City of Fitchburg

Broadband Presentation, Date 2-16-2021

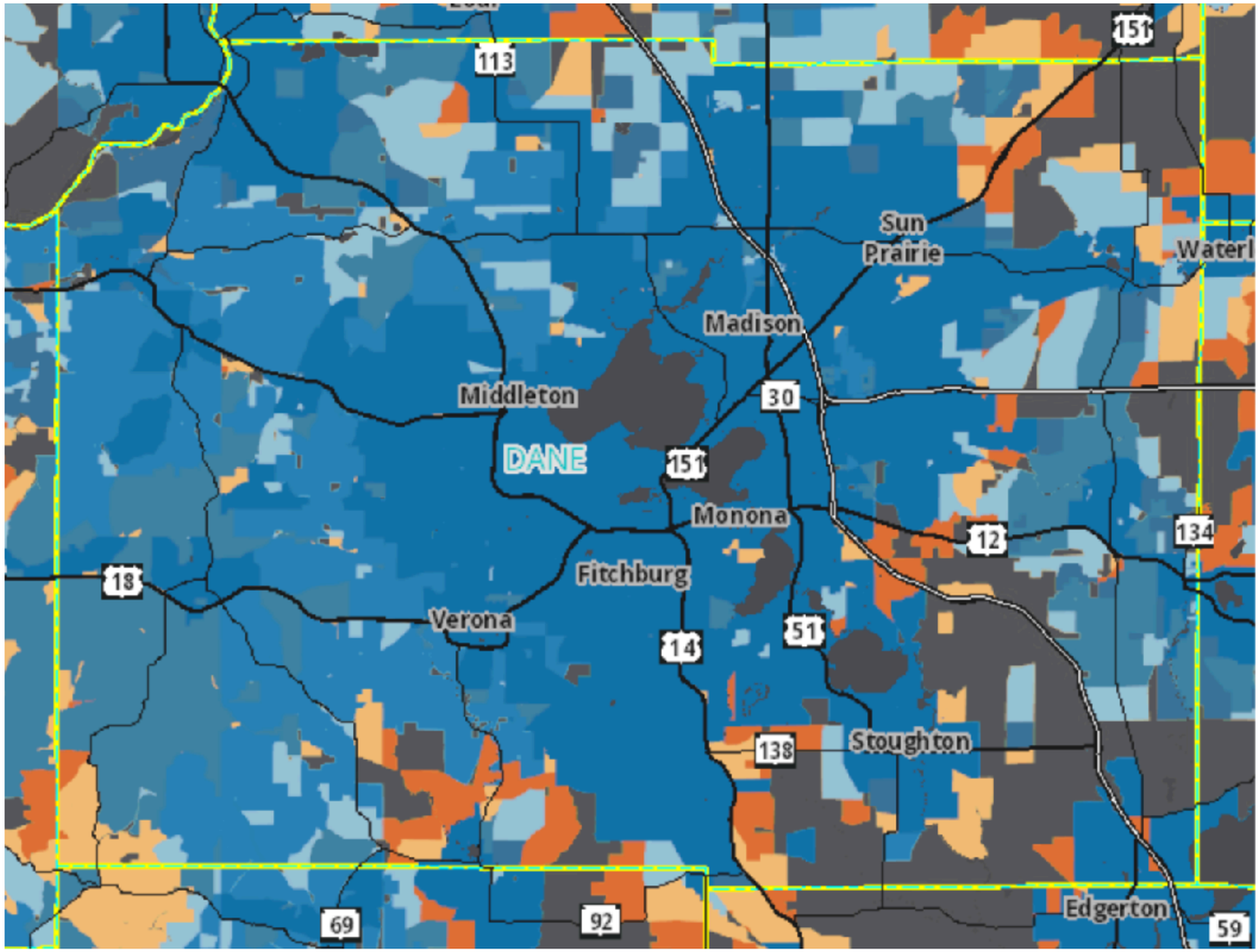
Jeremy Crosby, Community Media Services Manger
Fitchburg Access Community Television-FACTv

THE CITY OF Fitchburg WISCONSIN

City of Fitchburg

Broadband Presentation

- Definitions
- Infrastructure
- Federal, State, Local
- Speeds & Testing Speeds
- City Broadband Assessment
- Providers
- WI Broadband Grant
- Future of Broadband



Source: https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/

Definitions

Broadband Service for the Home: A Consumer's Guide

The FCC's first-ever test of broadband speeds across the country, Measuring Broadband America, compares providers, technologies and the actual speeds they provide. Here's a step-by-step guide to using that information, and other resources, to make choices about the kind of broadband service that's best for you.

1. What is broadband speed?

Every page, image and video on the web comes to your home device as small pieces of data, or packets. How fast these packets move on the network is measured in Megabits per second, abbreviated Mbps. Broadband technology can move those packets to and from your home much more quickly than dial-up access using a modem and telephone line. A broadband connection has two speeds: download and upload. Download speed is the speed of getting information from the web to your computer, and upload speed is the reverse.

2. What speed do you need?

You may go online to monitor a health condition; watch high-definition (HD) movies or watch videos for the latest news; get your children's homework assignments via email; or log on to a real-time, interactive classroom. Whatever your goals, you'll need a broadband Internet service that works predictably and dependably. And keep in mind that the next generation of devices and applications may require faster speeds.

If you're interested in the speed you need for a particular online activity, see the FCC's Broadband Speed Guide. This guide shows the minimum download speed that's needed for good performance for each kind of activity.

Higher speeds than the minimums in this chart can give you better performance, up to a point. Measuring Broadband Across America found that the ease of basic web browsing – measured by the time it takes to download a page – improves with higher speeds up to 10 Mbps, but not beyond. However, higher speeds may be beneficial for demanding applications such as HD streaming video

Source: https://www.fcc.gov/research-reports/guides/broadband-service-home-consumers-guide

Definitions

Internet Speed Glossary

- **Bandwidth** – Bandwidth measures the total number of frequencies, or capacity, a network connection can handle at any given moment. The higher the bandwidth, the faster your internet speed.
- **Broadband** – Broadband basically tells you how fast your internet connection is.
- **Bit** – Internet speed is measured in bits per second (bps). This is the smallest unit of computer information, so you'll often see internet speeds referred to as megabits per second (Mbps).
- **Byte** – 1 byte is equal to 8 bits. We use bytes to refer to how much memory is available or being transferred.
- **Download** – This tells you how quickly information from external sources is received by your router.
- **Latency** – Latency measures the delay in data transfer, telling you how fast data gets from a source to its destination.
- **Mbps** – "Megabits per second" is how we gauge internet speeds. This number represents the bandwidth of an internet connection, which is how much data can be transferred each second.

Source: https://www.allconnect.com

Definitions

Internet Speed Glossary

- **MBps** – “Megabytes per second” measures the file size when talking about how much data can be transferred each second. You might also see this figure represented as MB.
- **Modem** – The modem is what connects the devices on your private network to external global networks.
- **Ping** – A ping is a test which determines if a server is reachable. The test sends a data packet to the server to see if the data comes back.
- **Ping time** – Measured in milliseconds, ping time tells you how fast a data packet travels to the server and back. If your connection doesn’t register the data request for a couple of seconds, you may see a lag in your connection.
- **Router** – This piece of hardware is at the center of private internet networks. It facilitates all of the connections between devices and your network.
- **Upload** – This tells you how quickly information from your network is sent to external networks.
- **Wi-Fi** – Wi-Fi offers a wireless internet connection, negating the need for devices to connect via hardware, such as an ethernet cable.

Source: https://www.allconnect.com

Definitions

Internet Connection Types

- **Cable** – Recommended for moderate users who enjoy web browsing, streaming movies and music, gaming and video chats. Largest providers include Spectrum and Xfinity, despite widespread availability.
- **Dial-up** – Recommended for occasional to light usage, such as budget-friendly users who enjoy casually browsing and checking email, social media and news updates. The largest provider is AOL.
- **DSL** – Recommended for moderate users who enjoy streaming, browsing and gaming. Largest providers include AT&T, CenturyLink and Windstream.
- **Fiber-optic** – Recommended for avid users who enjoy streaming, gaming, video chats and downloading large files on the fastest speeds available. The largest provider is Verizon Fios.
- **Fixed wireless** – Recommended for moderate users who enjoy streaming, browsing and gaming. Largest providers include AT&T Fixed Wireless and Rise Broadband.
- **Satellite** – Recommended for light to moderate internet users who enjoy streaming music and movies. Largest providers include HughesNet and Viasat, formerly Exede.

Source: https://www.allconnect.com

Infrastructure

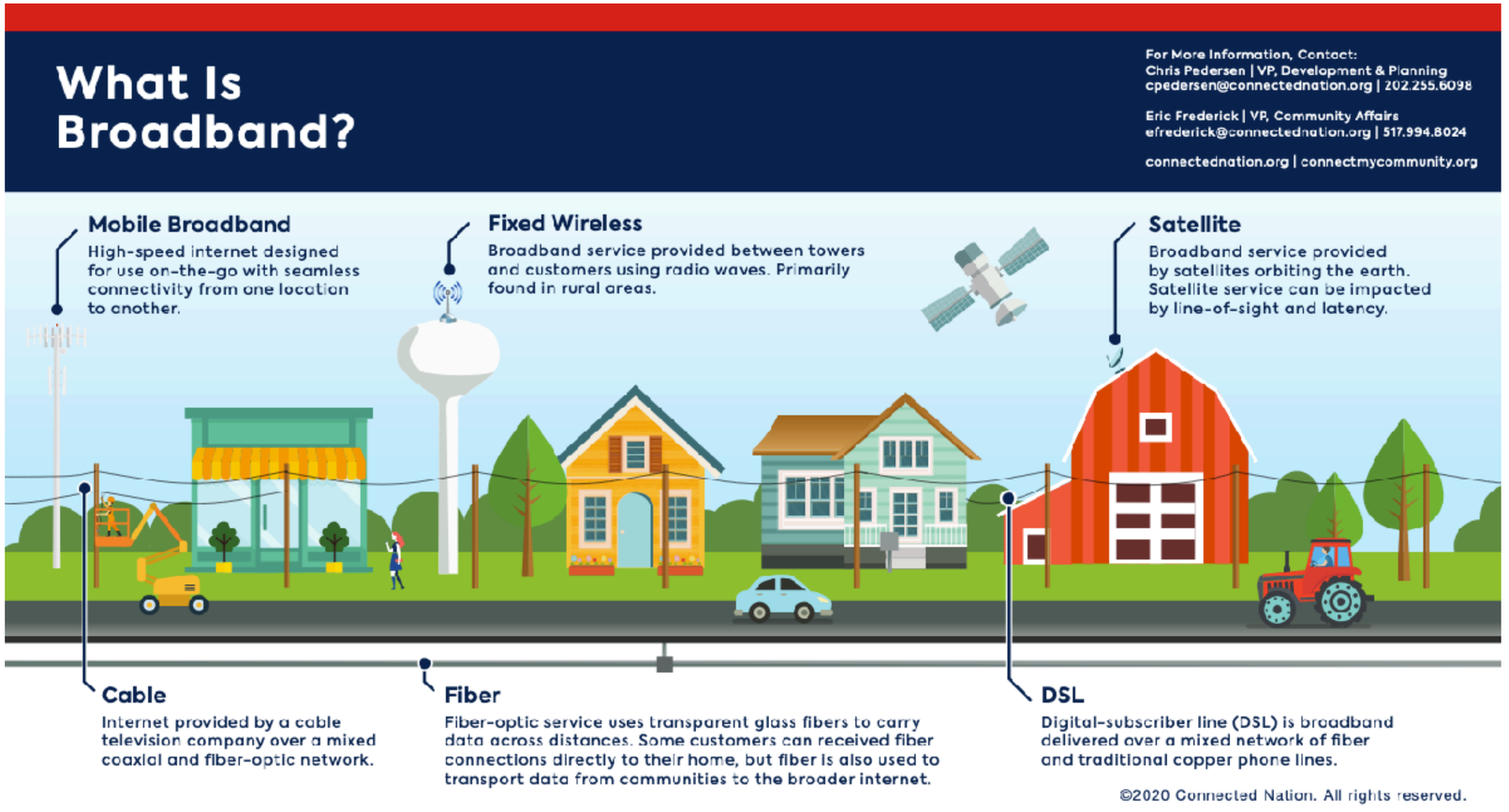


Image Source: https://connectednation.org/wp-content/uploads/2020/12/CN_WHATISBROADBAND_2020_ONLINE-updated.pdf

Infrastructure

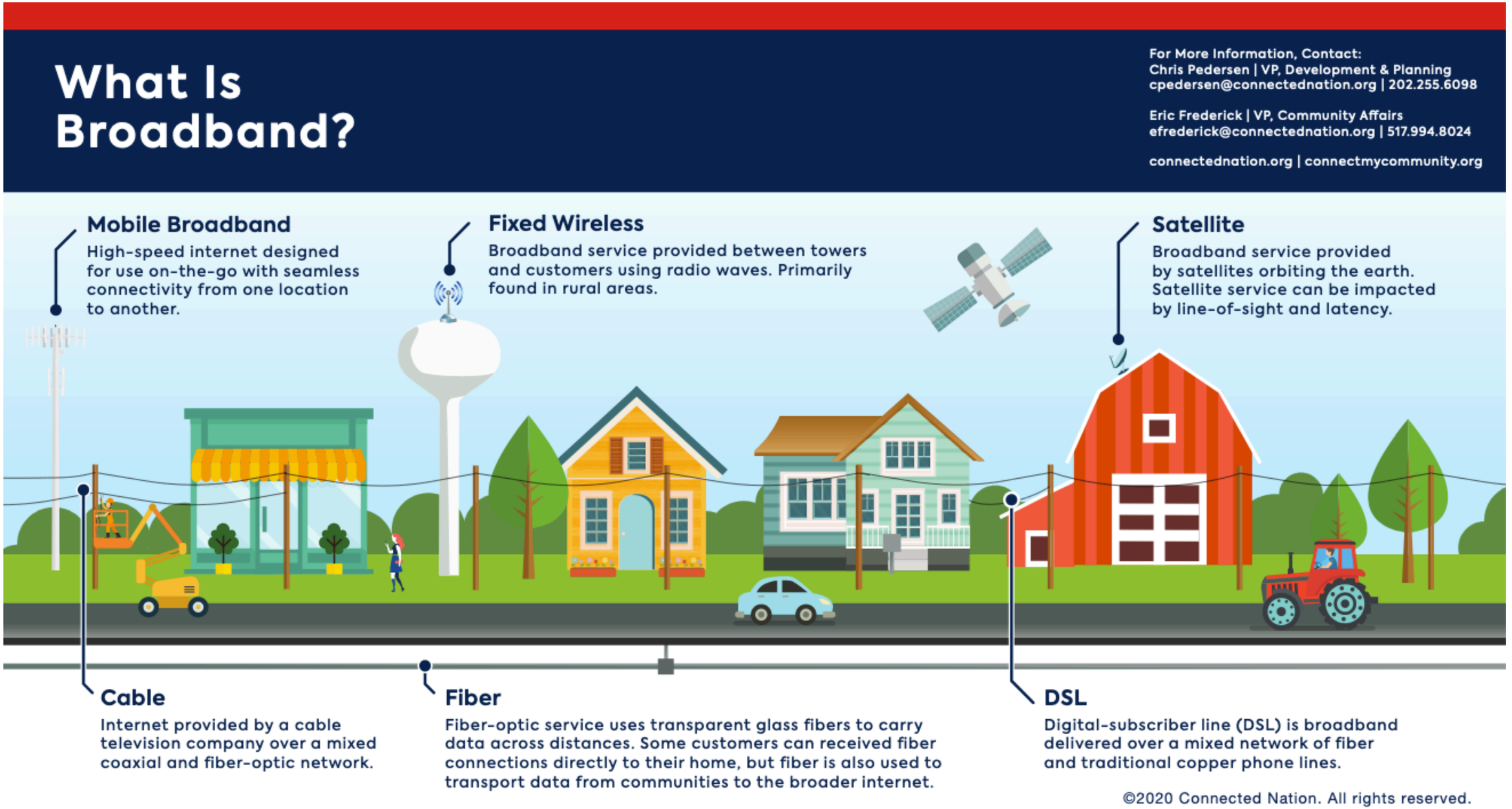
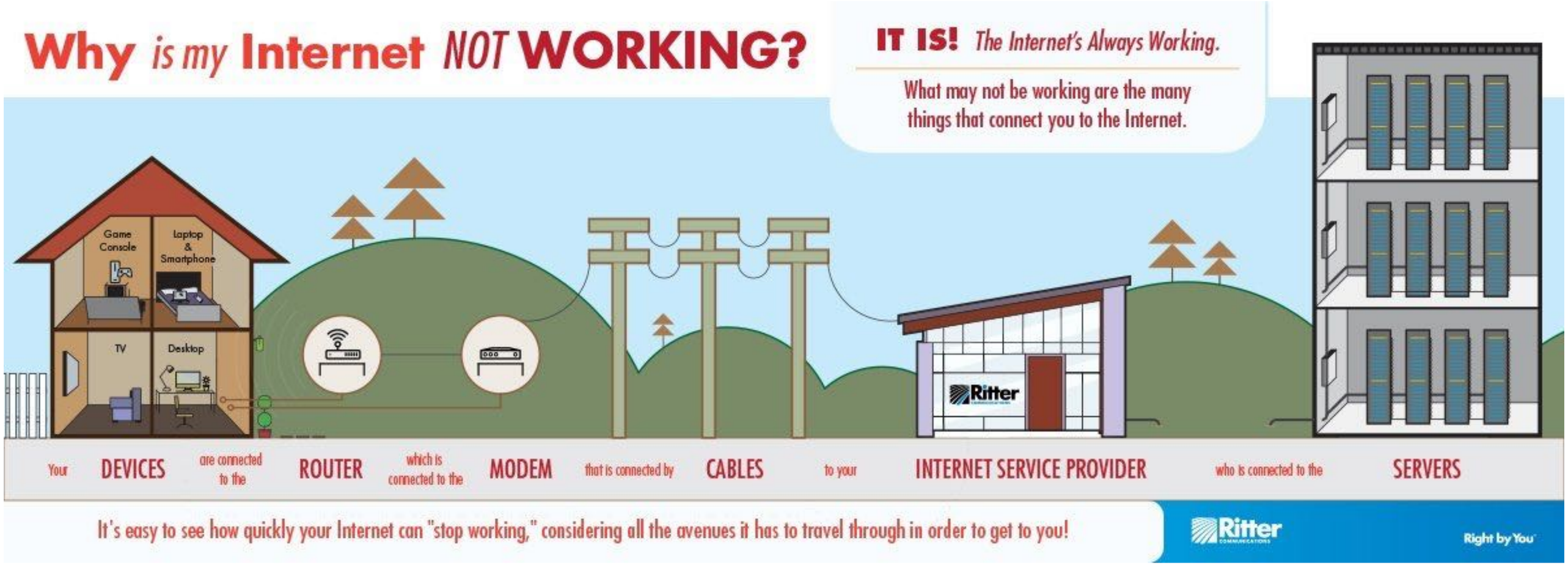


Image Source: https://connectednation.org/wp-content/uploads/2020/12/CN_WHATISBROADBAND_2020_ONLINE-updated.pdf://www.pud3.org/service/additional-services/pud-3-fiber-optic-network/underground-fiber-service

Infrastructure

How does the internet travel to our homes?



Source: https://blog.rittercommunications.com/why-is-the-internet-not-working

Infrastructure

How does the internet travel to our homes?

- Cable internet service uses the same coaxial cable network as cable television to provide your home with internet.
- First, your internet service provider sends a data signal through the coaxial cable, or coax cable, into your home—specifically, to your modem.

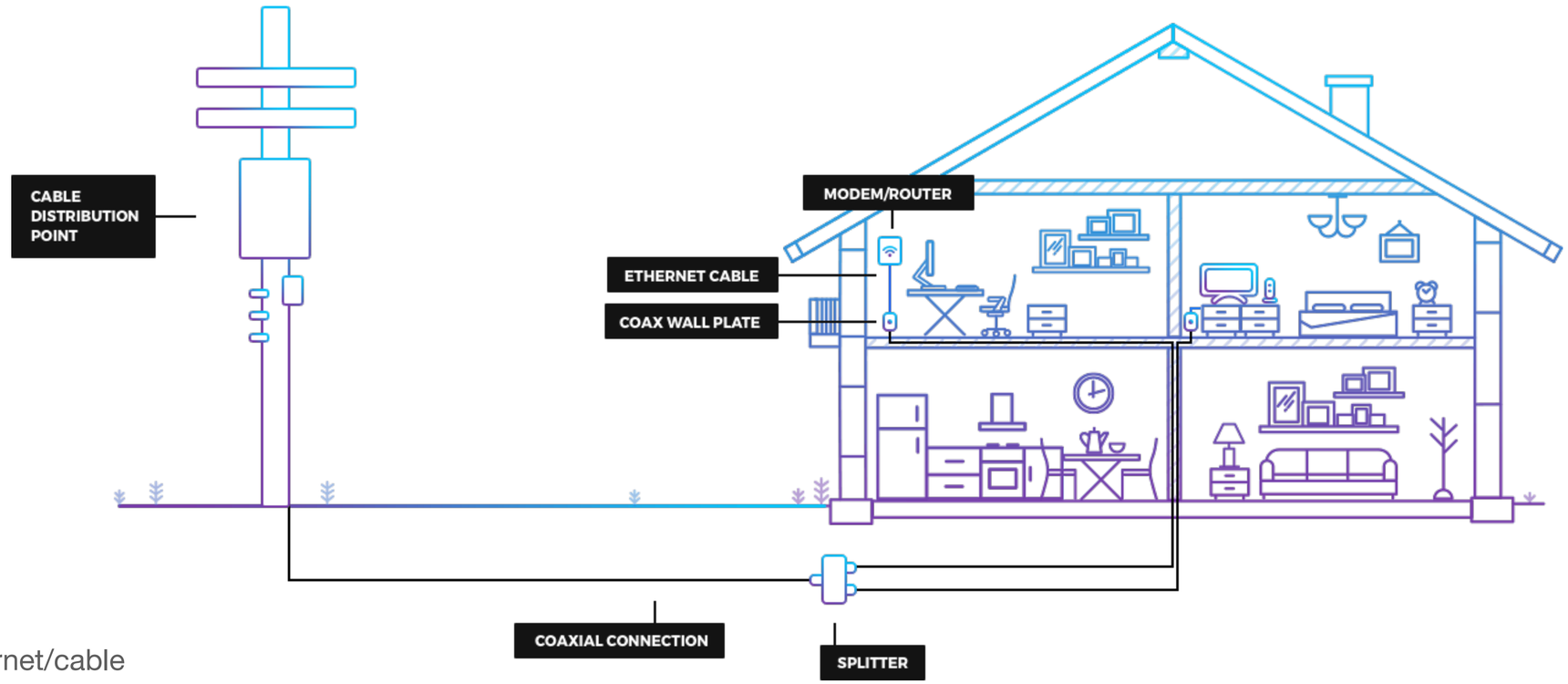


Image Source: https://www.inmyarea.com/internet/cable

Source: https://www.reviews.org/internet-service/cable-internet-work/

Infrastructure

How does the internet get into homes?

