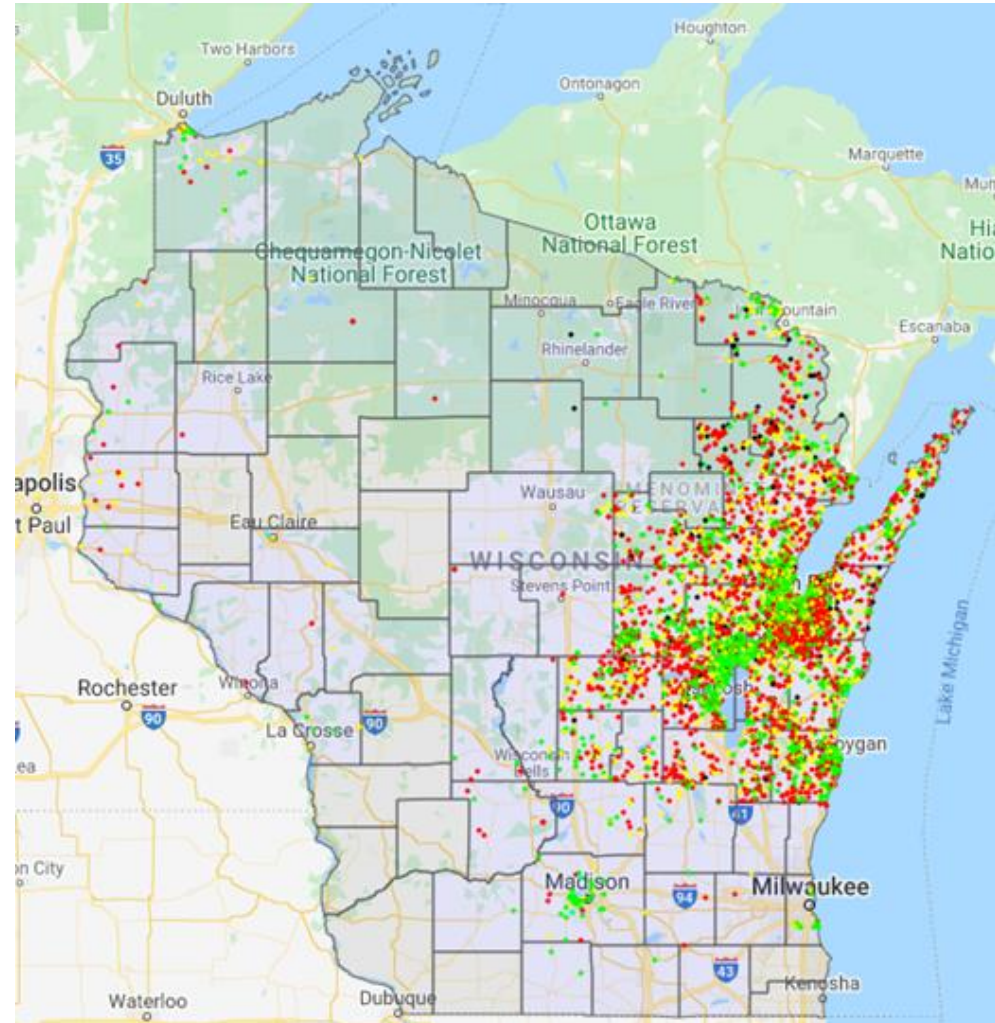
November 4th

Regional Progress NewNorth 18 County Region