- The modem then uses an Ethernet cable to connect to your computer or router, which is what gives you access to high-speed internet. If you choose to use a router, you can then broadcast a Wi-Fi signal throughout your home.
- Cable internet service providers transmit data between servers using this coaxial cable, and since TV itself takes up only a small portion of the cable's bandwidth, it leaves room for internet service to work within the same network.

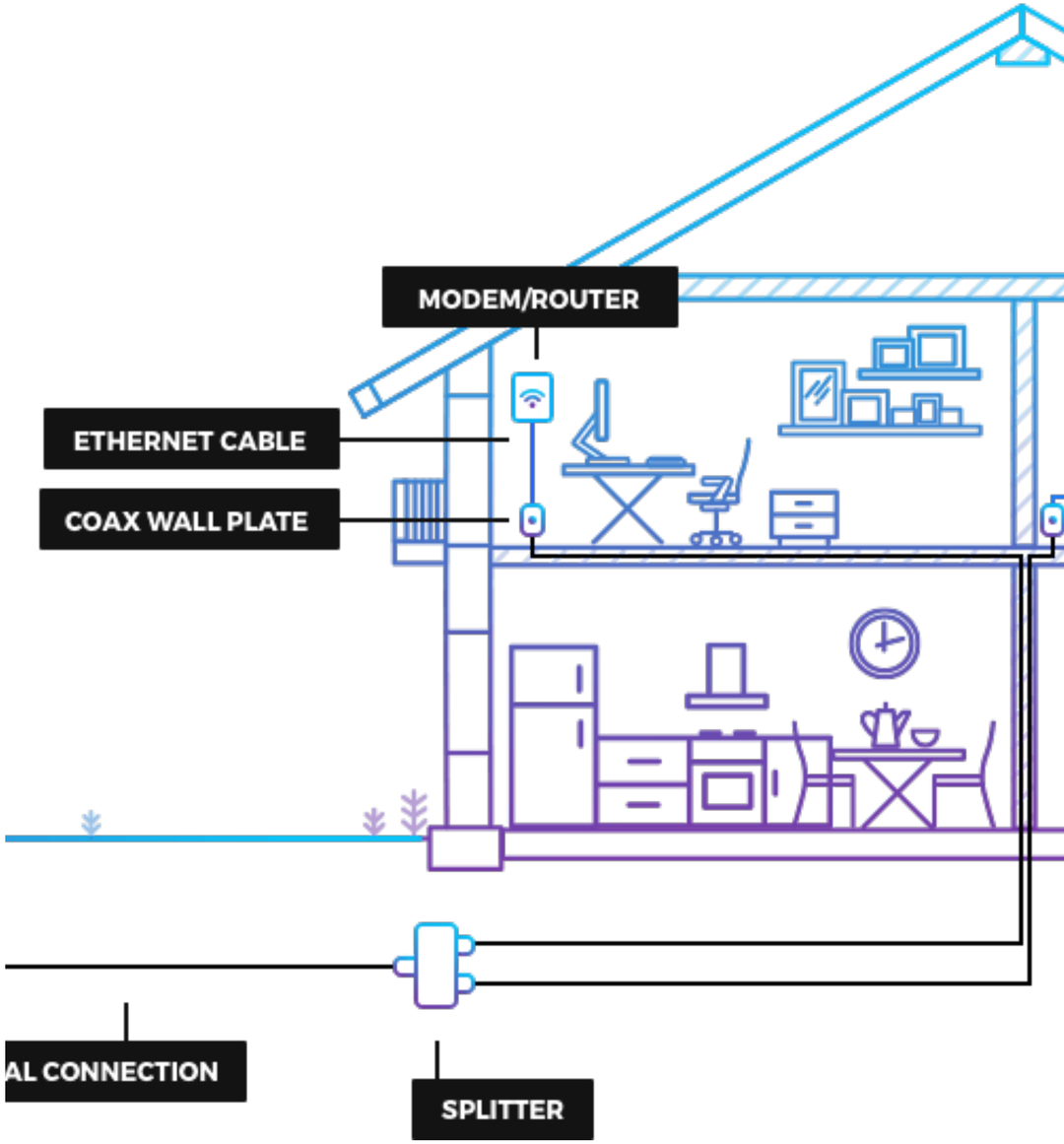


Image Source: https://www.inmyarea.com/internet/cable

Source: https://www.reviews.org/internet-service/cable-internet-work/

Infrastructure

How does the internet get into homes?

- These cable networks stretch all across the country, and there are even undersea cables that reach between water-separated areas. Plus, cable internet can spread speeds evenly among individual users. It also means that if you pay more, you have access to more bandwidth, which means faster speeds.

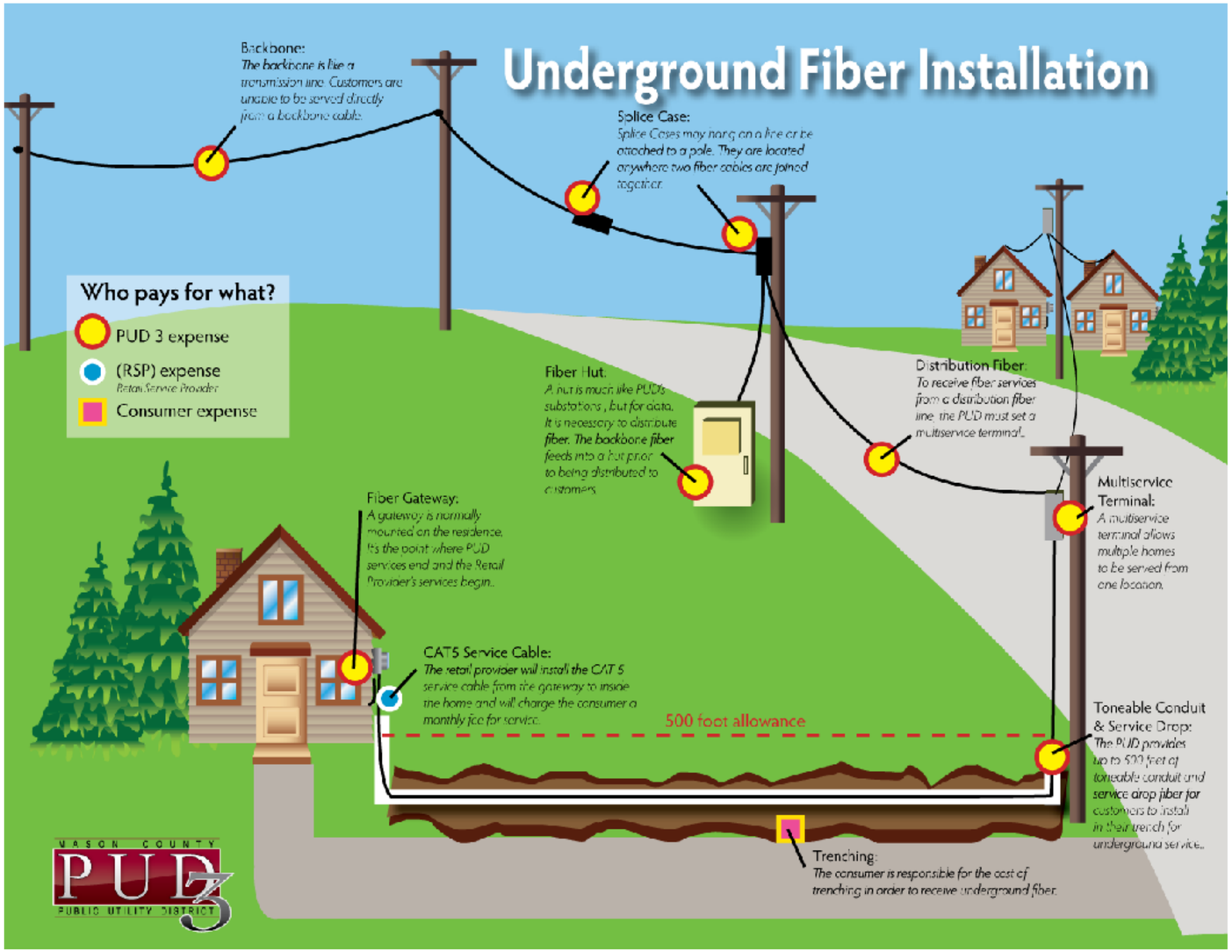


Image Source: https://www.pud3.org/service/additional-services/pud-3-fiber-optic-network/underground-fiber-service
Source: https://www.reviews.org/internet-service/cable-internet-work/

Federal, State, Local

Federal Communications Commission

PSC of WISCONSIN

THE CITY OF Fitchburg WISCONSIN

Image Source: https://broadbandmap.fcc.gov/#/area-summary?version=dec2019&type=nation&geoid=0&tech=acfosw&speed=25_3&vlat=39.68903884096571&vlon=-98.24923541450886&vzoom=3.67544968444768

Image Source: https://psc.wi.gov/Pages/Programs/WBO.aspx

Federal, State, Local

Federal- FCC

The Federal Communications Commission regulates interstate and international communications by radio, television, wire, satellite and cable in all 50 states, the District of Columbia and U.S. territories. An independent U.S. government agency overseen by Congress, the commission is the United States' primary authority for communications law, regulation and technological innovation. In its work facing economic opportunities and challenges associated with rapidly evolving advances in global communications, the agency capitalizes on its competencies in:

- Promoting competition, innovation and investment in broadband services and facilities
- Supporting the nation's economy by ensuring an appropriate competitive framework for the unfolding of the communications revolution
- Encouraging the highest and best use of spectrum domestically and internationally
- Revising media regulations so that new technologies flourish alongside diversity and localism
- Providing leadership in strengthening the defense of the nation's communications infrastructure

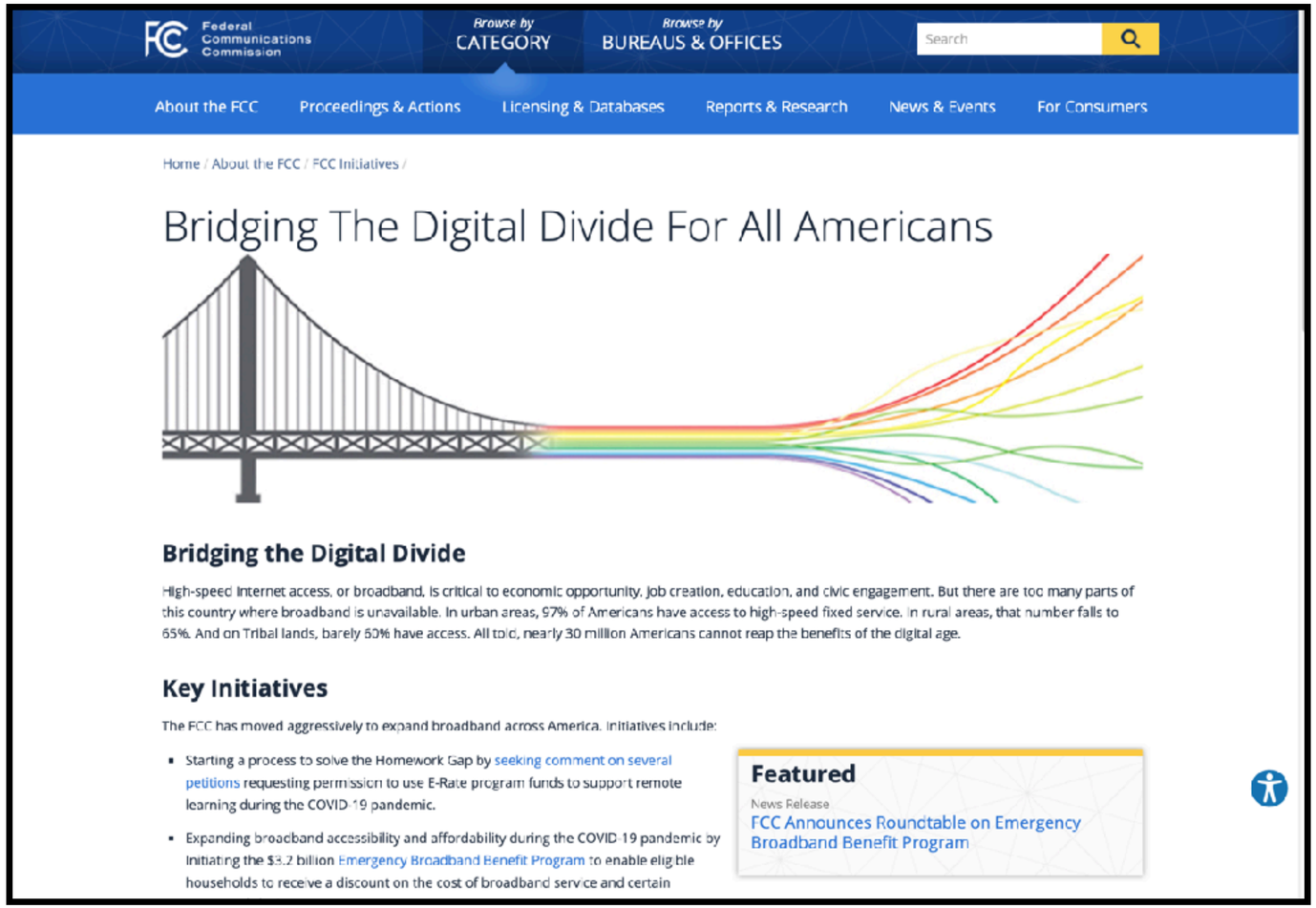
Source: https://www.fcc.gov/about-fcc/what-we-do

Federal, State, Local

Federal- FCC

Bridging the Digital Divide

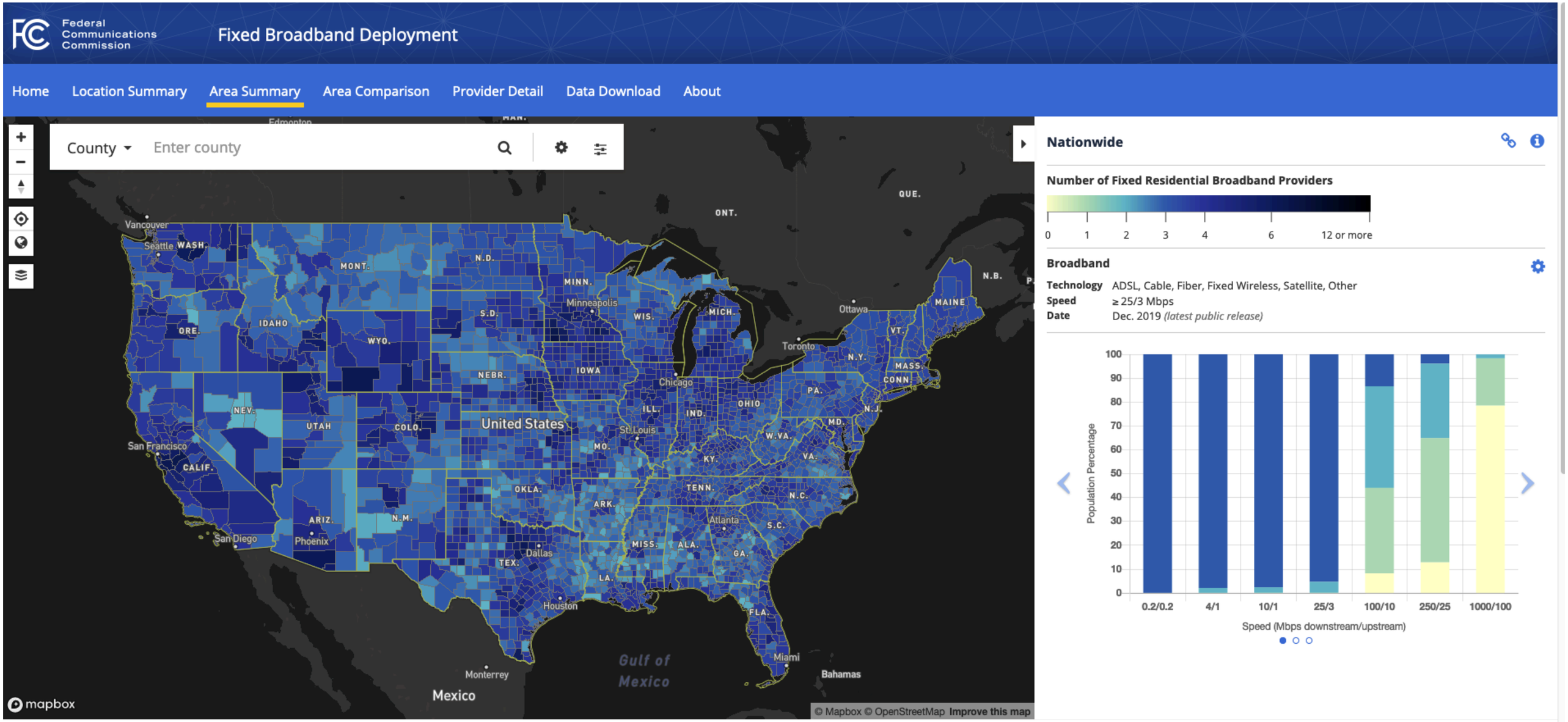
High-speed Internet access, or broadband, is critical to economic opportunity, job creation, education, and civic engagement. But there are too many parts of this country where broadband is unavailable. In urban areas, 97% of Americans have access to high-speed fixed service. In rural areas, that number falls to 65%. And on Tribal lands, barely 60% have access. All told, nearly 30 million Americans cannot reap the benefits of the digital age.



Source: https://www.fcc.gov/about-fcc/fcc-initiatives/bridging-digital-divide-all-americans

City Broadband Assessment

Federal-FCC Broadband Map



Source: https://broadbandmap.fcc.gov/#/area-summary?version=dec2019&type=nation&geoid=0&tech=acfosw&speed=25_3&vlat=39.68903884096571&vlon=-98.24923541450886&vzoom=3.67544968444768

Federal, State, Local

State- PSC

Mission Statement:
The PSC of Wisconsin ensures safe, reliable, affordable, and environmentally responsible utility services and equitable access to telecommunications and broadband services.

To carry out our mission, the PSC:

- Values diversity in the work place, allowing employees to fully develop and contribute their individual skills in meeting the needs of our diverse customer base;
- Ensures fair pricing for utility services to customers and to utility investors;
- Sets quality standards for utility services and ensures that the standards are met or exceeded;
- Ensures reliability so there will be sufficient resources, facilities and alternatives available to meet the needs of present and future utility customers at a reasonable price;
- Ensures utility services are provided in an efficient and environmentally responsible manner;
- Protects the interests of both investors and customers and ensures that securities issued by utilities meet the needs of utilities;
- Provides fairness in transactions between utilities and their customers, other utilities, and other entities specifically provided protection by law;
- Adjusts our oversight of utilities according to the level of competition in their markets and according to the degree of customer satisfaction with their services;
- Educates Wisconsin citizens on utility issues and promotes their involvement in our decision-making process.

In all of the above, the PSC considers and balances diverse perspectives and endeavors to protect the environment, public interest, and public health and welfare.

Source: https://psc.wi.gov/Pages/AboutPSCW/HistoryAndMission.aspx

Federal, State, Local

State- PSC

PSC Receives 124 Applications requesting more than $62 Million for State Broadband Expansion Grants

MADISON – The Public Service Commission of Wisconsin (PSC) announced today that it received 124 applications requesting more than $62 million in the most recent round of funding in the State Broadband Expansion Grants program. The applications seek to fund projects that will expand high-speed broadband internet access to underserved areas of the state. This is the second round of funding appropriated in the 2019-2021 state biennial budget and the highest request for broadband expansion grants in the state's history. Since last year, the PSC has received more than $112 million in requests to fund the expansion of broadband internet.

PSC of WISCONSIN

FOR IMMEDIATE RELEASE
Monday, December 7, 2020
Contact: Jerel Ballard, 608-266-9600
jerel.ballard@wisconsin.gov

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"Once again, we received an overwhelming response demonstrating an immense need for funding to provide broadband service. This spring we will decide which projects to fund, but clearly, there is a pattern of higher demand for these grants than what is available", said PSC Chairperson Rebecca Cameron Valcq. "Governor Evers' commitment to connect all of our residents is unwavering and I want to thank him for this investment."

"We hear from folks around the state about the need for access to high-speed internet. COVID-19 has underscored this demand and the need to continue to support broadband grant funding, as well as all other alternatives to get people connected," said Governor Tony Evers. "Our investments are connecting people, but the demand for funding is clearly outpacing supply, so we look forward to continuing our work to expand access to broadband across Wisconsin."

The 2019-2021 biennial budget, which Governor Evers signed last year, provided $48 million over the biennium for broadband expansion grants. While the Governor's original budget proposal included over $78 million for broadband, $48 million remains an historic investment.

The broadband expansion grants help find a path to return on investment in areas of the state that are challenging to serve due to population density. Since 2014, 210 grants have been awarded and have connected or are in the process of connecting over 7,000 businesses and 117,000 homes to high-speed broadband internet service.

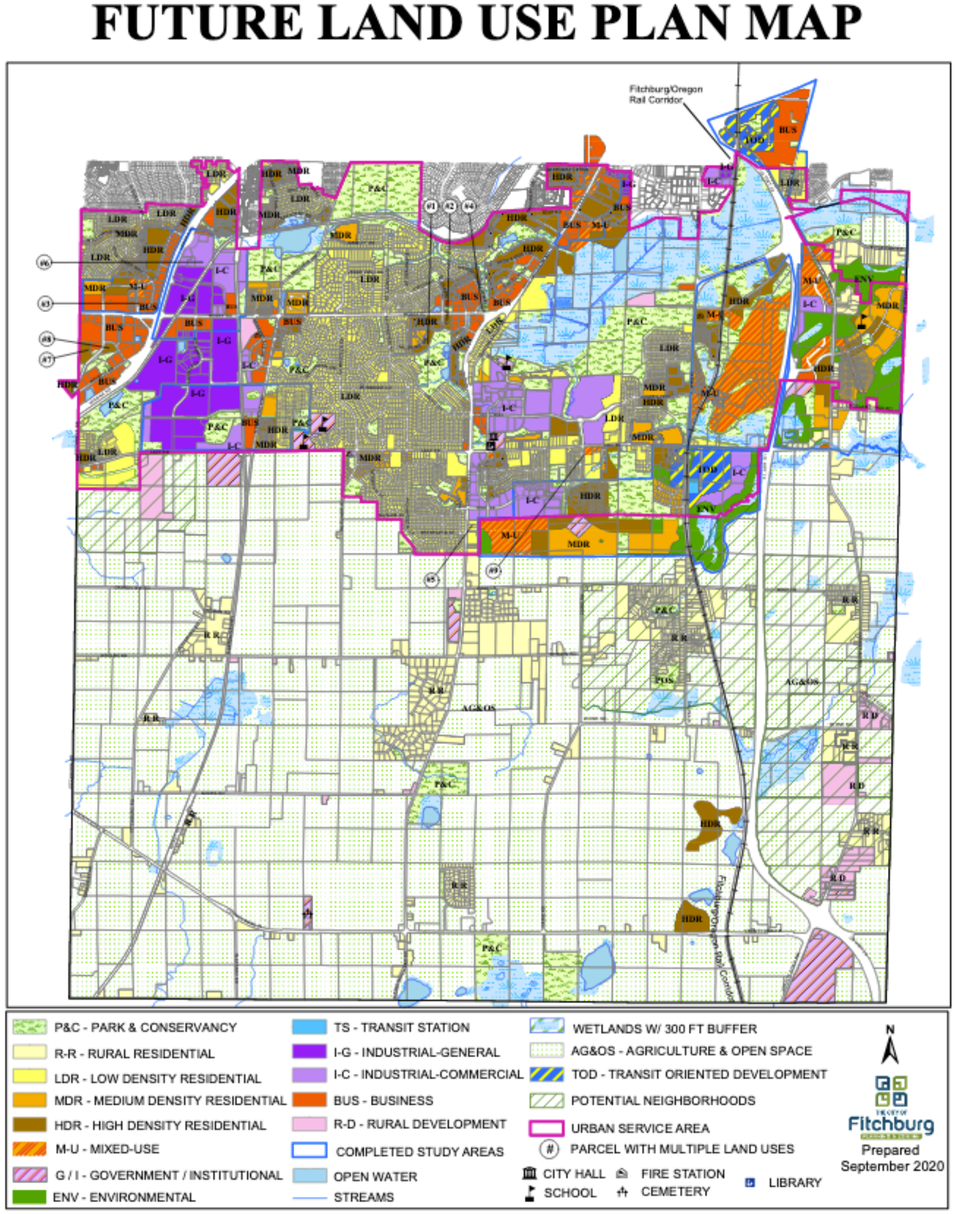
Source: https://apps.psc.wi.gov/APPS/NewsReleases/content/PDF_download.aspx?id=675

Federal, State, Local

Local- City of Fitchburg

- City of Fitchburg has limited to no control of broadband companies.
- Developers, businesses, and residents work directly with the broadband companies.
- Public Works helps make sure developers do work with broadband companies as part of a checklist.

THE CITY OF Fitchburg WISCONSIN



Source: http://www.fitchburgwi.gov/DocumentCenter/View/21552/FutureLandUseMap_Dec2020

Federal, State, Local

Local- City of Fitchburg

Resources, Energy & Communications Themes

Funding

The City should utilize various revenue streams, both internal and external, to maintain and enhance its resources, and energy and communications infrastructure and service delivery.

Technology

The City should continue to ensure that its residents and businesses have access to required technological needs, including the latest iterations of high-speed broadband.

Goals, Objectives & Policies

Policy 5.1.4: Favor gravity flow sewer growth, in accord with the long-term growth boundary and phasing policies.

Objective 5.2: Expand public utilities to areas without urban services only after a neighborhood plan has been approved and subsequent urban service adjustment requests have been approved by the Capital Area Planning Commission and Wisconsin Department of Natural Resources. Public utility extensions will be staged in a contiguous manner from the existing infrastructure with minimal disruption to the environment and in accord with any staging plans provided by the neighborhood plan.

Policy 5.2.1: Discourage utility extensions across substantial vacant land.

Policy 5.2.2: Construct water and sewer extensions concurrently with new streets.

Policy 5.2.3: Avoid utility placement in wetlands and other environmentally sensitive areas.

Objective 5.3: Ensure that utility services are provided throughout the City.

Policy 5.3.1: Guarantee equitable access for cooperatives and investor-owned utility service providers in reaching their customers.

Policy 5.3.2: Ensure that cooperatives and investor-owned utilities are extended as the City develops and promote the underground installation of these lines.

Policy 5.3.3: Encourage cooperatives and investor-owned utility providers to develop an assertive funded program to bury facilities in established neighborhoods.

Policy 5.3.4: Support renewable energy and conservation techniques to reduce energy demands.

Policy 5.3.5: Ensure that the utility service providers or the City provides state of the art broadband with the highest level of connectivity at any given time, available to all City residents and businesses.

Source: http://www.fitchburgwi.gov/DocumentCenter/View/20826/Growing-Fitchburg-2030-3b-Resources-Energy-and-Communications

Federal, State, Local

Local- City of Fitchburg

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THE CITY OF Fitchburg WISCONSIN

Growing Fitchburg 2030

Goals, Objectives & Policies

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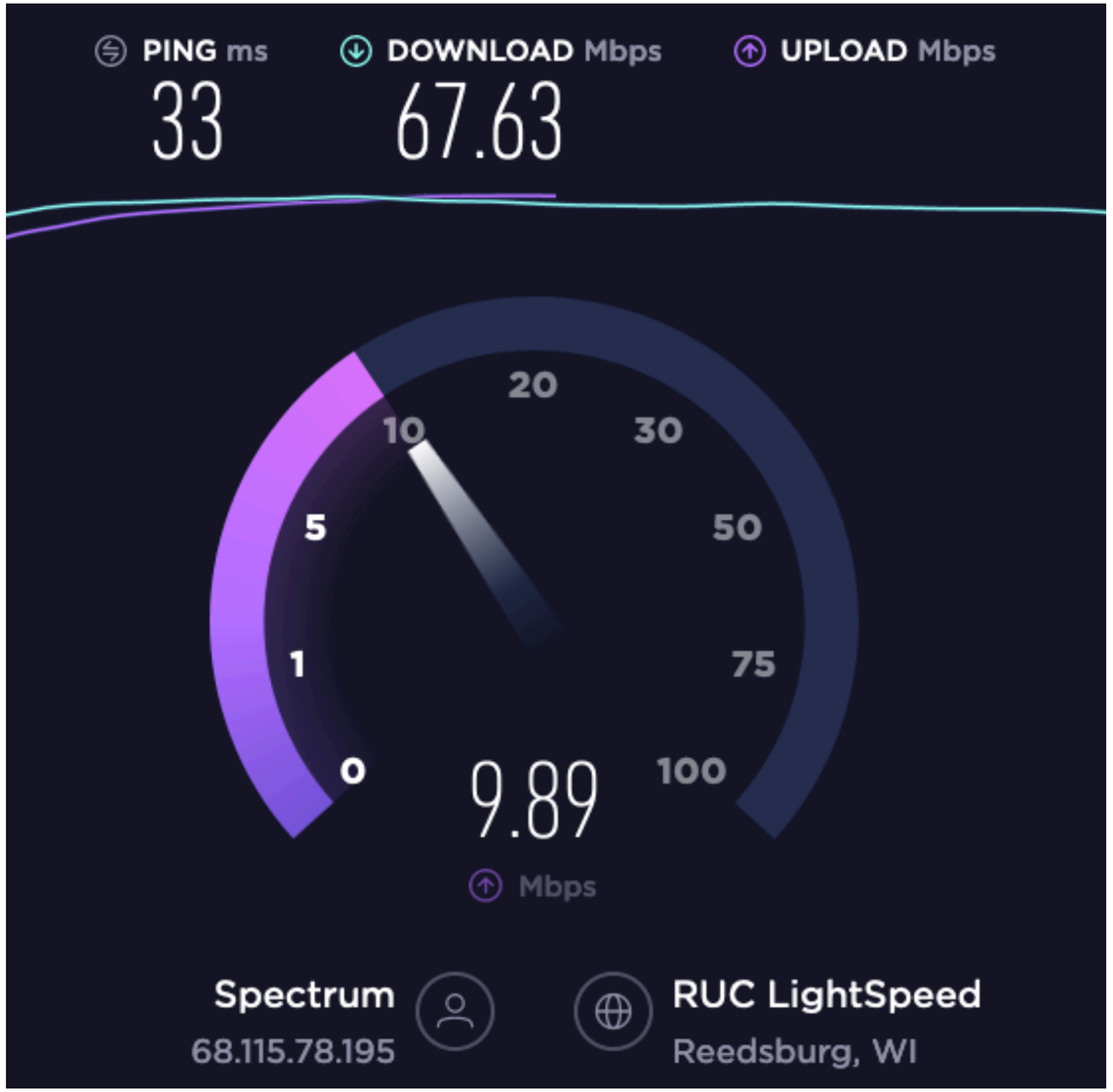
Speeds & Testing Speeds



Source: https://www.speedtest.net/

Speeds & Testing Speed

National Broadband Speed

The current definition, 25 Mbps download speed/3 Mbps upload speed, was set by the Federal Communications Commission, led by former FCC Chairman Tom Wheeler, in 2015. In an official statement, Wheeler noted that the previous standard, 4 Mbps/1 Mbps, had been established in 2010 and that “consumer behavior and the marketplace has changed.”

Source: https://www.govtech.com/network/Does-the-Federal-Broadband-Definition-Reflect-Real-World-Need.html

As part of its 2015 Broadband Progress Report, the Federal Communications Commission has voted to change the definition of broadband by raising the minimum download speeds needed from 4Mbps to 25Mbps, and the minimum upload speed from 1Mbps to 3Mbps, which effectively triples the number of US households without broadband access. Currently, 6.3 percent of US households don’t have access to broadband under the previous 4Mpbs/1Mbps threshold, while another 13.1 percent don't have access to broadband under the new 25Mbps downstream threshold.

FCC Commissioner Tom Wheeler was vehement in his support for the new broadband standard. "When 80 percent of Americans can access 25-3, that's a standard. We have a problem that 20 percent can't. We have a responsibility to that 20 percent," Commissioner Wheeler said.

Source: https://www.theverge.com/2015/1/29/7932653/fcc-changed-definition-broadband-25mbps

25 Mbps
Download Speed

3 Mbps
Upload Speed

National Internet Speeds Set by FCC 2015

Speeds & Testing Speed

What are your buying?

- Mostly shown download speeds in advertising.
- Not necessarily told what type of internet you are purchasing- DSL, Cable, Fiber
- Need to check the fine print!
  - Check for up & down Mbps
  - What equipment, contracts, average speeds, services

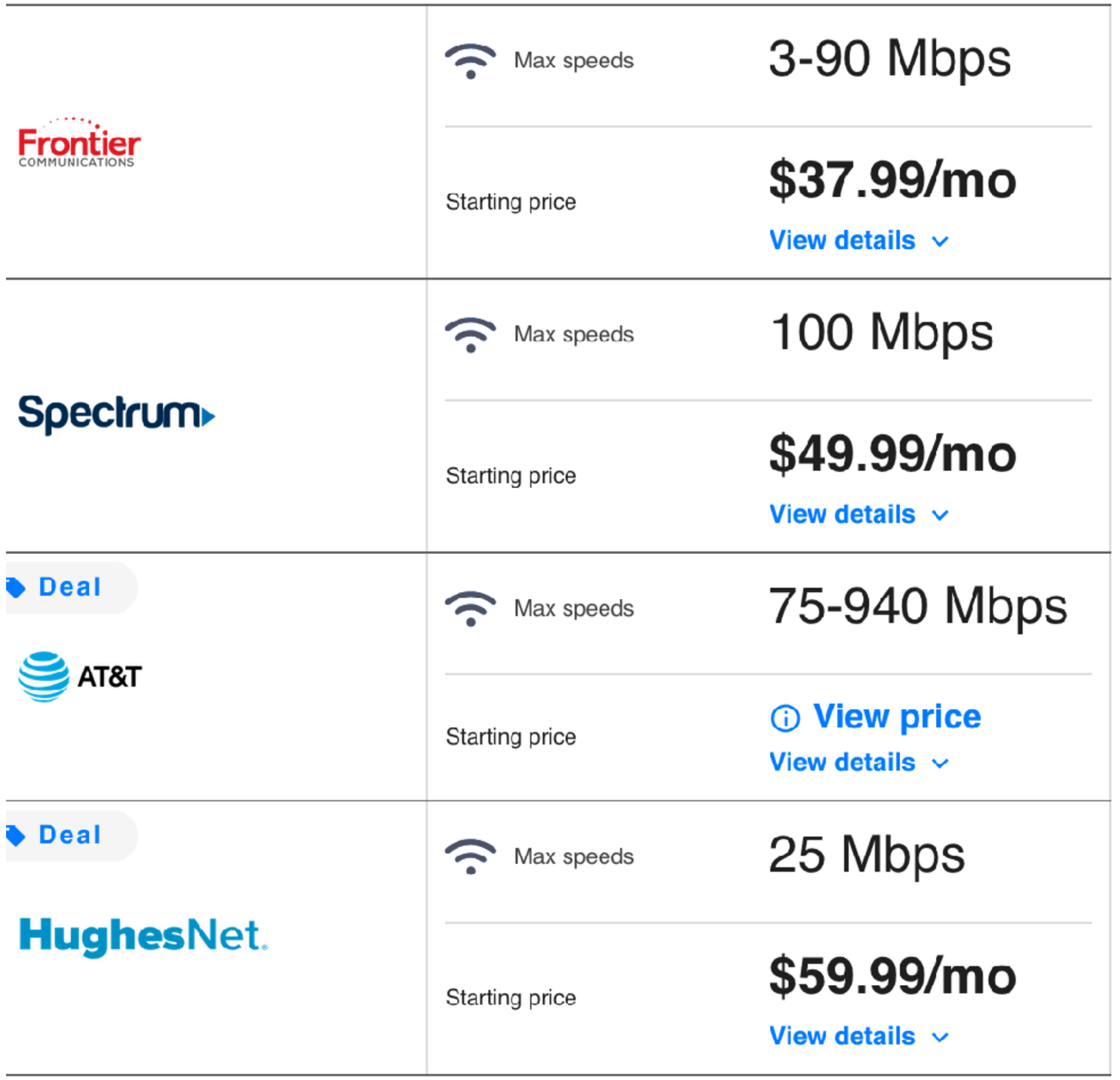


Image Source: https://www.allconnect.com

Speeds & Testing Speed

What speeds do I need to…..

25 Mbps
Download Speed

3 Mbps
Upload Speed

National Internet Speeds Set by FCC 2015

Activities	Suggested speeds	Cable	DSL	Fiber	Fixed wireless	Satellite
Email, web surfing & online shopping on 1-2 devices	5-10 Mbps	X	✔	X	✔	✔
Email, web surfing & online shopping on 3+ devices	10-25 Mbps	✔	✔	X	✔	✔
Streaming video in standard definition	5-10 Mbps	X	✔	X	✔	✔
Streaming video in HD	10-30 Mbps	✔	✔	✔	✔	X
Online gaming, 1-2 devices	10-25+ Mbps	✔	✔	✔	✔	X
Online gaming, 3+ devices	25+ Mbps	✔	✔	✔	X	X
Working from home	40+ Mbps	✔	X	✔	X	X

Image Source: https://www.allconnect.com/blog/find-internet-connection-type

Speeds & Testing Speed

25 Mbps Download Speed

3 Mbps Upload Speed

National Internet Speeds Set by FCC 2015

Activity	Minimum Download Speed (Mbps)
General Usage	
General Browsing and Email	1
Streaming Online Radio	Less than 0.5
VoIP Calls	Less than 0.5
Student	5 - 25
Telecommuting	5 - 25
File Downloading	10
Social Media	1
Watching Video	
Streaming Standard Definition Video	3 - 4
Streaming High Definition (HD) Video	5 - 8
Streaming Ultra HD 4K Video	25
Video Conferencing	
Standard Personal Video Call (e.g., Skype)	1
HD Personal Video Call (e.g., Skype)	1.5
HD Video Teleconferencing	6
Gaming	
Game Console Connecting to the Internet	3
Online Multiplayer	4

Source: https://www.fcc.gov/connected

Speeds & Testing Speed

How many devices can I use at anytime?

	Light Use (Basic functions: email, browsing, basic video, VoIP, Internet radio)	**Moderate Use** (Basic functions plus *one* high-demand application: streaming HD video, multiparty video conferencing, online gaming, telecommuting)	**High Use** (Basic functions plus *more than one* high-demand application running at the same time)
1 user on 1 device	Basic	Basic	Medium
2 users or devices at a time	Basic	Medium	Medium/Advanced
3 users or devices at a time	Medium	Medium	Advanced
4 users or devices at a time	Medium	Advanced	Advanced

Basic Service = 3 to 8 Mbps*

Medium Service = 12 to 25 Mbps

Advanced Service = More than 25 Mbps

*Mbps (Megabits per second) is the standard measure of broadband speed. It refers to the speed with which information packets are downloaded from, or uploaded to, the internet.

Source: https://www.fcc.gov/connected

Speeds & Testing Speed

What are the states rating of internet speed and access?

The State of Broadband in Wisconsin, 2021

Written by the BroadbandNow team. Last updated 2/2/2021.

Wisconsin ranks 30th when compared to the rest of the states in the US in terms of broadband coverage. Within Wisconsin, none of the counties have less than 45% high-speed internet coverage. The counties with the best coverage are largely concentrated in the southeast corner of the state. Only 13.4% of Wisconsinites have access to fiber-optic service, which is nearly half the national average of 25% of Americans with access to the same. According to user speed tests, Wisconsin's statewide average download speed is 126.0 Mbps, which is significantly faster than a number of higher-ranking states.

Internet Speed in Top Wisconsin Cities

	CITY	AVG. DOWNLOAD SPEED	NO. OF PROVIDERS
1.	Milwaukee	115.4 MBPS	25 Providers
2.	Madison	95.5 MBPS	27 Providers
3.	Green Bay	81.7 MBPS	19 Providers
4.	Racine	168.0 MBPS	20 Providers
5.	Appleton	89.1 MBPS	19 Providers

Speeds for Major Providers in Wisconsin

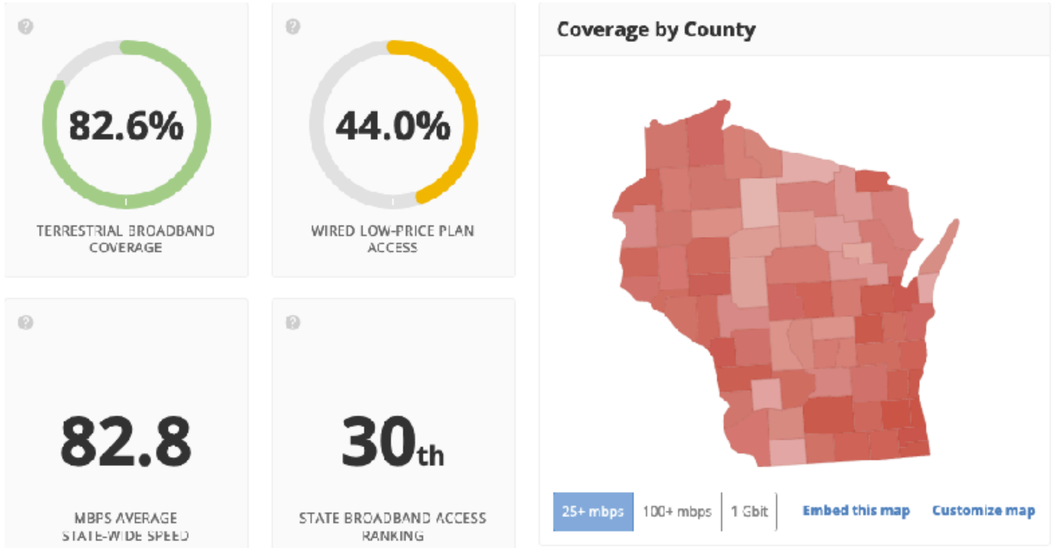
PROVIDER	AVG. DOWNLOAD SPEED
TDS Telecom	139.6 MBPS
AT&T Internet	109.5 MBPS
Charter Spectrum	102.6 MBPS
CenturyLink	80.1 MBPS
Bertram Internet	13.4 MBPS

Source: https://broadbandnow.com/Wisconsin

MLA
Cooper, Tyler. "Internet Access in Wisconsin: Stats & Figures." *Broadband Now*. Broadband Now, 02 Feb. 2021. Web. Accessed 13 Feb. 2021. <https://broadbandnow.com/Wisconsin>.

APA
Cooper, T. (2021, February 02). Internet access in Wisconsin: stats & figures. Retrieved from https://broadbandnow.com/Wisconsin

CHICAGO
Cooper, Tyler, Internet Access in Wisconsin: Stats & Figures*Broadband Now*. Last modified February 2, 2021. Accessed February 13, 2021. https://broadbandnow.com/Wisconsin.



Broadband Speeds

86.3% of Wisconsinites have access to broadband 100mbps or faster.

18.6% of Wisconsinites have access to 1 gigabit broadband.

Wired Coverage

97.1% of Wisconsinites have access to wireline service.

20.7% of Wisconsinites have access to fiber-optic service.

82.5% of Wisconsinites have access to cable service.

90.6% of Wisconsinites have access to DSL service.