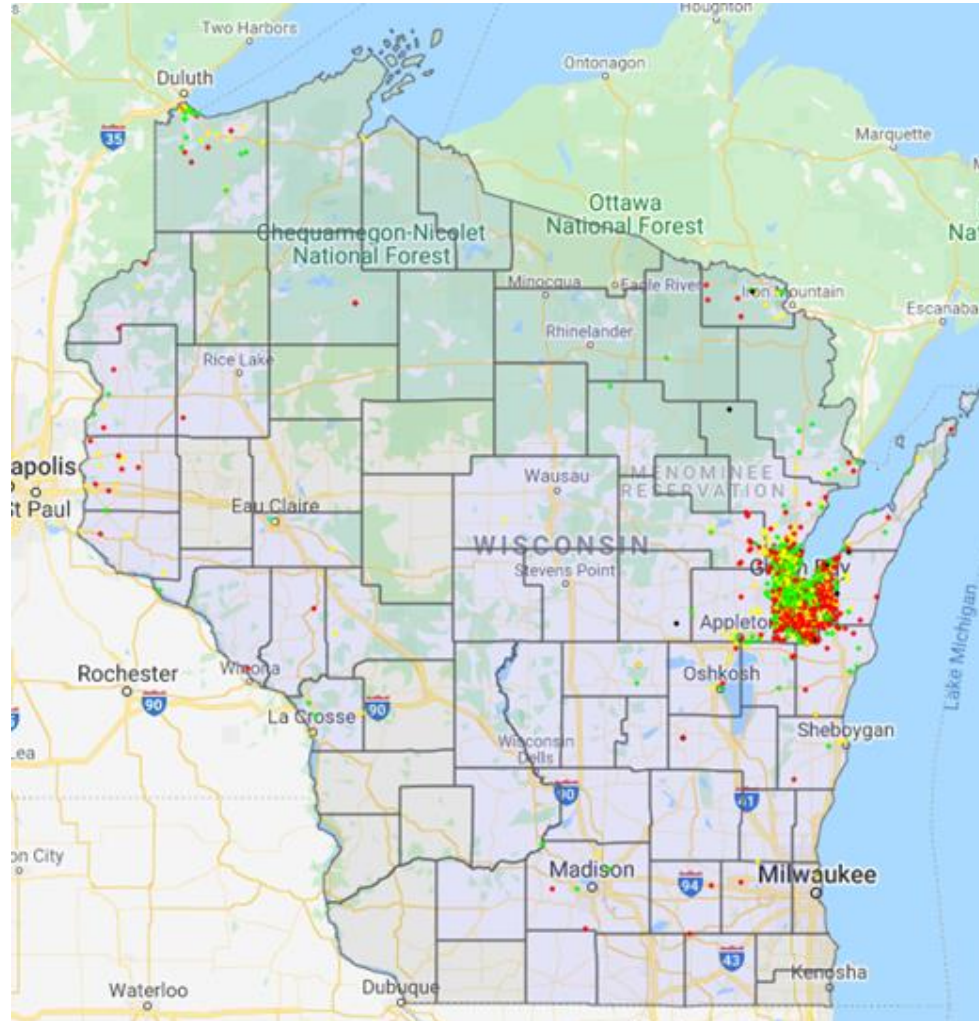
September 30th
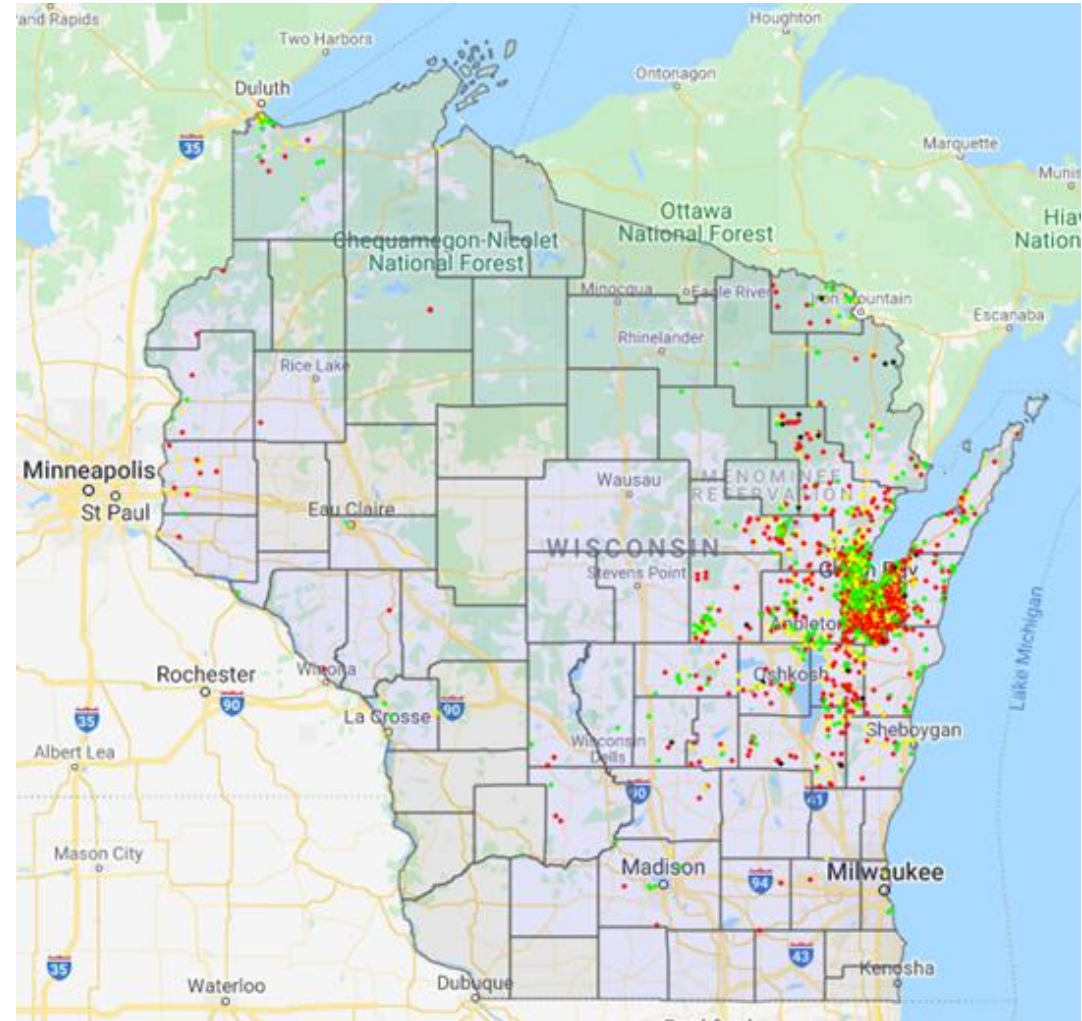
October 15th