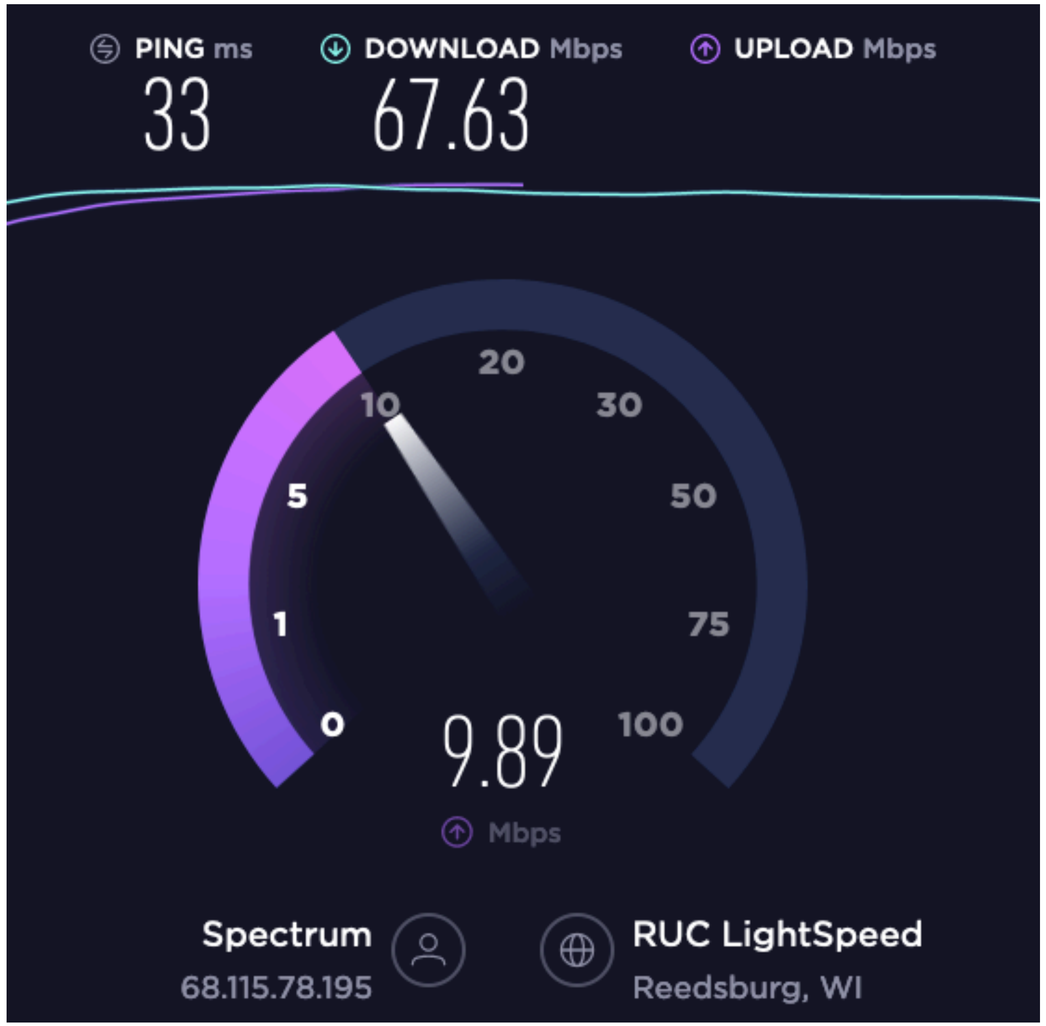
Largest Competing Providers In Wisconsin

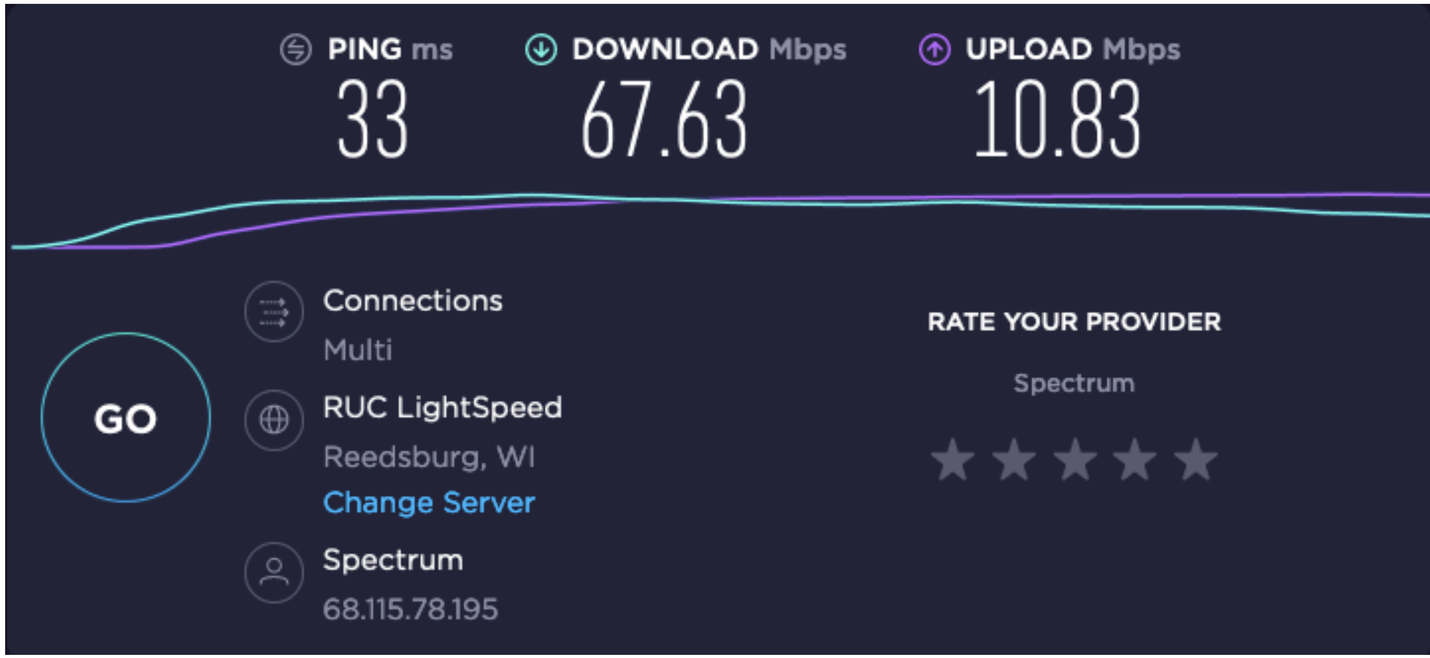
1. AT&T Internet vs TDS
2. AT&T Internet vs Spectrum
3. Spectrum vs TDS
4. Spectrum vs Frontier
5. Spectrum vs CenturyLink

Coverage by County in Wisconsin

County Name	% Broadband Coverage
Adams	69.2%
Ashland	69.2%
Barron	76.6%
Bayfield	87.3%
Brown	96.0%
Buffalo	82.5%
Burnett	87.6%
Calumet	87.0%
Chippewa	85.5%
Clark	50.7%
Columbia	67.0%
Crawford	73.8%
Dane	96.8%

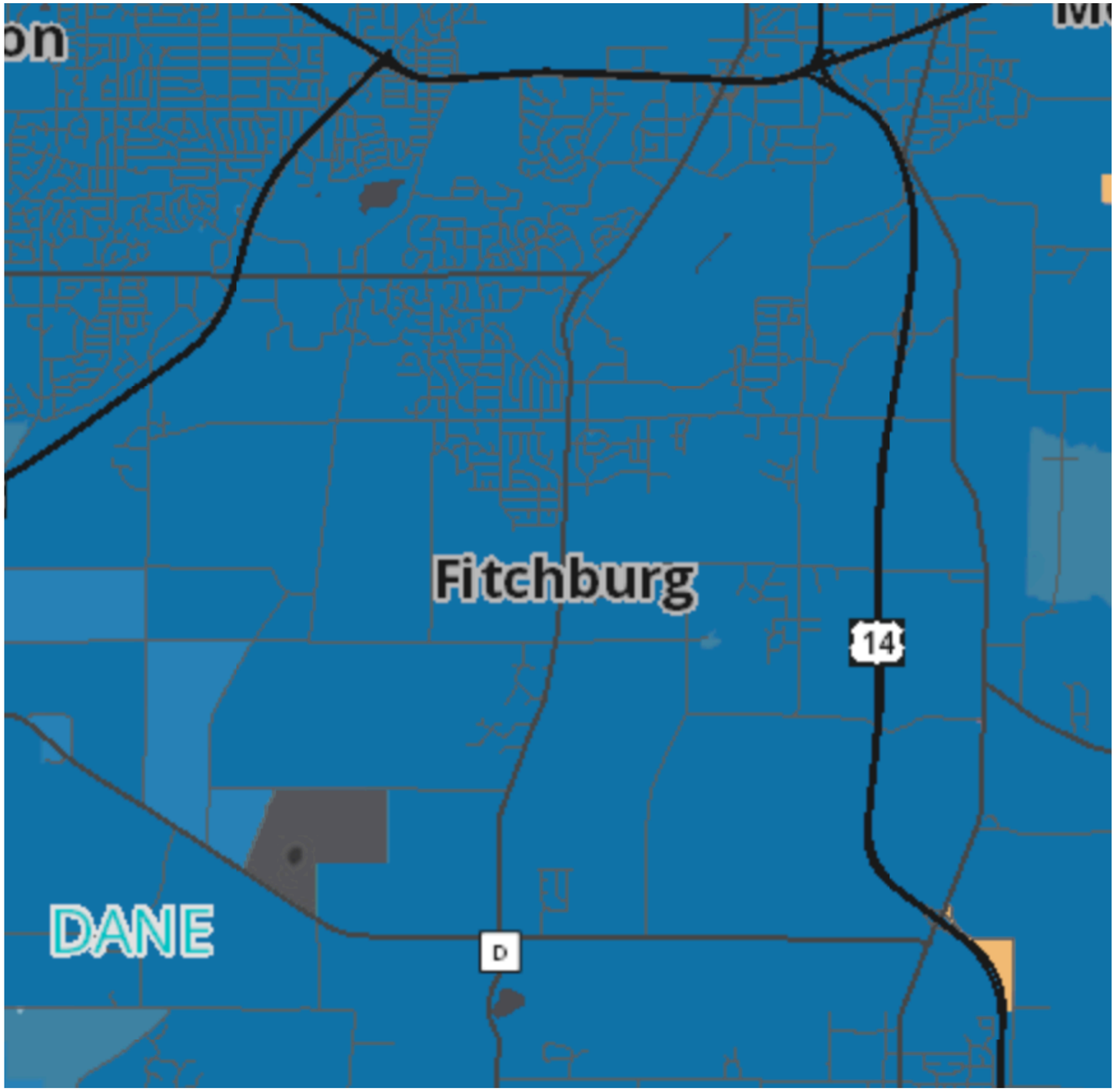
Speeds & Testing Speed





Source: https://www.speedtest.net/

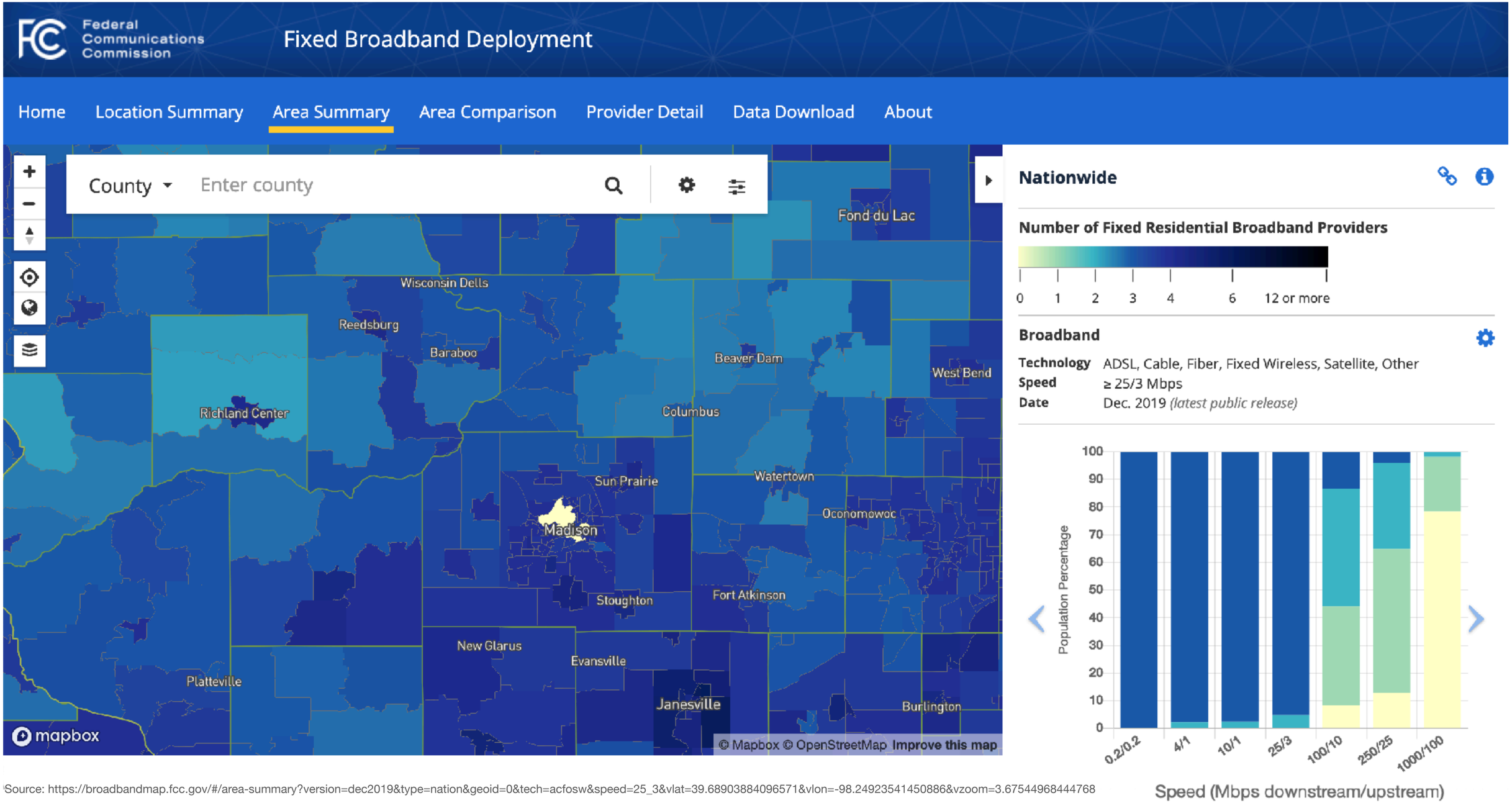
City Broadband Assessment



Source: https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/

City Broadband Assessment

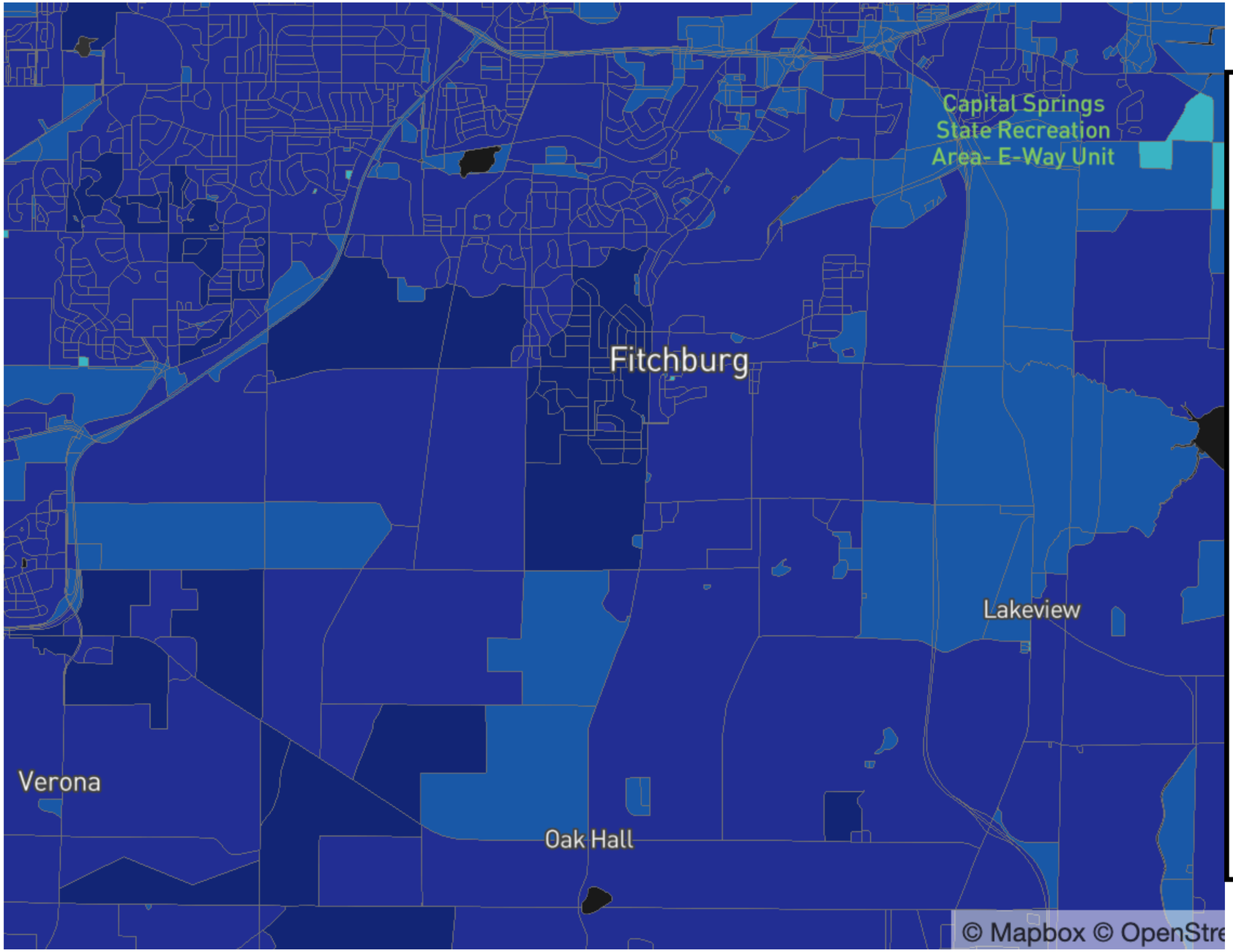
Federal-FCC Broadband Map



Source: https://broadbandmap.fcc.gov/#/area-summary?version=dec2019&type=nation&geoid=0&tech=acfosw&speed=25_3&vlat=39.68903884096571&vlon=-98.24923541450886&vzoom=3.67544968444768

City Broadband Assessment

Federal-FCC Broadband Map



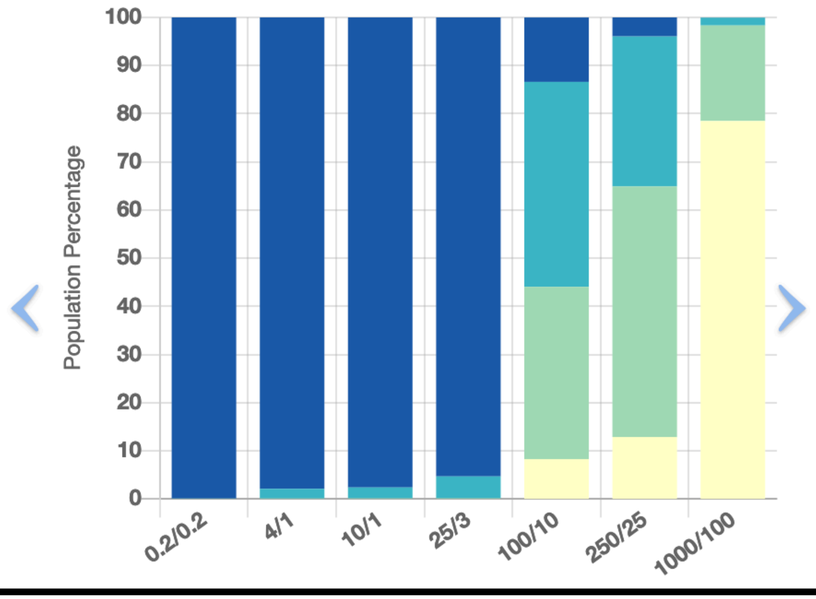
Nationwide

Number of Fixed Residential Broadband Providers

0 1 2 3 4 6 12 or more

Broadband

Technology	ADSL, Cable, Fiber, Fixed Wireless, Satellite, Other
Speed	≥ 25/3 Mbps
Date	Dec. 2019 *(latest public release)*



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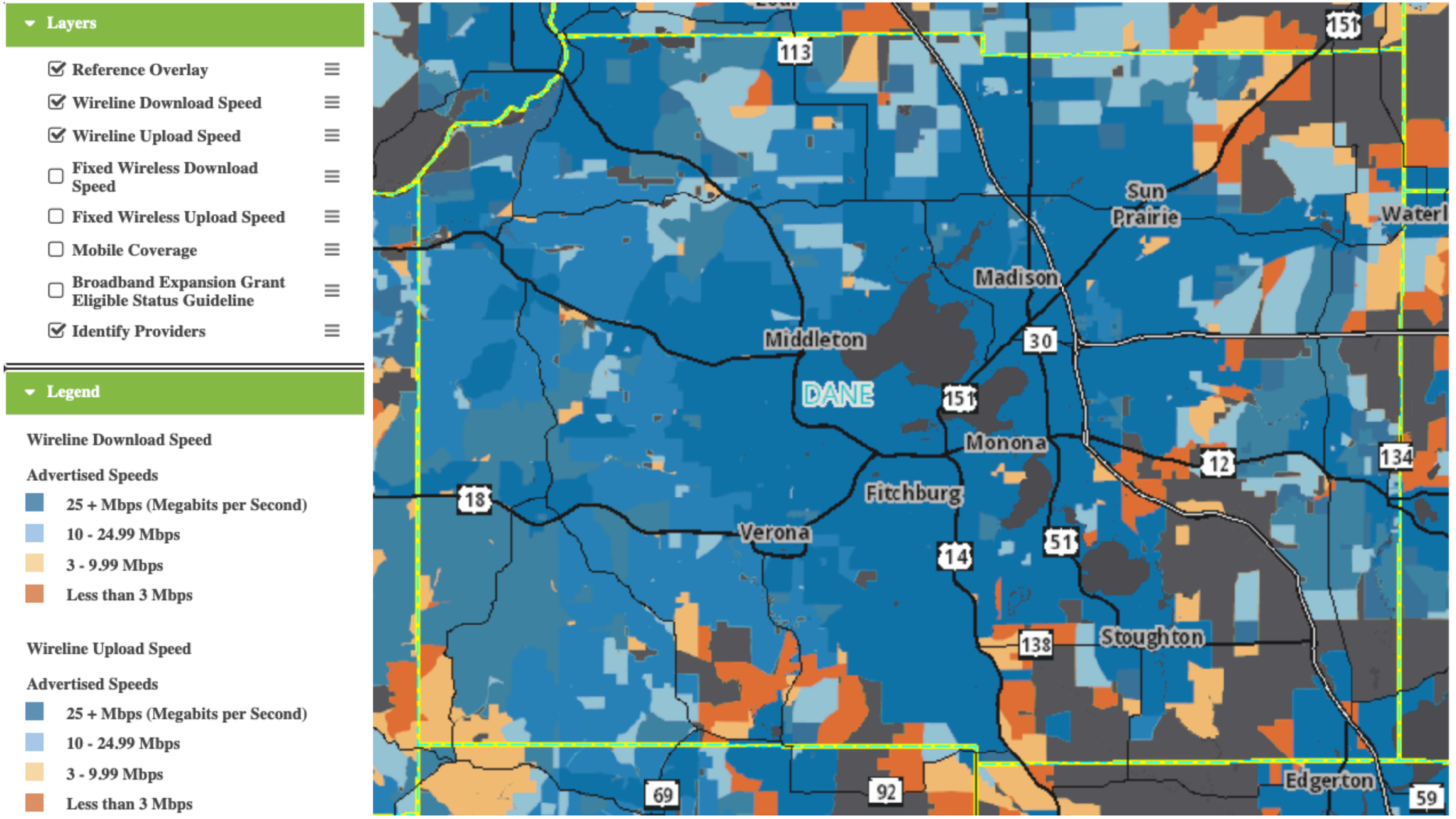
City Broadband Assessment

State-PSC Broadband Map

Source: https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/



City Broadband Assessment

State-PSC Broadband Map

Source: https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/

Layers

- [x] Reference Overlay
- [x] Wireline Download Speed
- [x] Wireline Upload Speed
- [ ] Fixed Wireless Download Speed
- [ ] Fixed Wireless Upload Speed
- [ ] Mobile Coverage
- [ ] Broadband Expansion Grant Eligible Status Guideline
- [x] Identify Providers

Legend

Wireline Download Speed

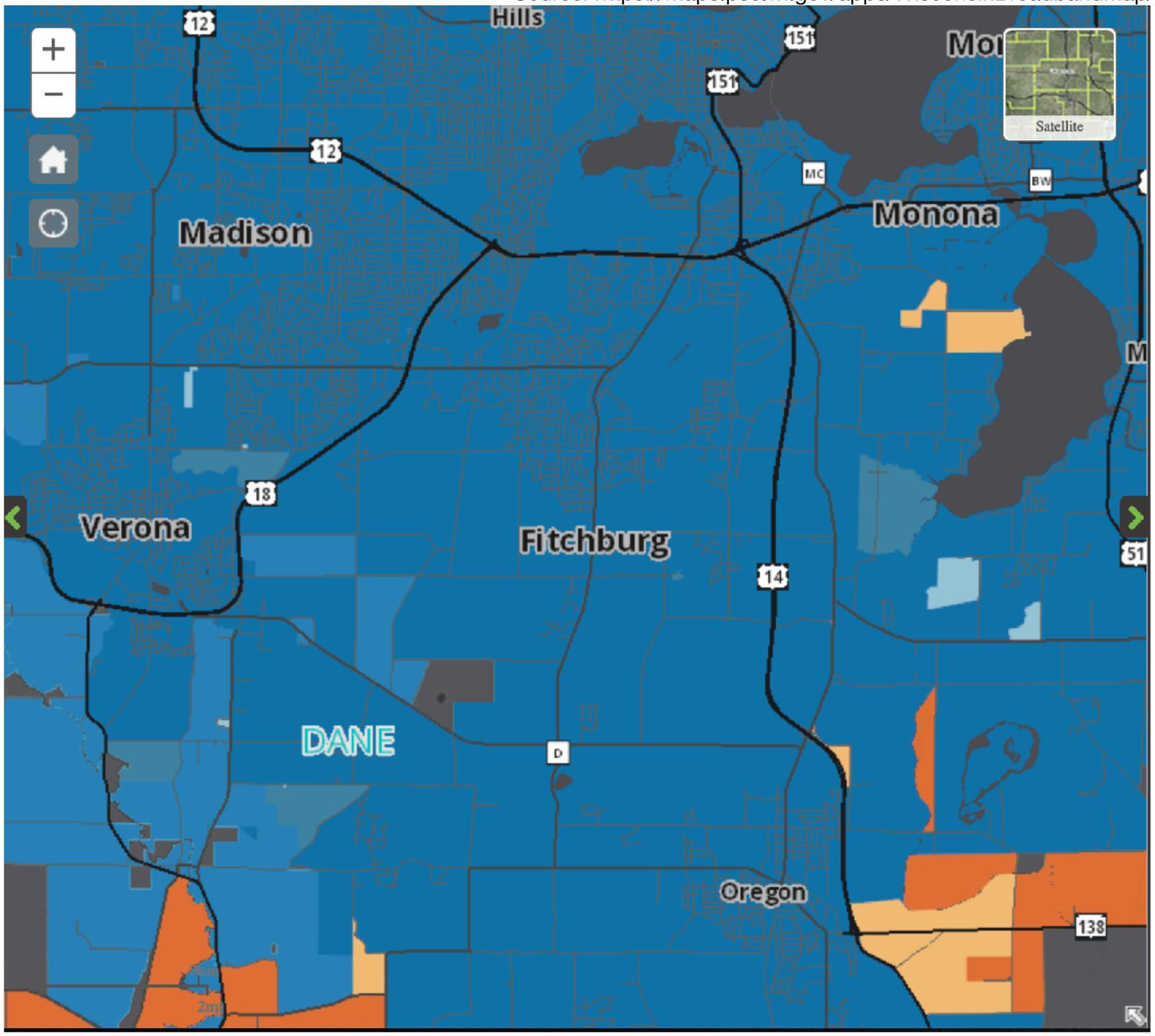
Advertised Speeds

- 25 + Mbps (Megabits per Second)
- 10 - 24.99 Mbps
- 3 - 9.99 Mbps
- Less than 3 Mbps

Wireline Upload Speed

Advertised Speeds

- 25 + Mbps (Megabits per Second)
- 10 - 24.99 Mbps
- 3 - 9.99 Mbps
- Less than 3 Mbps



City Broadband Assessment

State-PSC Broadband Map

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Layers

- [x] Reference Overlay
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- [ ] Fixed Wireless Upload Speed
- [ ] Mobile Coverage
- [ ] Broadband Expansion Grant Eligible Status Guideline
- [x] Identify Providers

Legend

Wireline Download Speed

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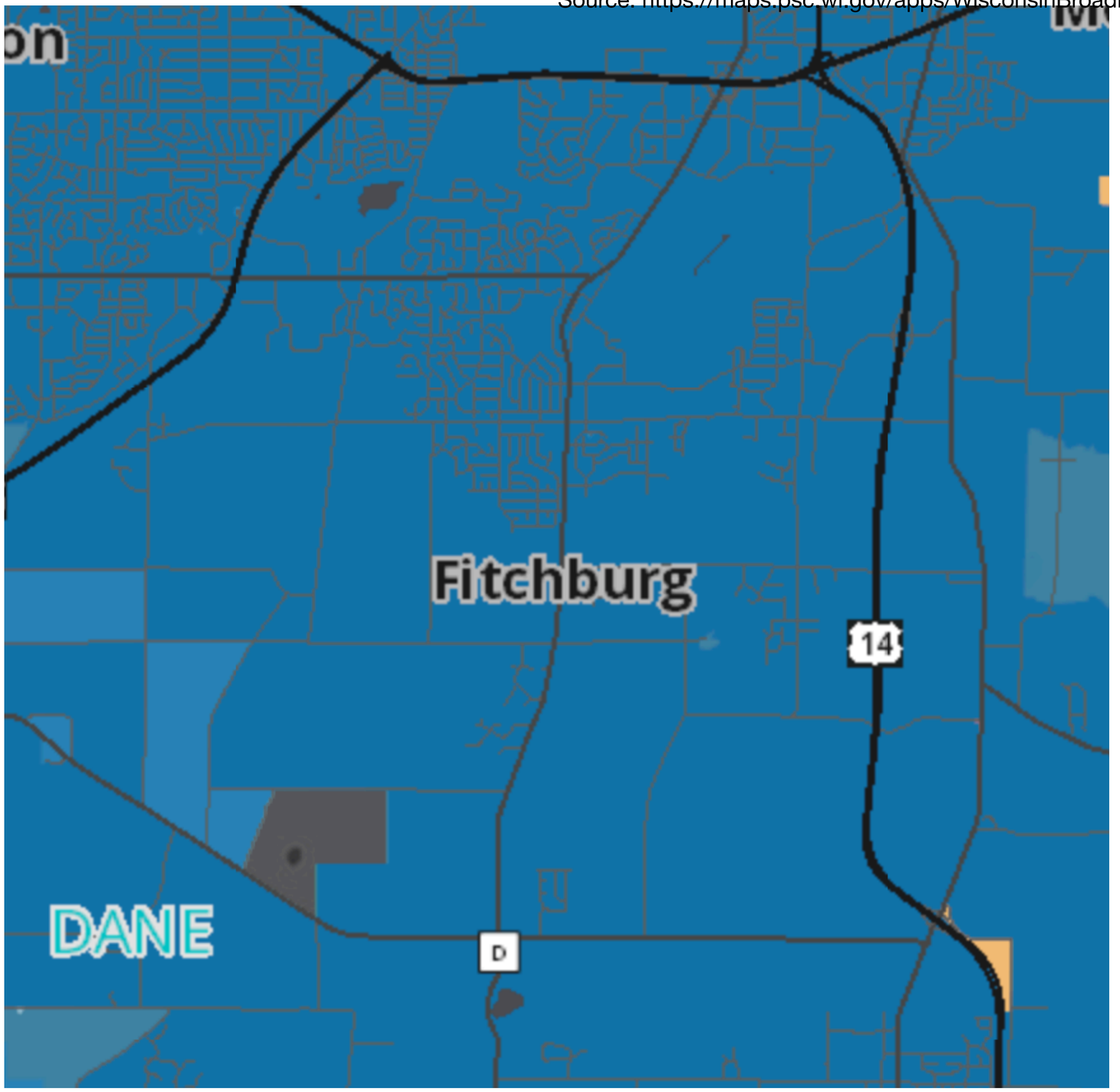
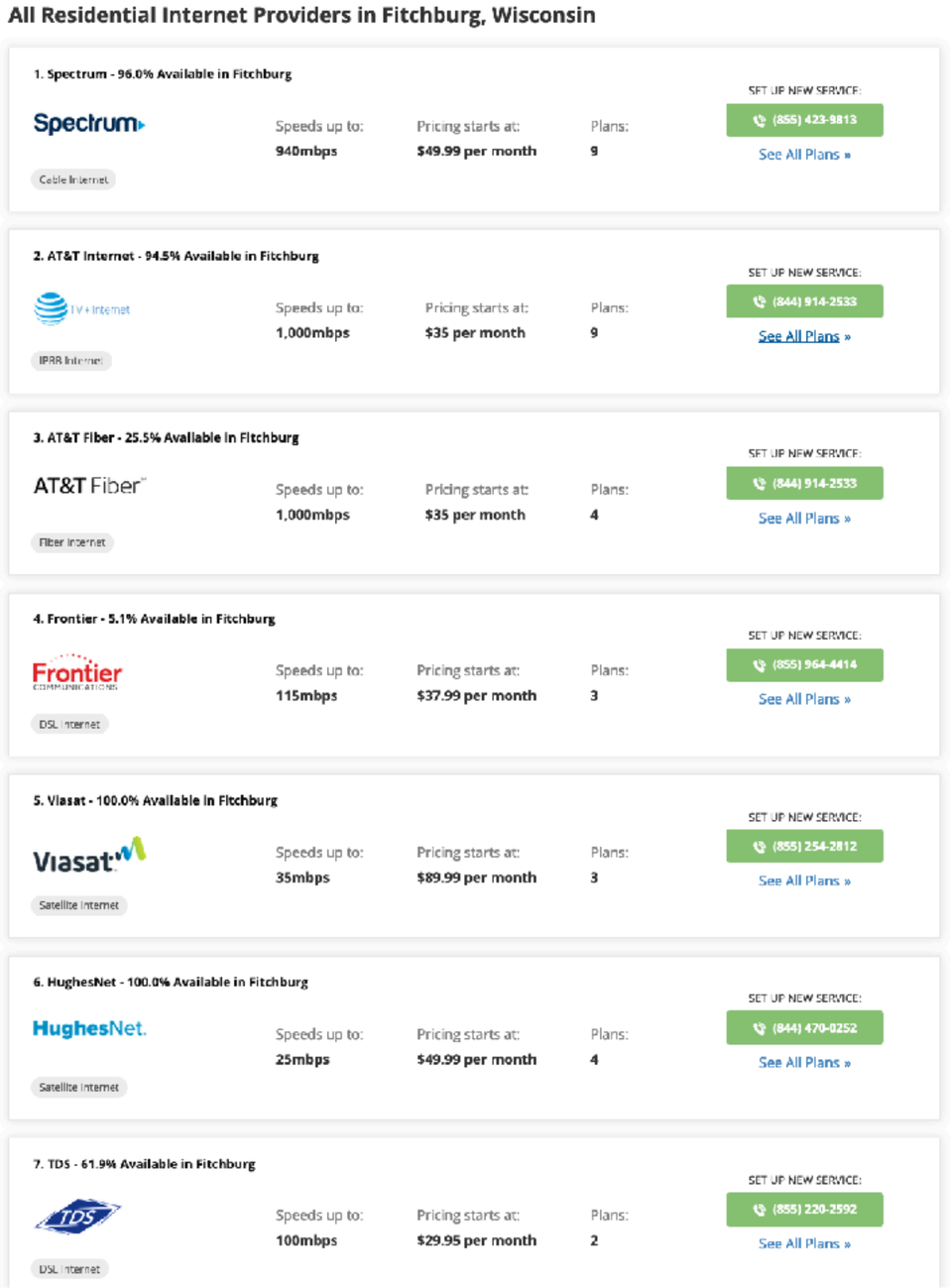
Wireline Upload Speed

Advertised Speeds

- 25 + Mbps (Megabits per Second)
- 10 - 24.99 Mbps
- 3 - 9.99 Mbps
- Less than 3 Mbps



Providers



All Residential Internet Providers in Fitchburg, Wisconsin

1. Spectrum - 96.0% Available in Fitchburg

Spectrum

Speeds up to: 940mbps

Pricing starts at: $49.99 per month

Plans: 9

Cable Internet

SET UP NEW SERVICE: (855) 423-9813

See All Plans »

2. AT&T Internet - 94.5% Available in Fitchburg

U-verse Internet

Speeds up to: 1,000mbps

Pricing starts at: $35 per month

Plans: 9

IPBB Internet

SET UP NEW SERVICE: (844) 914-2533

See All Plans »

3. AT&T Fiber - 25.5% Available in Fitchburg

AT&T Fiber

Speeds up to: 1,000mbps

Pricing starts at: $35 per month

Plans: 4

Fiber Internet

SET UP NEW SERVICE: (844) 914-2533

See All Plans »

4. Frontier - 5.1% Available in Fitchburg

Frontier

Speeds up to: 115mbps

Pricing starts at: $37.99 per month

Plans: 3

DSL Internet

SET UP NEW SERVICE: (855) 964-4414

See All Plans »

5. Viasat - 100.0% Available in Fitchburg

Viasat

Speeds up to: 35mbps

Pricing starts at: $89.99 per month

Plans: 3

Satellite Internet

SET UP NEW SERVICE: (855) 254-2812

See All Plans »

6. HughesNet - 100.0% Available in Fitchburg

HughesNet

Speeds up to: 25mbps

Pricing starts at: $49.99 per month

Plans: 4

Satellite Internet

SET UP NEW SERVICE: (844) 470-0252

See All Plans »

7. TDS - 61.9% Available in Fitchburg

TDS

Speeds up to: 100mbps

Pricing starts at: $29.95 per month

Plans: 2

DSL Internet

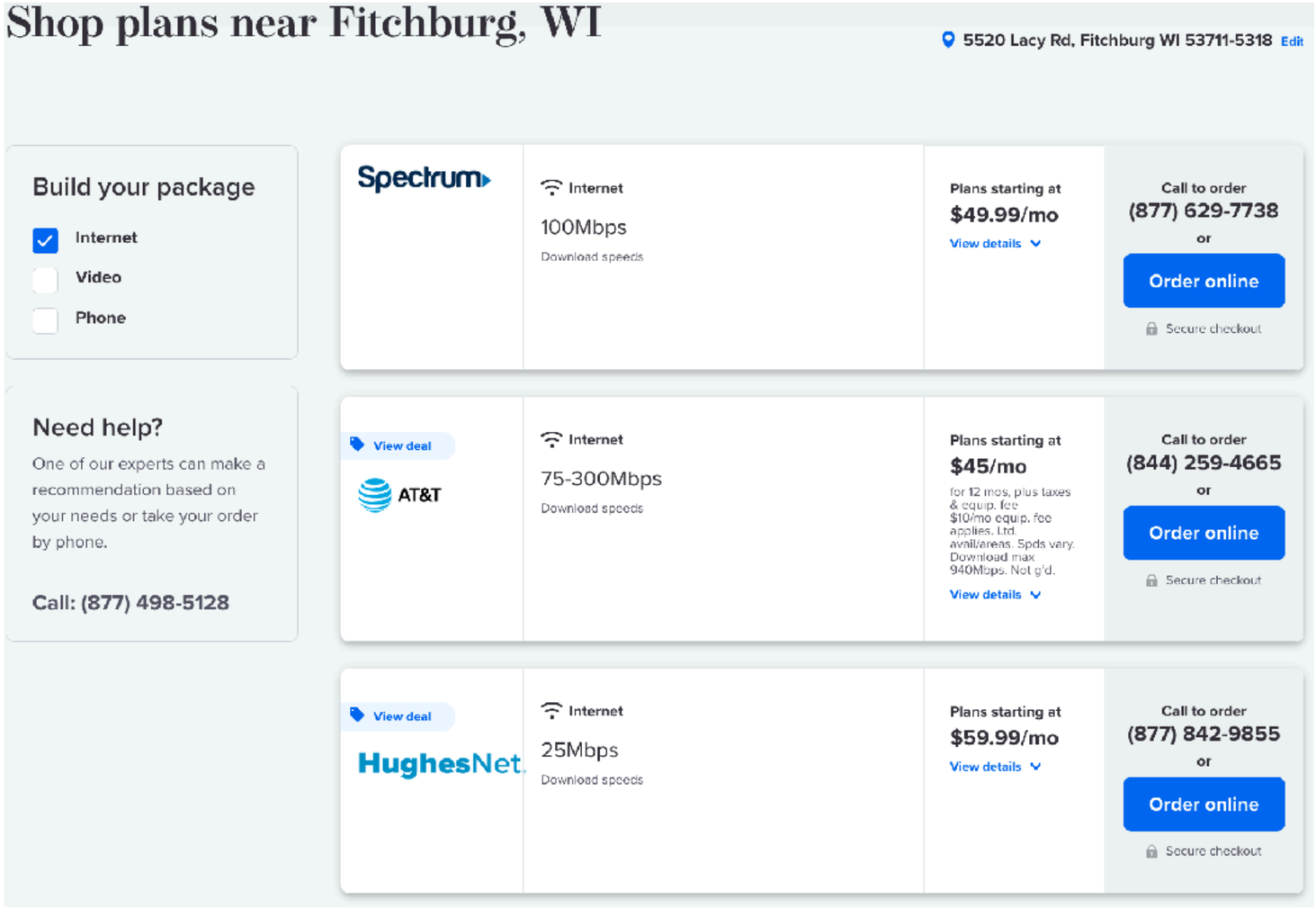
SET UP NEW SERVICE: (855) 220-2592

See All Plans »

Source: https://broadbandnow.com/Wisconsin/Fitchburg

Providers

- AT&T
- Spectrum (Charter)
- TDS
- Frontier
- Satellite Companies
- Wireless Companies



Source: https://www.allconnect.com/results/providers?street_line=5520%20Lacy%20Rd&city=Fitchburg&state=WI&zip=53711-5318

Providers

City of Fitchburg Review

Internet Access in Fitchburg Wisconsin

Fitchburg is one of the more competitive markets for broadband service in the US. With Viasat Internet (formerly Exede), HughesNet, Charter Spectrum, AT&T Internet, and TDS Telecom all offering wired internet access to major parts of the city. These providers use a variety of wired technologies including satellite, cable, IPBB, and DSL. Additionally, there are 3 other wired providers covering limited areas of Fitchburg.

Whether you're looking for enterprise services like bonded T1 or you're just looking for a small business internet plan to get online, there are multiple options in Fitchburg. In the table above you'll find providers that we've identified as specializing in either small business internet service or enterprise-level service.

Depending on your unique needs, some residential providers (under the residential tab) do offer business internet access, but we would not list those providers in the results above unless they specifically advertise business-centric plans or enterprise services on their website.

The fastest residential internet available in the city is 1,200 mbps.

- There are 19 internet providers in Fitchburg with 9 of those offering residential service.
- The fastest zip code in Fitchburg for January 2021 is 53593. (see all below).

Source: https://broadbandnow.com/Wisconsin/Fitchburg

Providers

City of Fitchburg Review

Summary Of Fastest Internet Providers In Fitchburg, Wisconsin

PROVIDER	SPEED	TYPE	TIME TO DOWNLOAD 1 GB
AT&T Internet	1,000 Mbps	DSL and Fiber	8s
TDS Telecom	1,000 Mbps	DSL and Fiber	8s
XFINITY from Comcast	1,200 Mbps	Cable	6s
Charter Spectrum	940 Mbps	Cable	8s
Viasat Internet (formerly Exede)	35 Mbps	Satellite	3m 54s
HughesNet	25 Mbps	Satellite	5m 27s
Frontier Communications	115 Mbps	DSL	1m 11s

Summary Of Internet Provider Availability In Fitchburg, Wisconsin

- **AT&T Internet** - 94.5% Availability in Fitchburg - Speeds up to 1,000 Mbps
- **Spectrum** - 96.0% Availability in Fitchburg - Speeds up to 940 Mbps
- **TDS** - 61.9% Availability in Fitchburg - Speeds up to 1,000 Mbps
- **Frontier** - 5.1% Availability in Fitchburg - Speeds up to 115 Mbps
- **Xfinity** - 1.7% Availability in Fitchburg - Speeds up to 1,200 Mbps
- **Viasat** - 100.0% Availability in Fitchburg - Speeds up to 35 Mbps
- **HughesNet** - 100.0% Availability in Fitchburg - Speeds up to 25 Mbps

Source: https://broadbandnow.com/Wisconsin/Fitchburg

Providers

City of Fitchburg Review

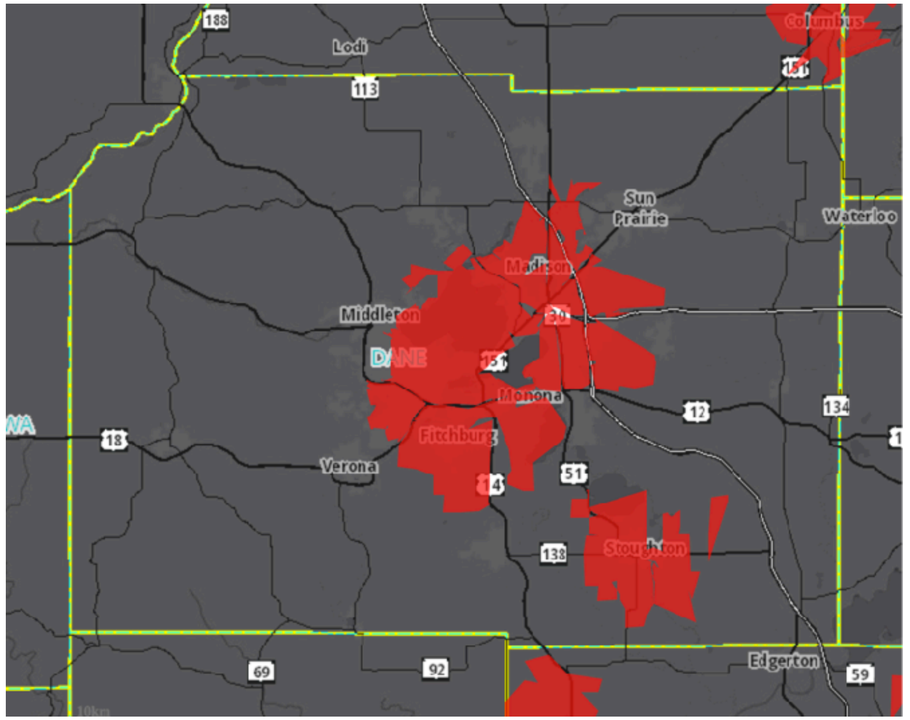
Summary Of Internet Providers In Fitchburg