NewNorth Regional Broadband Study

- Survey AND speed test
- High participation likely because of direct mailing, TV, and social media blitz
- Goal is to provide regional data similar to Brown County PLUS information regarding the NEEDs of the home or business

Partnered with Design Nine and GeoPartners LLC

More info on the NewNorth Grant:
https://www.thenewnorth.com/broadband-access/

Contact Information

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Brown County Broadband and BCCAN Director

920-448-7860

Community Survey

Prepared by:

Barry Hottmann

Community Development Educator

University of Wisconsin-Madison, Division of Extension

Iowa County, Wisconsin

Survey Details

- Previous broadband survey completed in 2017
- 6653 paper surveys sent out in 2020
- 1350 survey responses
  - ~250 paper surveys were returned
  - Majority received via our online survey portal
- >20% response rate
- Marketing
  - Facebook
  - Articles in local papers (press release)
  - The paper surveys themselves
  - School districts

Why the survey?

- Some background
  - Current situation
  - Opportunities for improvement
  - Grants, partners, resources, and services

- But really for so many reasons…
  - Education/Learning
  - Telecommuting for work
  - Telemedicine
  - Mental Health
  - Economic Development

Some results.

- 92% of respondents stated the internet is extremely to very important (64% in 2017)
- 43% said they are somewhat to extremely dissatisfied with their available service(s)
- 27% would be willing to pay $81 – over $100 per month, as compared to only 10% in 2017.
- 92% said yes or maybe regarding a willingness to pay a one-time installation fee, and 51% would pay from $250 to over $1000

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Results continued...

- 267 have home-based businesses, and another 226 would like to start a home-based business in the future
- 486 would like to telecommute in the future, but over 15% were unable to telecommute due to poor or no access
- 14 pages of additional comments
- 594 interested in helping if they can

What did we find?

- It's not good in our rural areas and we need to be committed to improving it. – **SWWRPC GIS resource**

- It's not a one size fits all solution – in stages.

- It's going to take a committed effort
  - Strategic partnerships – public/private, healthcare, education, business and industry
  - Out of the box thinking
  - Financial support
  - Grants and planning

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Recent study.

Broadband is becoming increasingly important to community and economic well-being. It is linked to better business performance, including rural entrepreneurship and farm profits. It is also linked to higher home values and higher educational outcomes at both the grade school and high school levels. Broadband access also corresponds to improved health outcomes, which can lead to higher worker productivity.

Source: EDA University Center Page on Broadband in Wisconsin
https://economicdevelopment.extension.wisc.edu/eda-university-center/the-wisconsin-economy/broadband-internet-and-the-wisconsin-economy/

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What was learned?

- Changes to the language in the survey – confusion around what is broadband
- More education prior to the survey
- Building relationships with partners
- Commitment by county
- Commitment by municipalities
- Plan ahead – shovel ready projects

Questions?

- Send me an email or give me a call:
  - barry.hottmann@wisc.edu
  - 608-930-9850

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