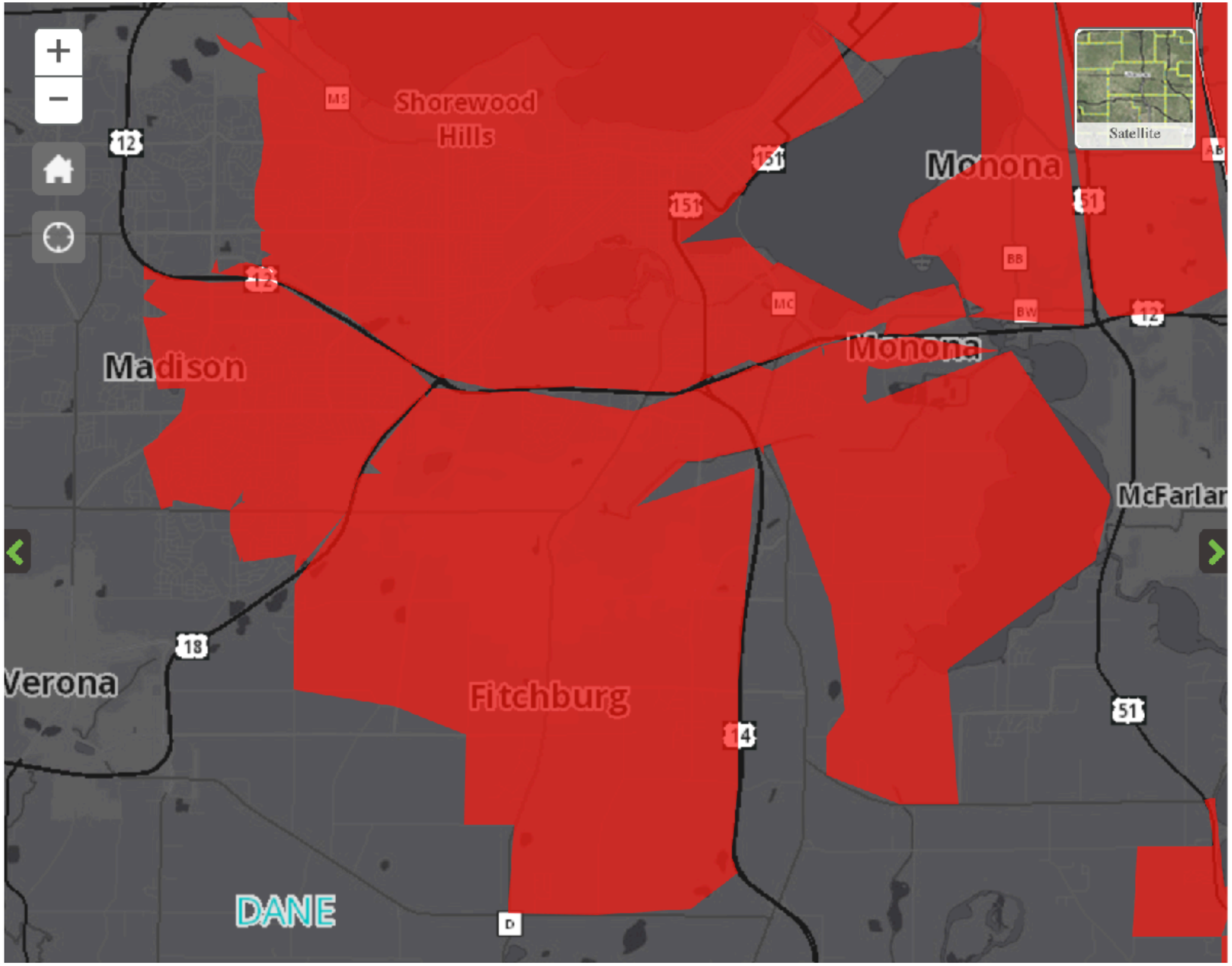
Provider	Type	Coverage	Speed
RESIDENTIAL AT&T Internet	DSL and Fiber	94.5%+	1,000 Mbps
RESIDENTIAL Charter Spectrum	Cable	96.0%+	940 Mbps
RESIDENTIAL TDS Telecom	DSL and Fiber	61.9%+	1,000 Mbps
RESIDENTIAL Frontier Communications	DSL	5.1%+	24 Mbps
RESIDENTIAL XFINITY from Comcast	Cable	1.7%+	987 Mbps
RESIDENTIAL Viasat Internet (formerly Exede)	Satellite	100%	35 Mbps
RESIDENTIAL HughesNet	Satellite	100%	25 Mbps
BUSINESS Spectrum Business	Cable and Fiber	89.3%+	940 Mbps
BUSINESS Frontier Business	DSL	23.6%+	24 Mbps
BUSINESS AT&T	Fiber	10.8%+	1,000 Mbps

Source: https://broadbandnow.com/Wisconsin/Fitchburg

Providers

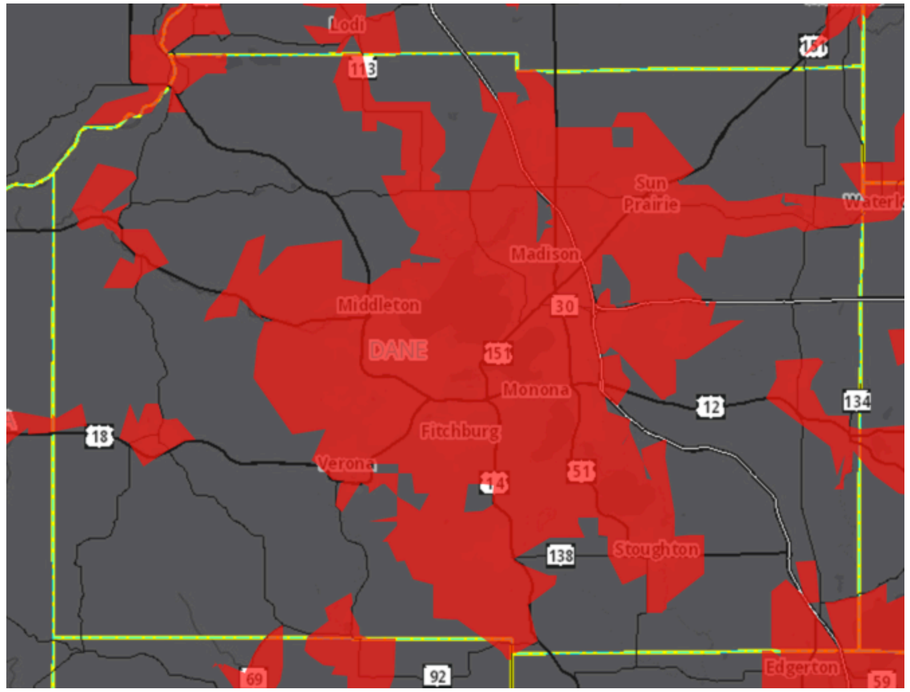
- AT&T

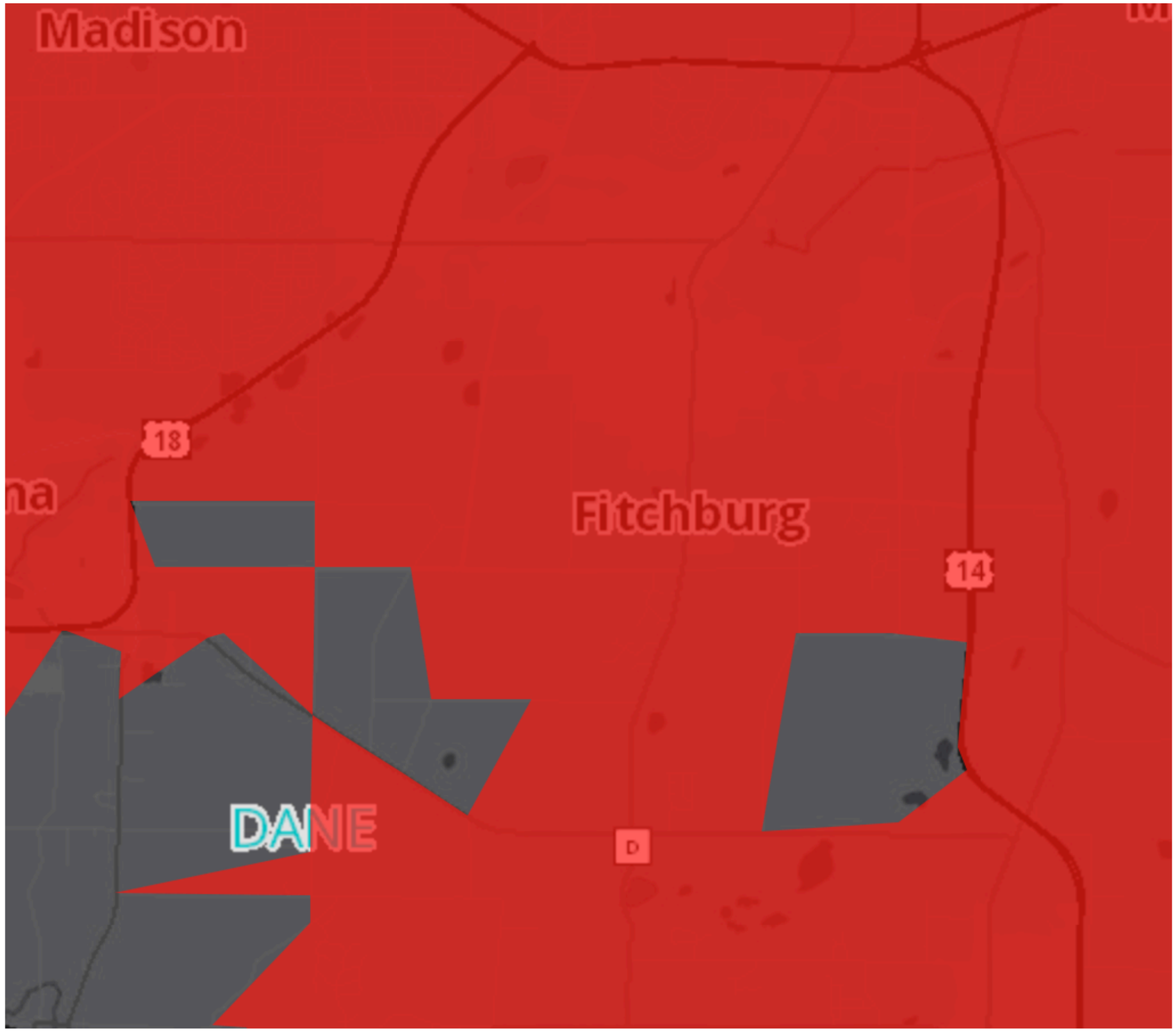




Providers

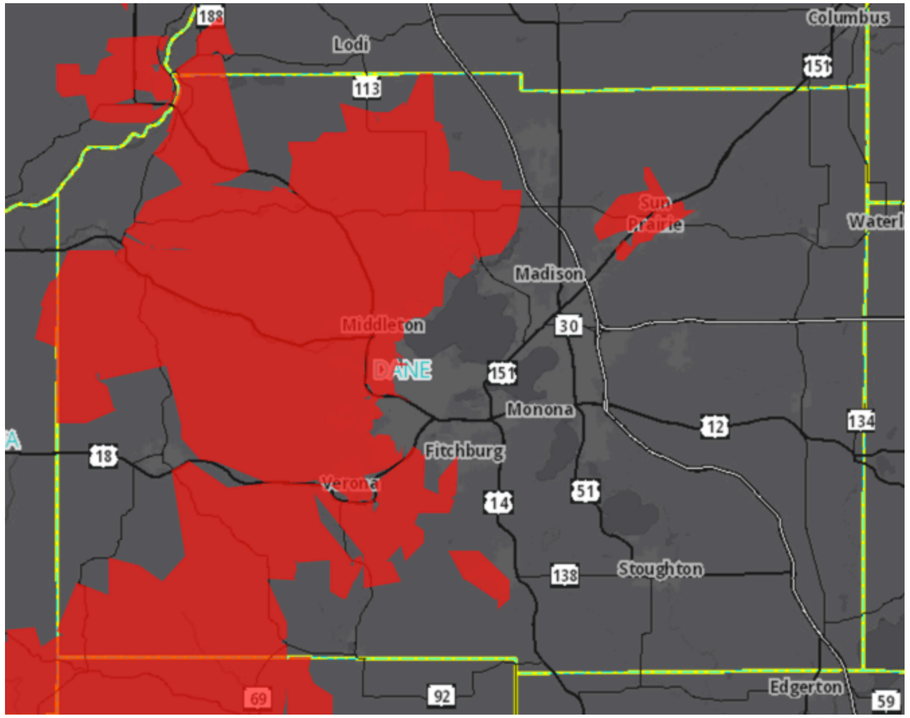
- Spectrum (Charter)

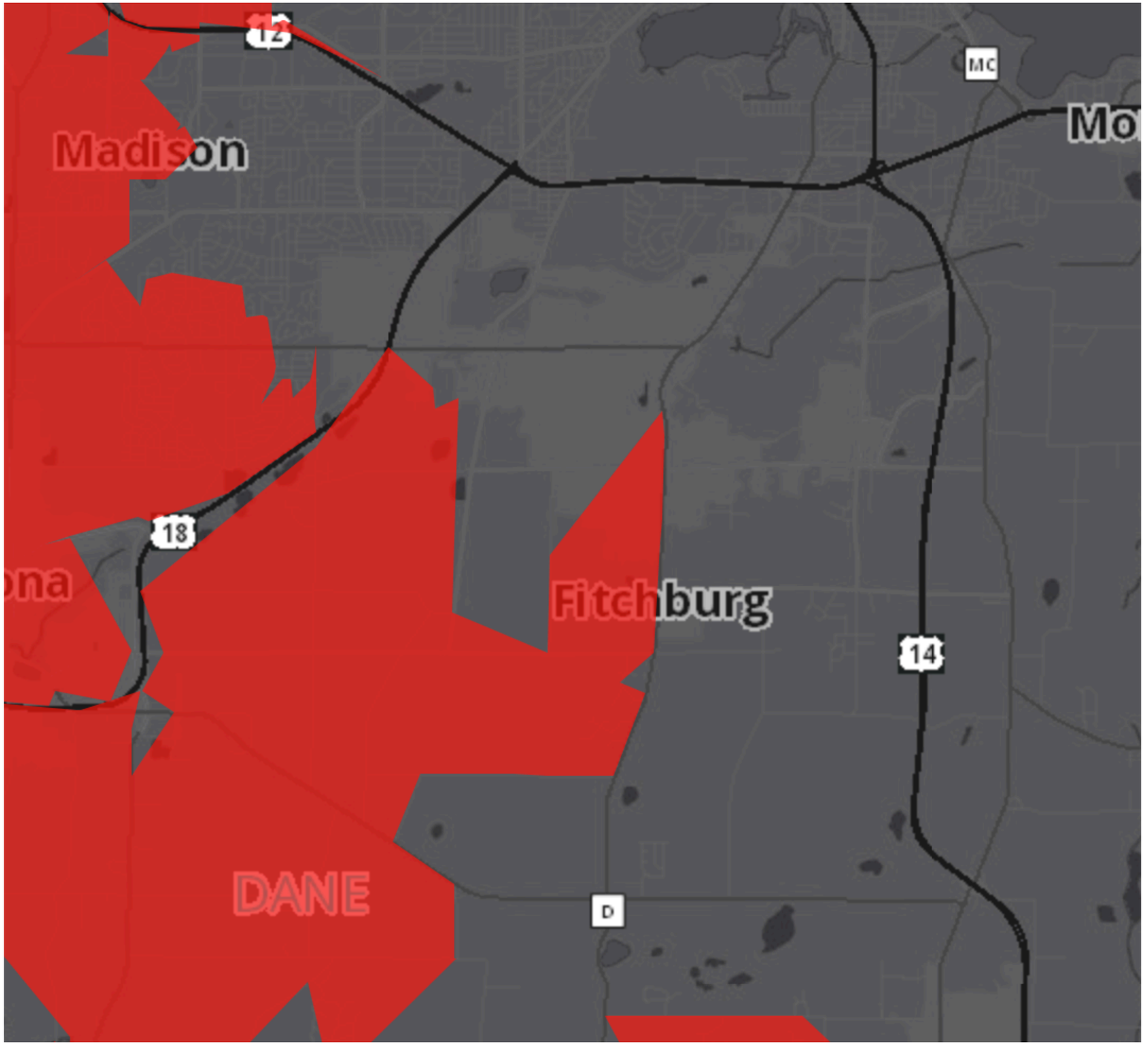




Providers

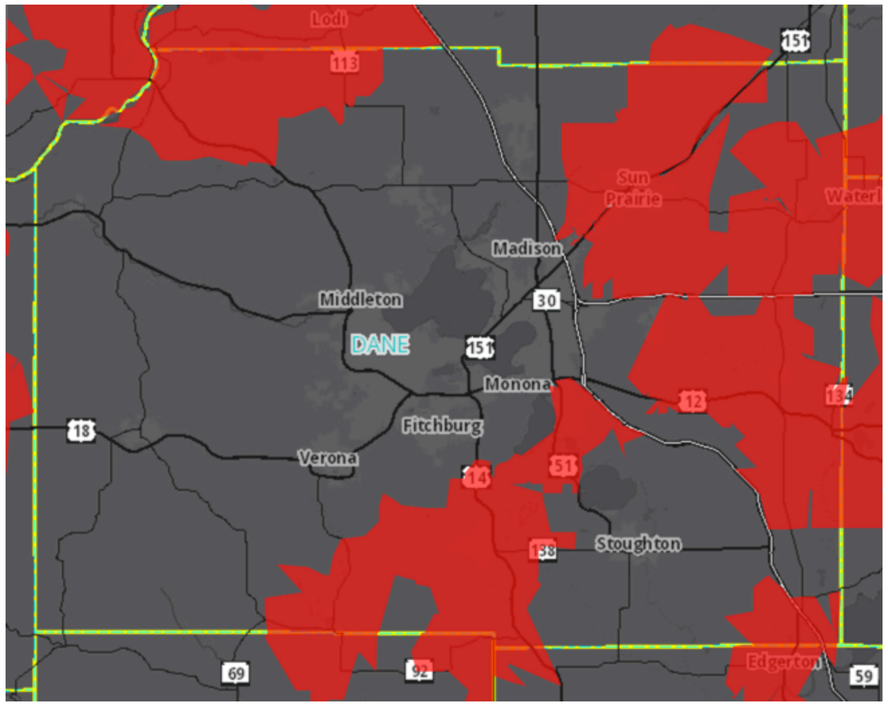
- TDS

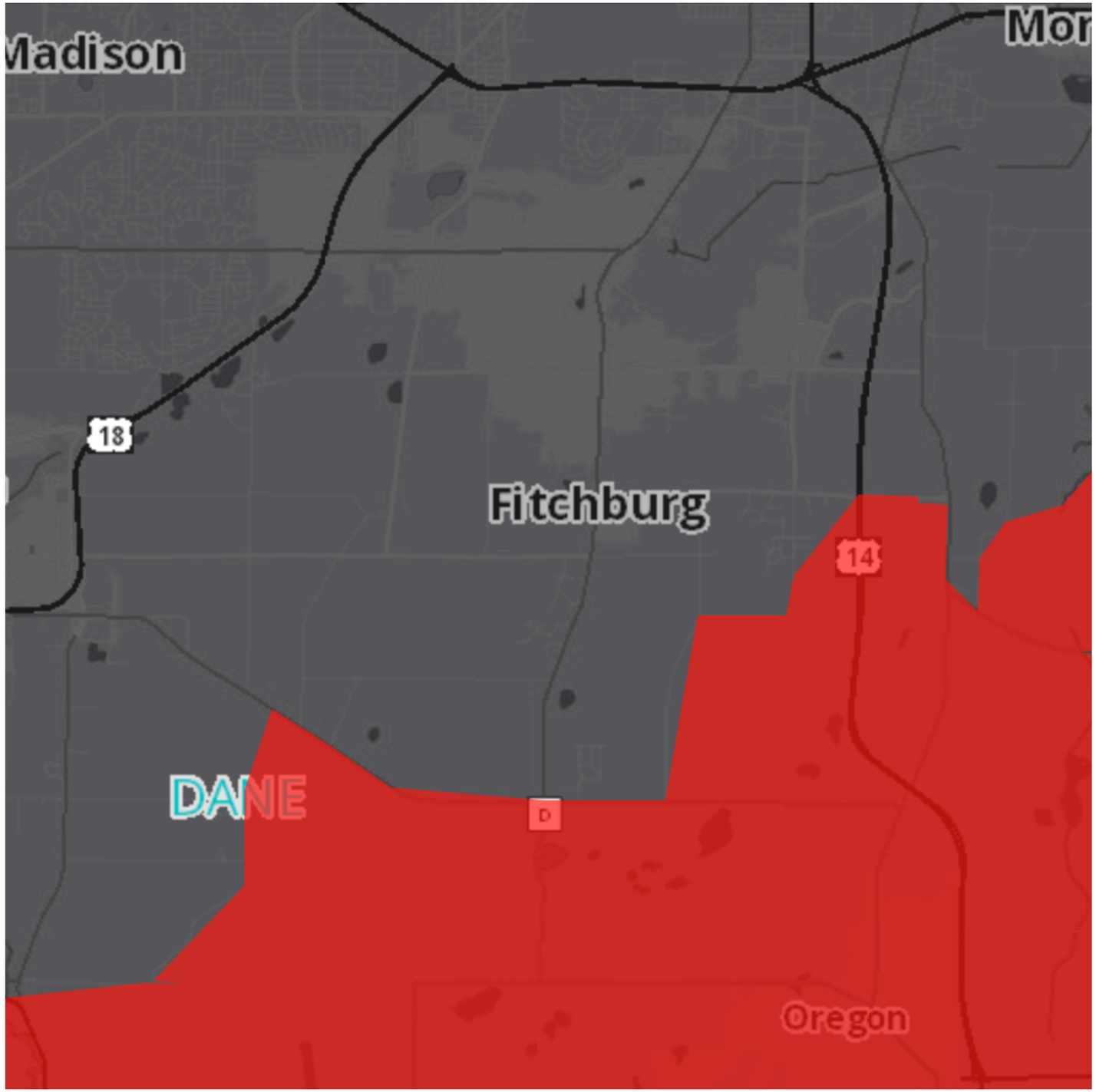




Providers

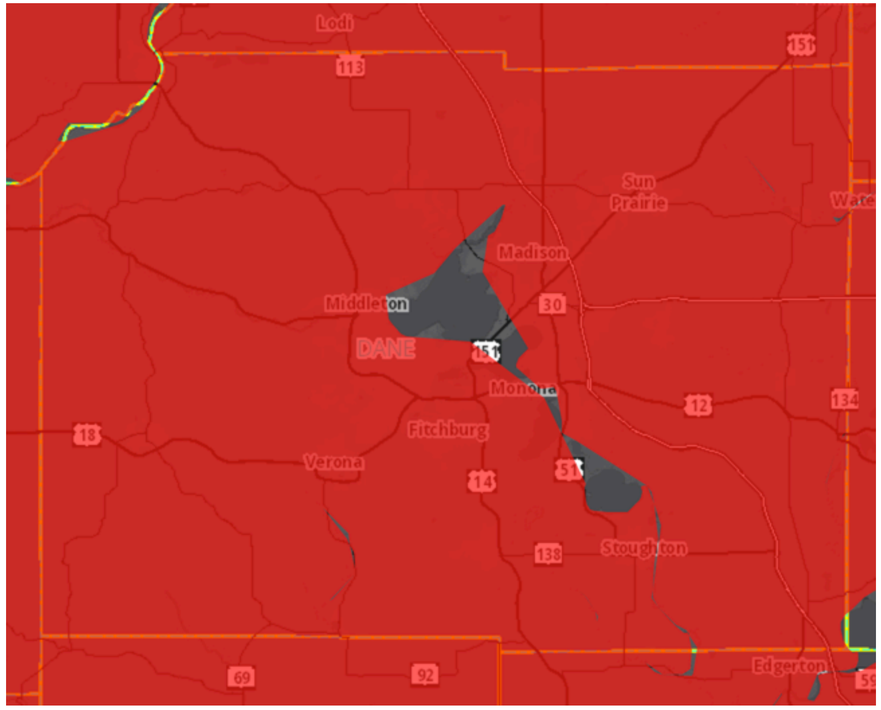
- Frontier

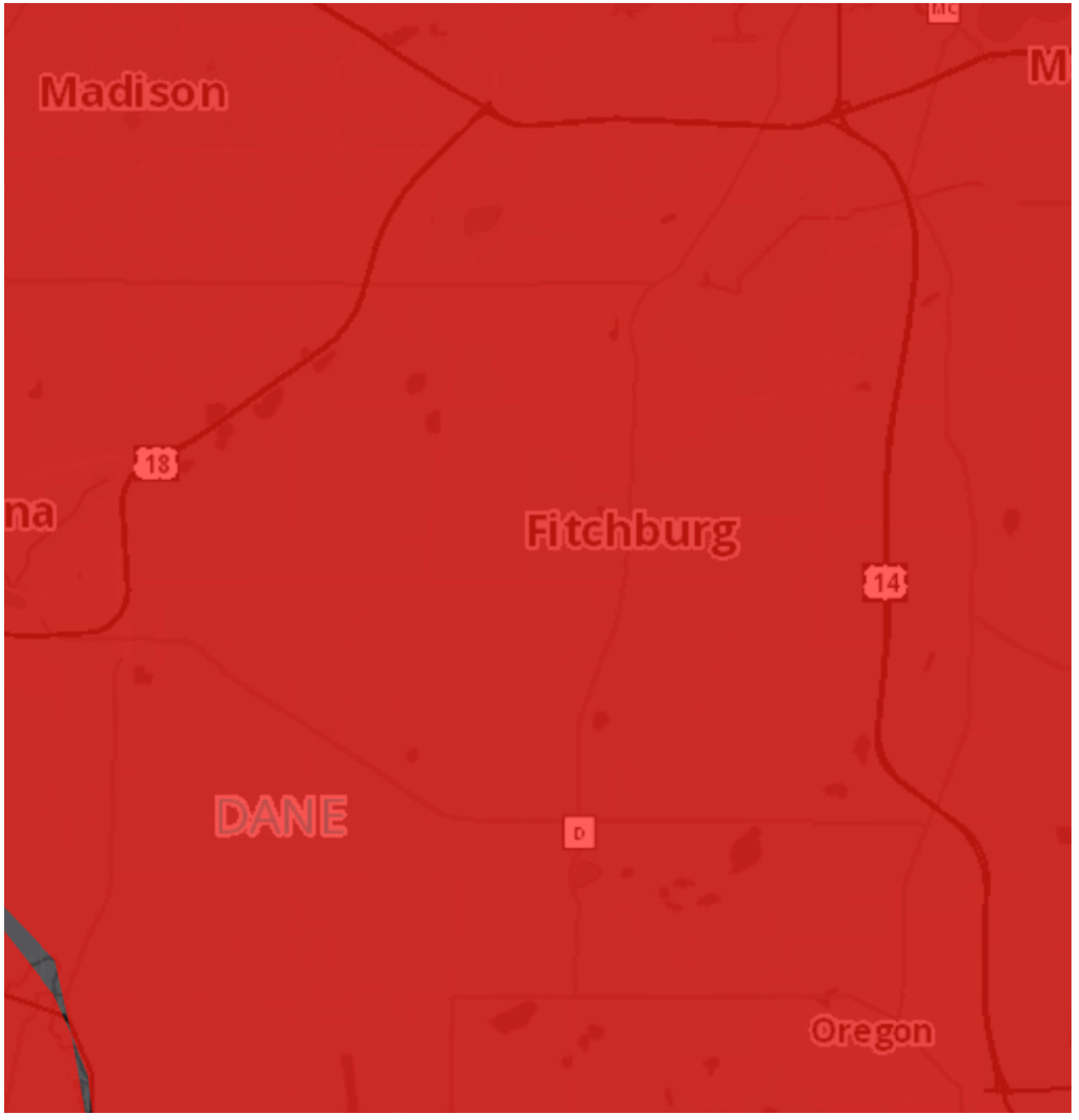




Providers

- Satellite Companies





Providers

- Satellite Companies

The best satellite internet providers of 2021

Provider	Viasat	HughesNet
Data	15–300 GB/mo.	10–50 GB/mo.
Speeds	Up to 100 Mbps	Up to 25 Mbps
Price	$30.00–$150.00/mo.*	$59.99– $149.99/mo.
Get it	View plans or call: 855-413-9012	View plans or call: 855-820-6707

Actual speeds may vary and are not guaranteed.

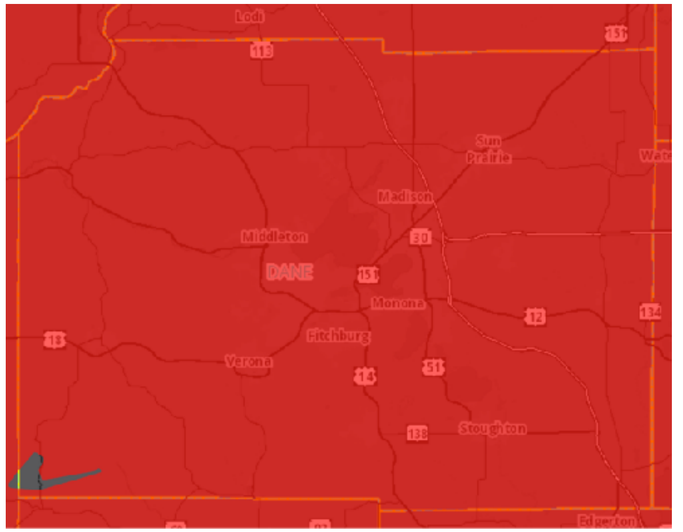
*Promotional price is for the first 3 months. Regular internet rate applies after 3 months ($50–$200/mo.).

‡Service plans require a 24-month commitment.

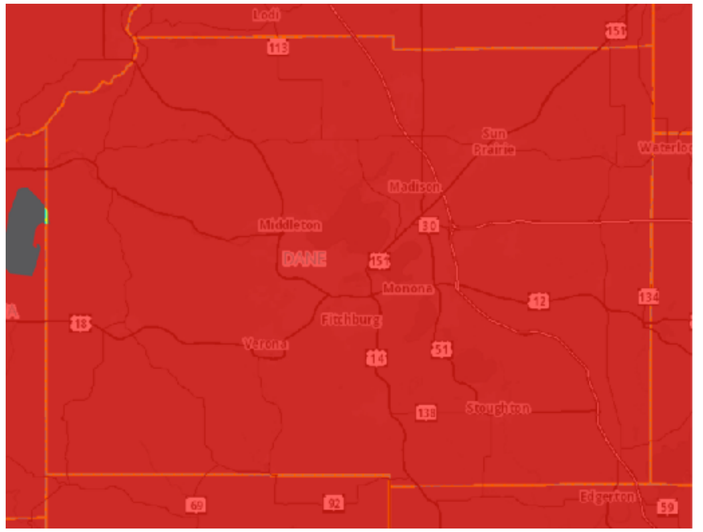
Providers

- **Wireless Companies**

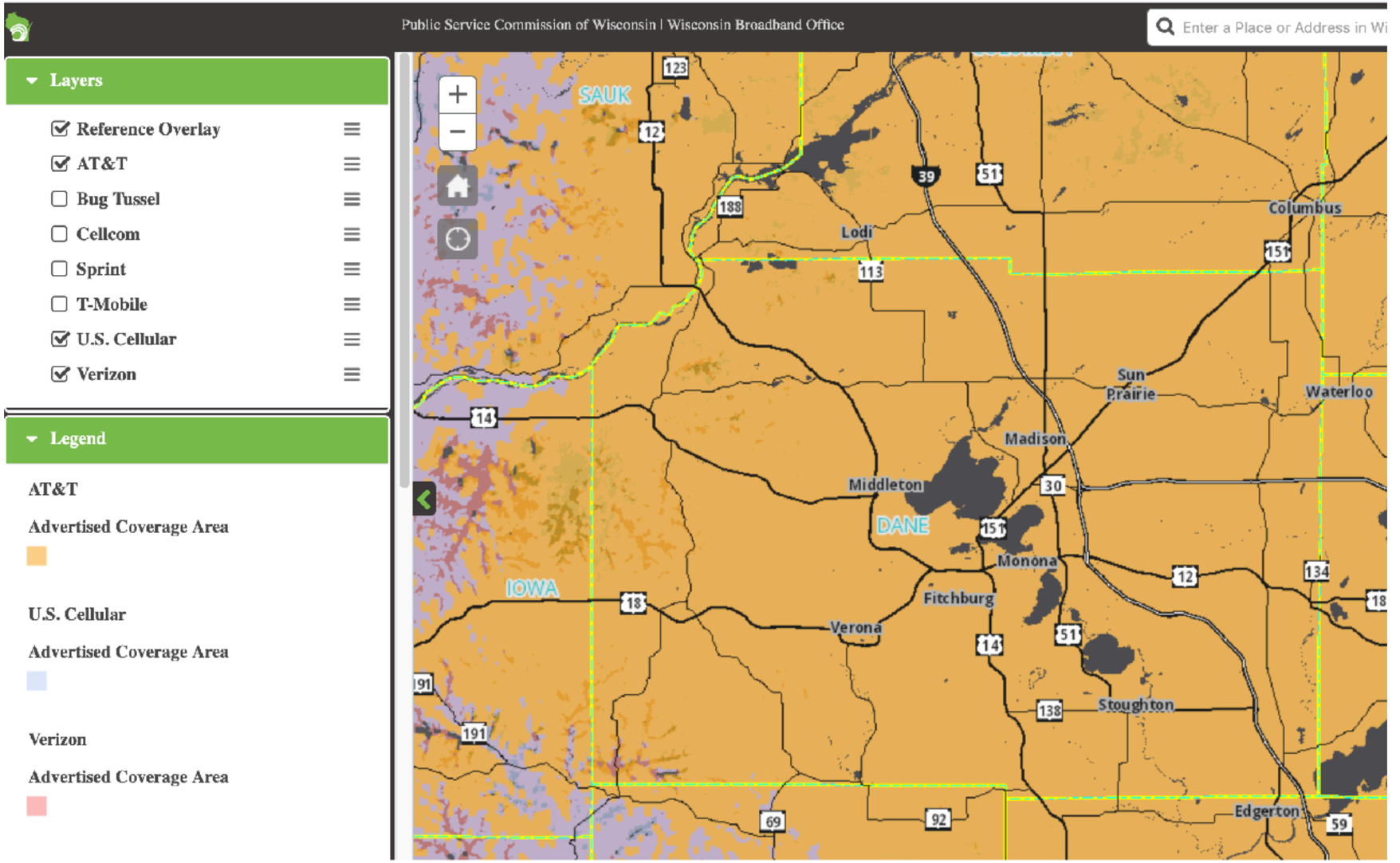
Broadband Coverage Map



US Cellular



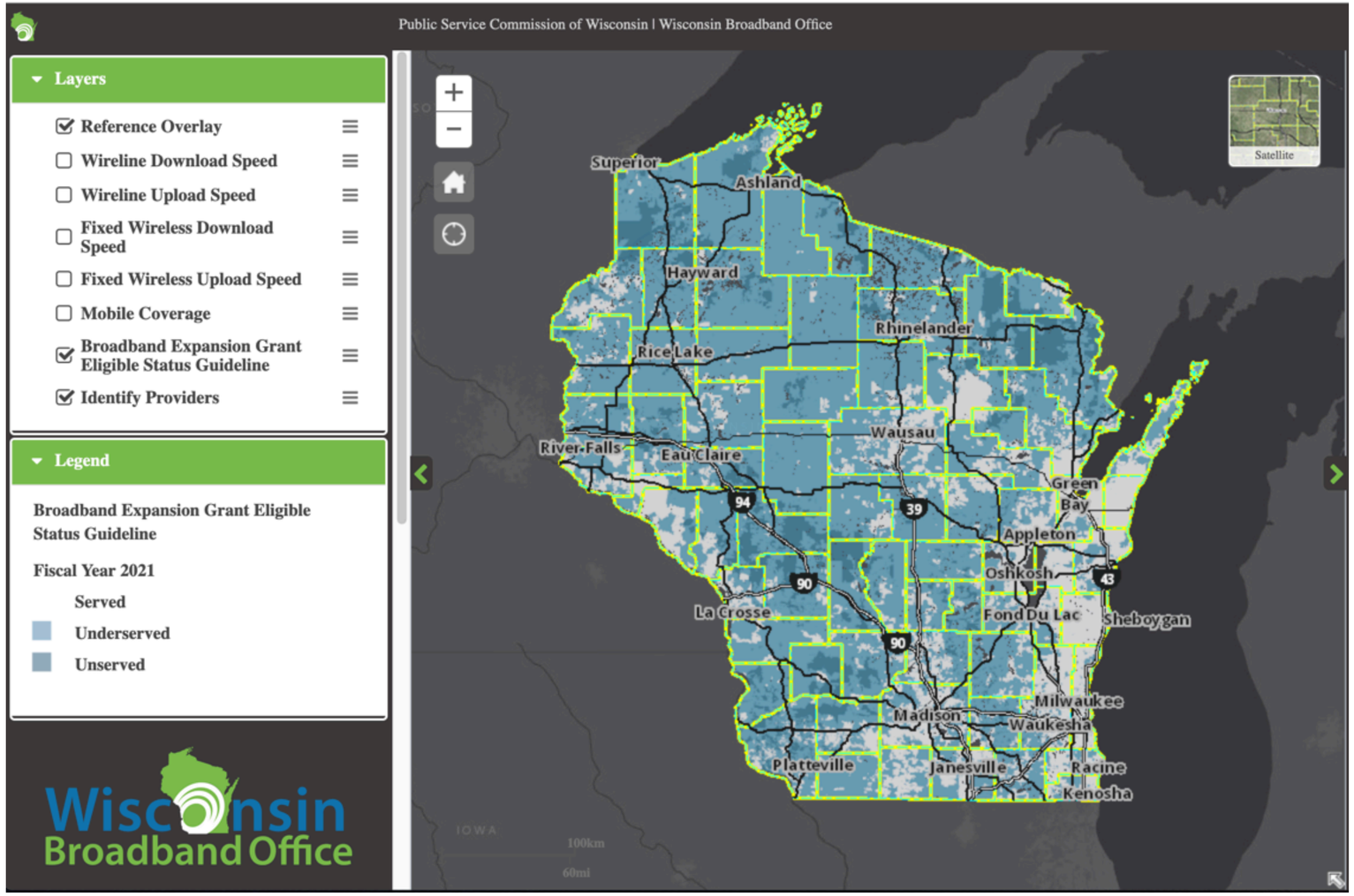
Verizon Wireless



Mobile Wireless Coverage

Source: https://maps.psc.wi.gov/apps/MobileProviders/

WI Broadband Grant



Source: https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/

WI Broadband Grant

What is the purpose of the Broadband Expansion Grant Program?

The purpose of the Broadband Expansion Grant Program is to encourage the deployment of advanced telecommunications capability in underserved areas of the state.

Broadband Expansion Grants

Fiscal Year 2021

On June 8, 2020, Governor Tony Evers and Rebecca Cameron Valcq, Chairperson of the Public Service Commission of Wisconsin, announced key application dates for the next round of grants available from the Broadband Expansion Grant Program.

- Applications are available on September 1, 2020.
- Applications are due on December 1, 2020.

In this grant round, $24 million has been made available to applicants to help expand broadband internet to unserved areas of the state.

Application Materials for Fiscal Year 2021

Application materials may be found at the following links:

Letter to Persons Interested in the Broadband Expansion Grant Program
Application Instructions
Application Instructions
Budget and Income Summary
View Unserved and Underserved Areas (Wisconsin Broadband Map)
Unserved and Underserved Areas Mapping Data (Includes Census block listing with grant eligibility status.)
Sample Grant Agreement (DRAFT)
Frequently Asked Questions

Broadband Expansion Grant Webinars

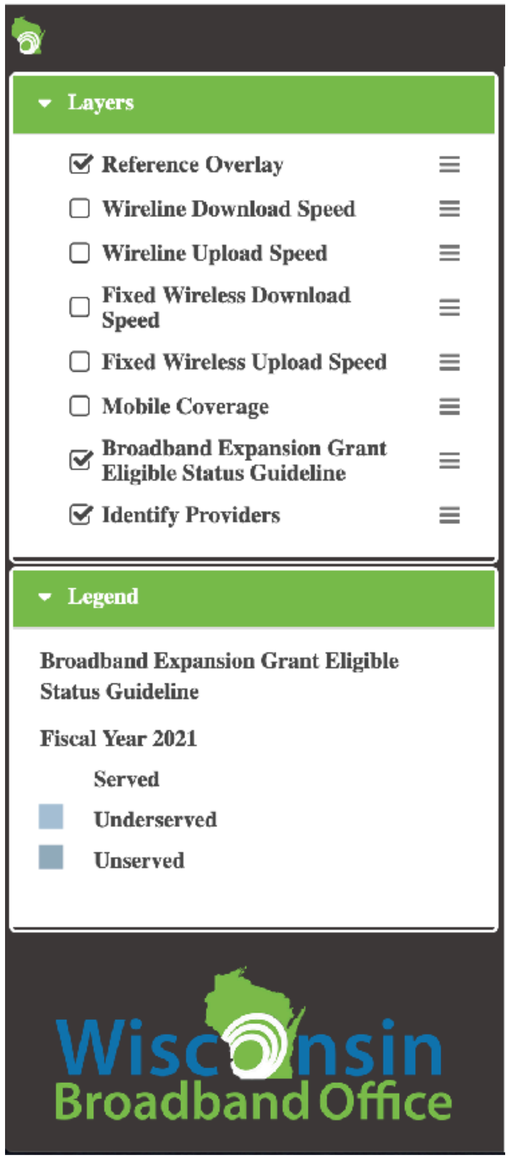
The Wisconsin Broadband Office is hosting a number of webinars for interested persons and potential applicants to attend to learn more about the grant application process.

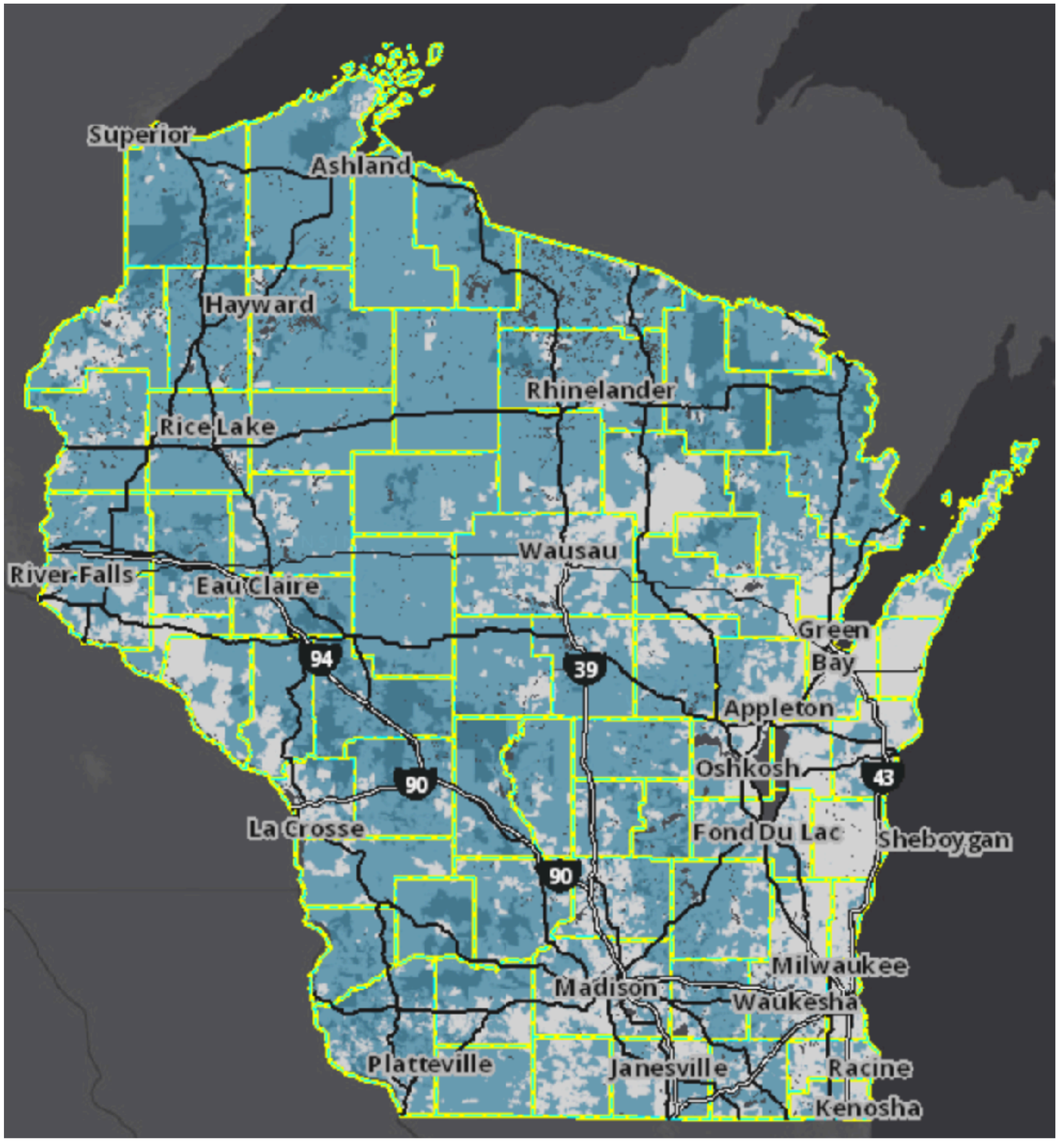
New this year we are hosting a special session on "How to Map Your Project."

Webinar Schedule
Broadband Grant and Instructions Overview
Recording Available (Registration required to view)

How to Map Your Broadband Grant Project
Recording Available (Registration required to view)

WI Broadband Grant
State-PSC Broadband Map





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WI Broadband Grant
State-PSC Broadband Map

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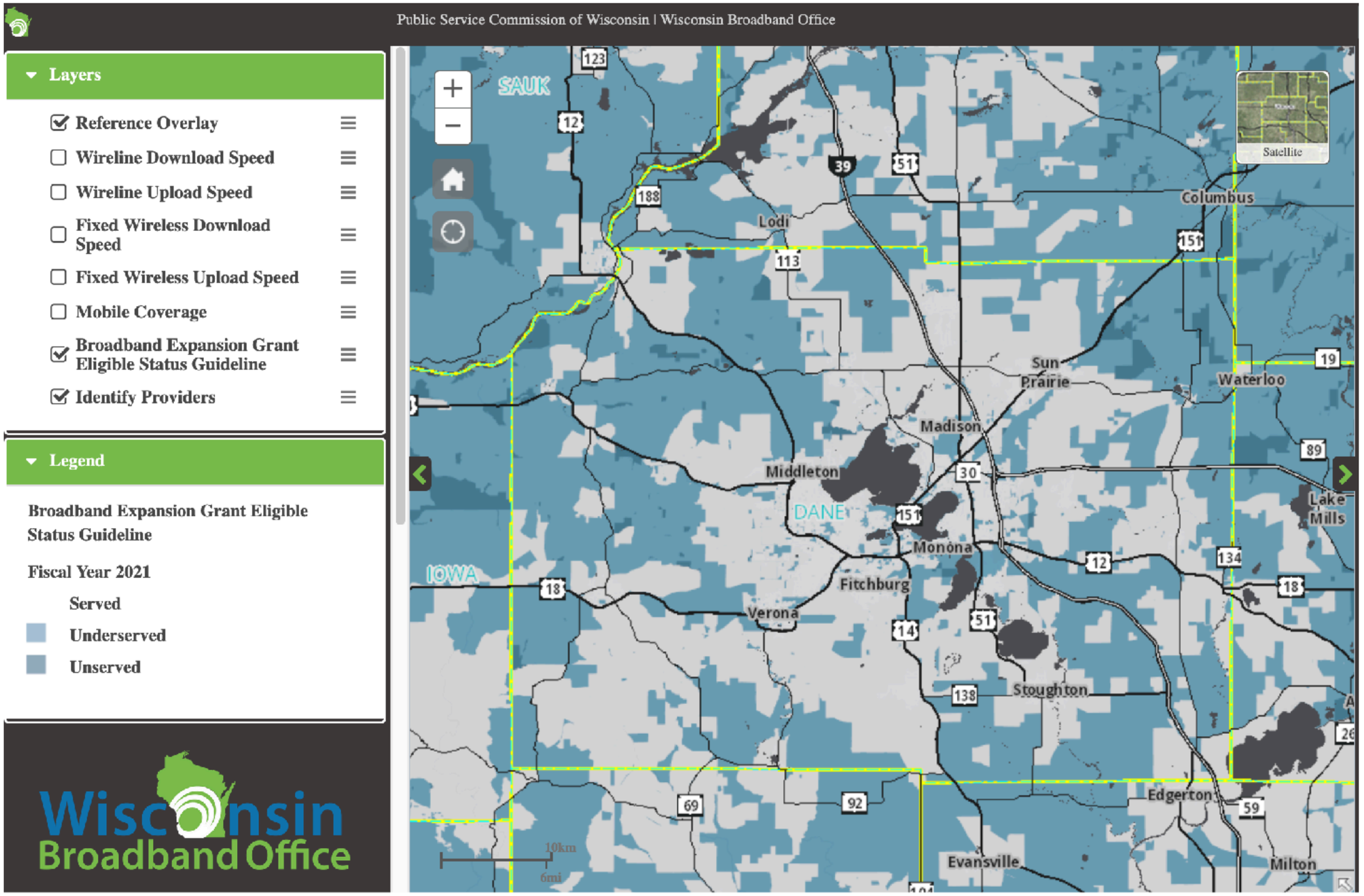

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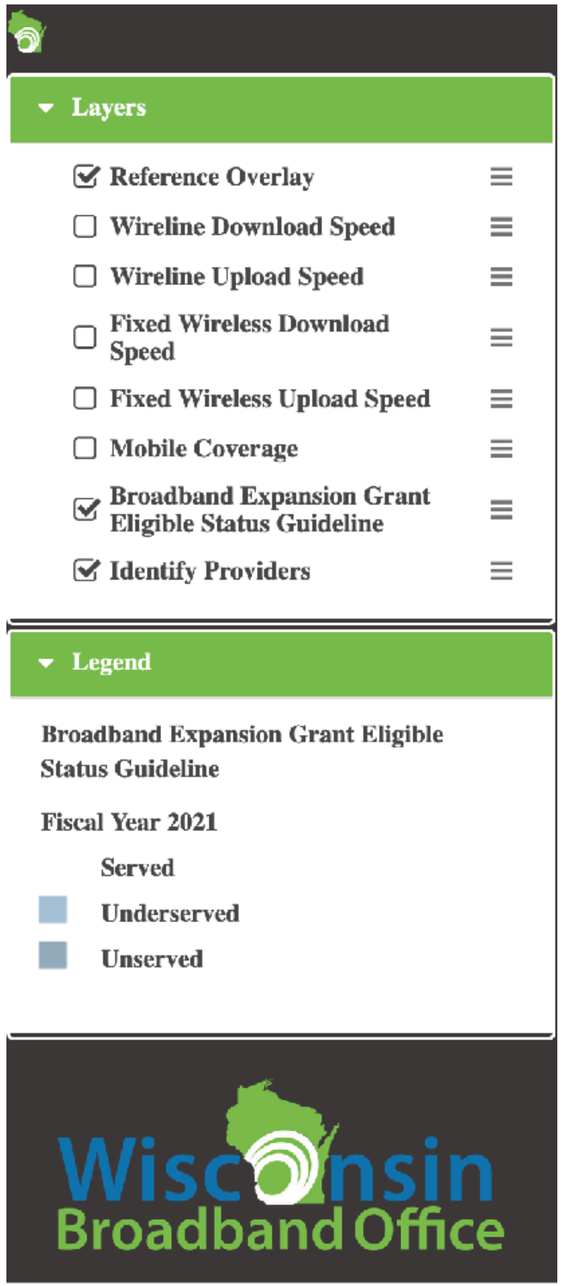

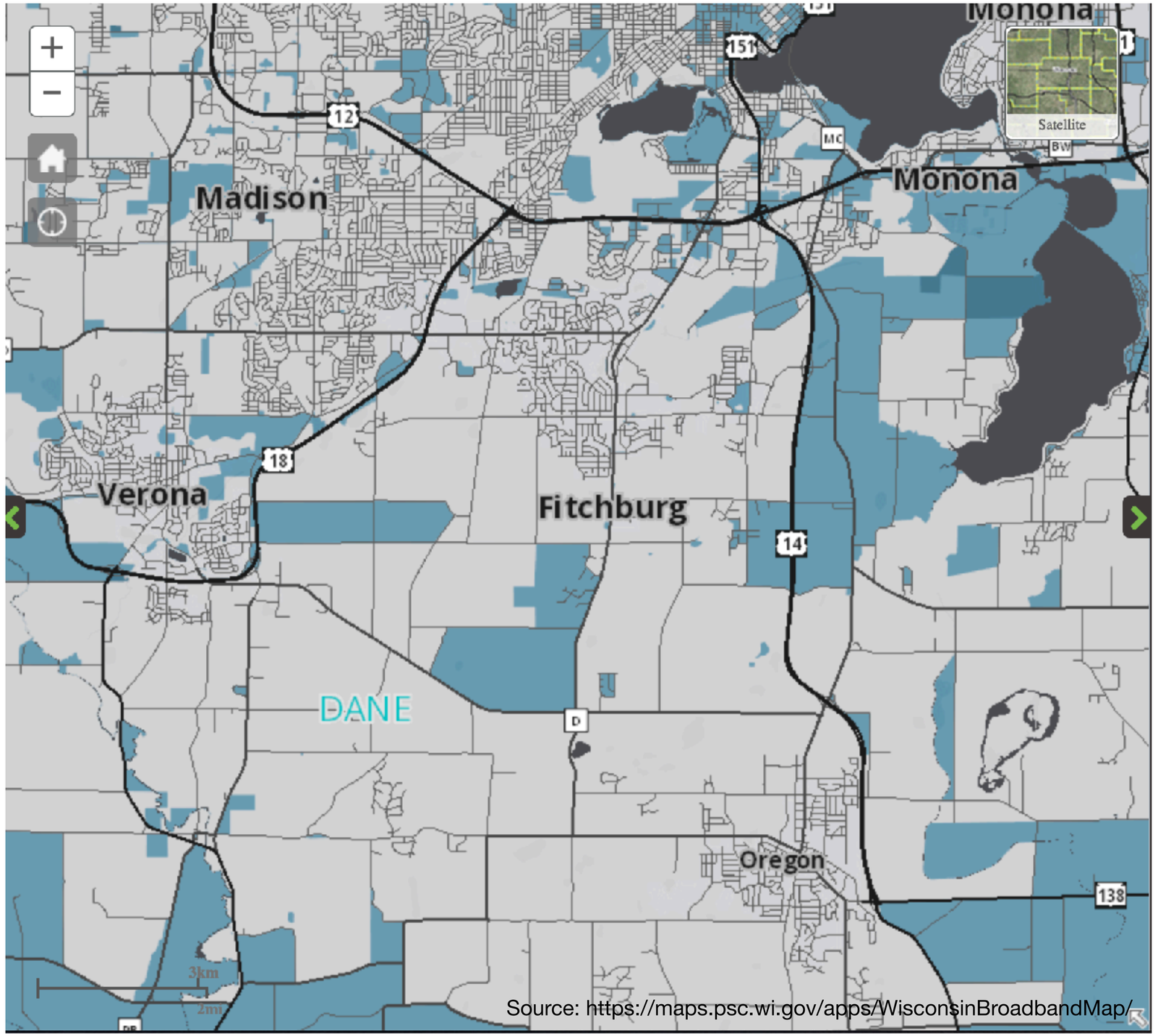

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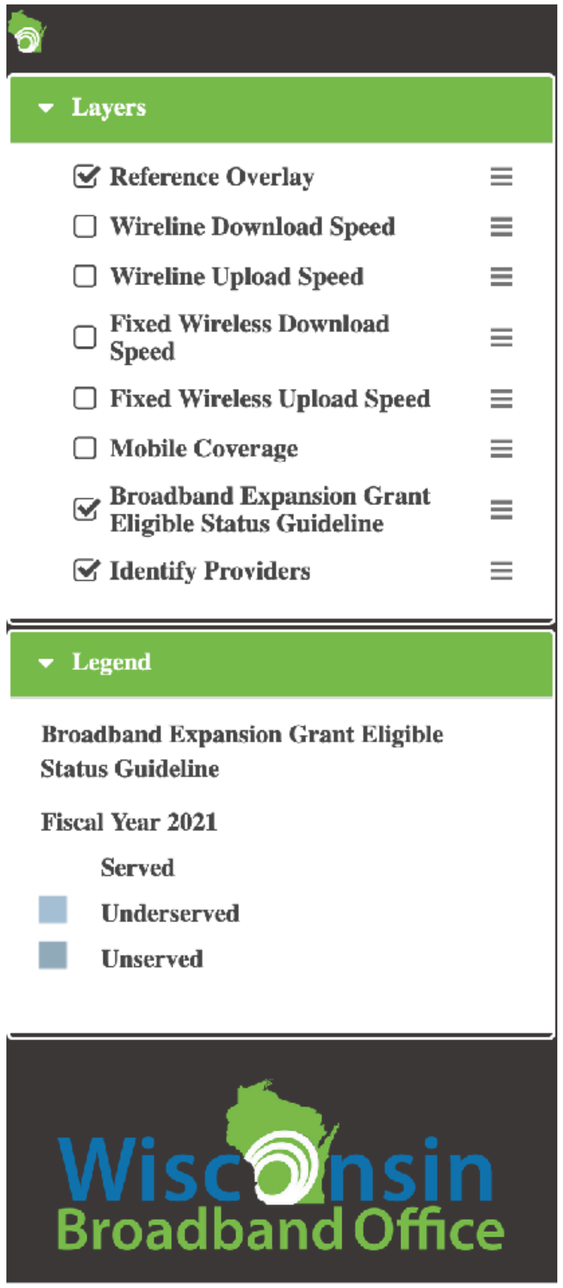
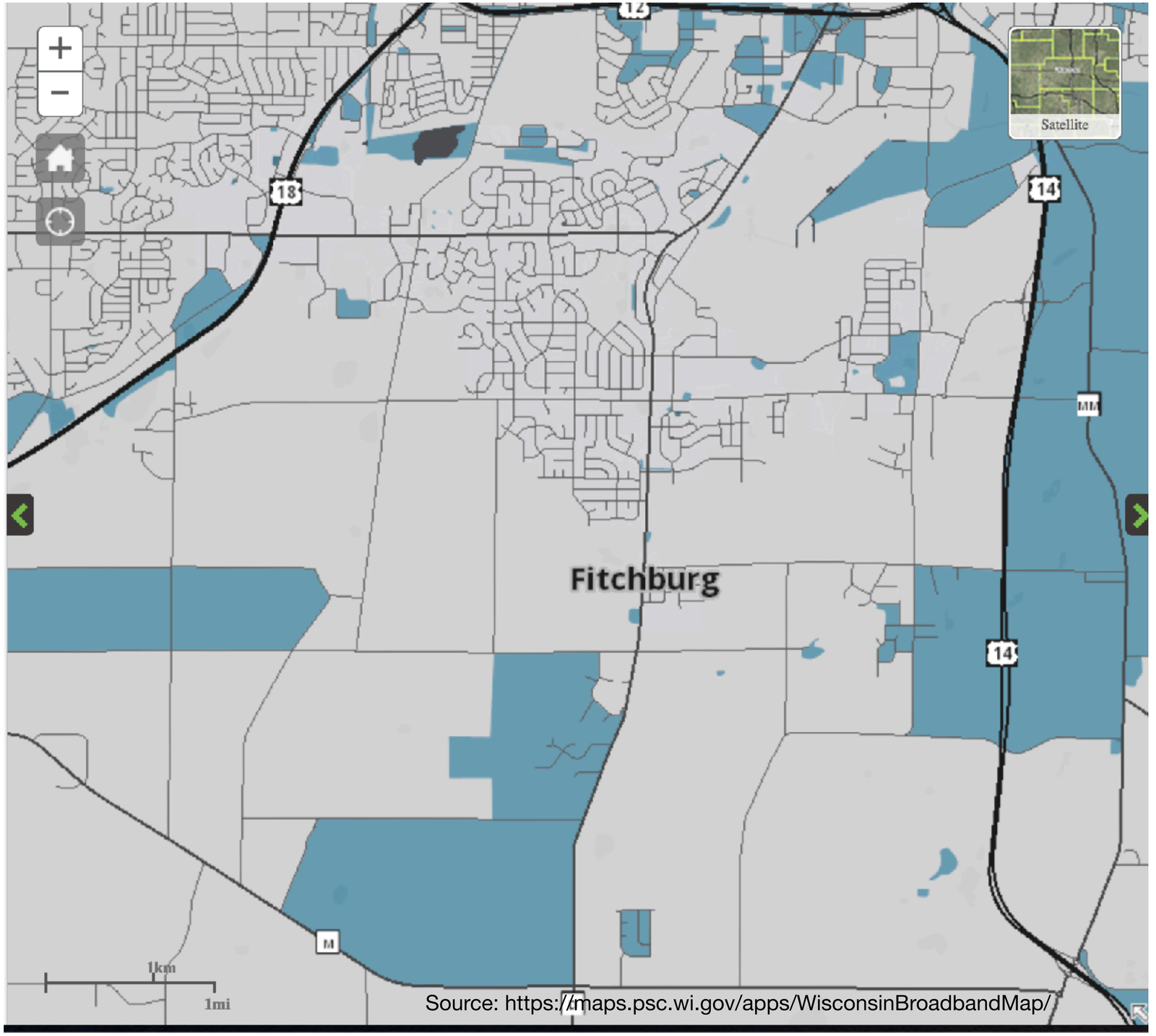
WI Broadband Grant
State-PSC Broadband Map





Source: https://maps.psc.wi.gov/apps/WisconsinBroadbandMap/

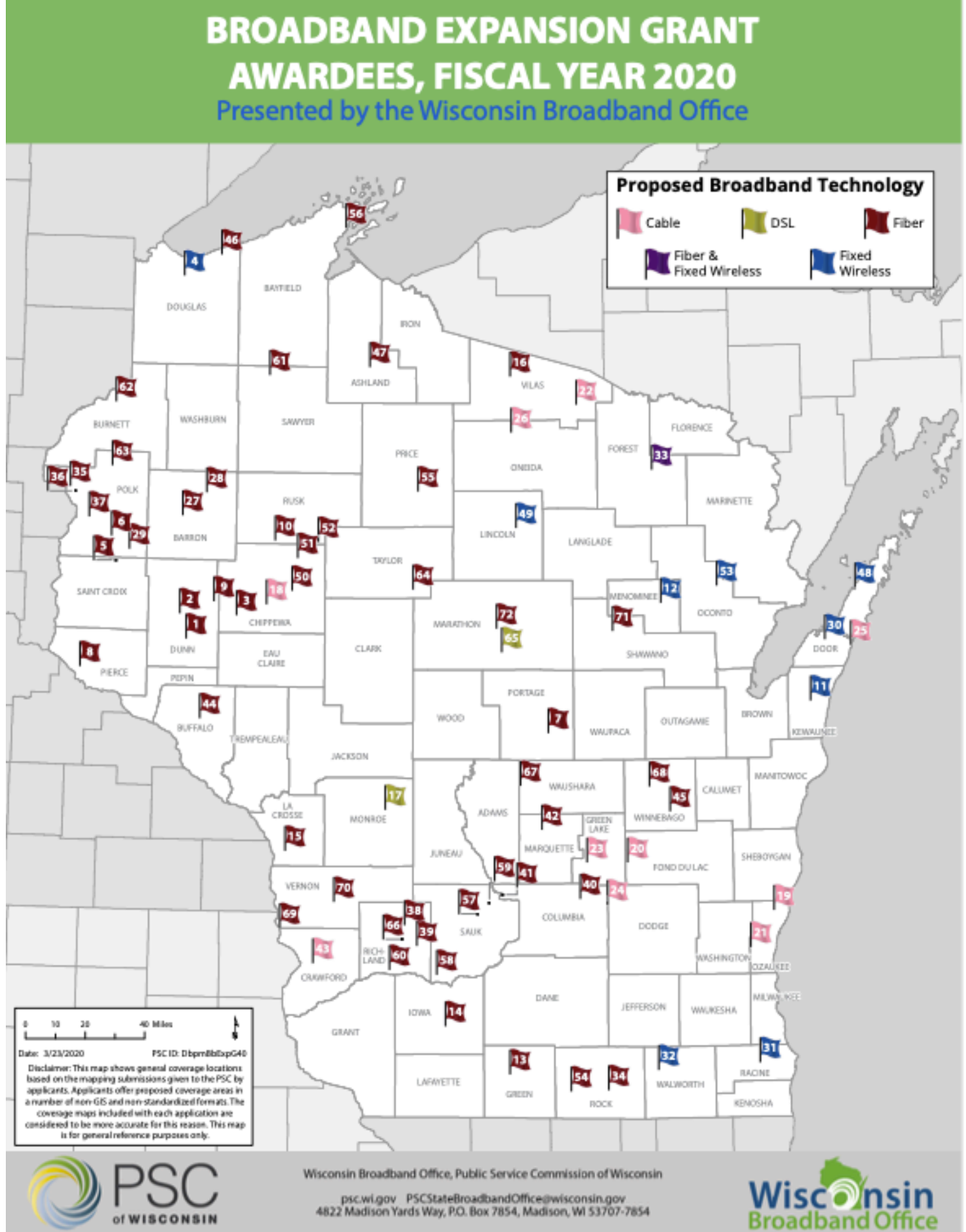
WI Broadband Grant

Broadband Expansion Grant Awardees 2021

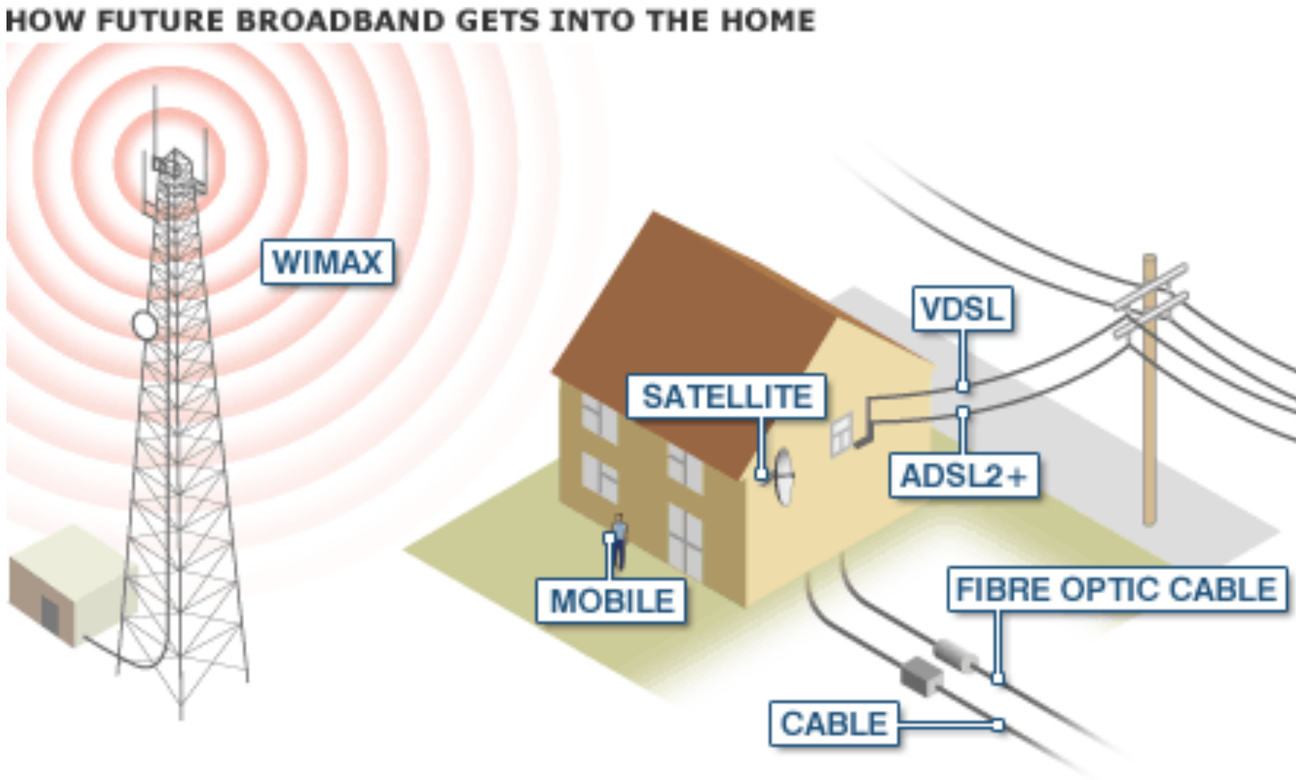
BROADBAND EXPANSION GRANT AWARDEES, FISCAL YEAR 2020

Presented by the Wisconsin Broadband Office

Map Label	Project	Request Total
1	24-7 Telcom, Inc. #1 (CTH J)	$273,300
2	24-7 Telcom, Inc. #2 (T. Sherman)	$680,000
3	24-7 Telcom, Inc. #3 (T. Wheaton)	$79,500
4	AirFiber, Inc. (Douglas Co.)	$140,000
5	Amery Telcom, Inc. #1 (T. Cylon)	$82,250
6	Amery Telcom, Inc. #2 (T. Lincoln)	$81,000
7	Amherst Tel. Co. (T. Buena Vista & Dayton)	$478,985
8	BEVCOMM / Hager Telecom (T. Diamond Bluff, Phase 3)	$444,211
9	Bloomer Tel. Co. (T. Colfax)	$608,538
10	Bruce Tel. Co. (Chippewa Ave.)	$36,307
11	Bug Tussel Wireless #1 (Co. Kewaunee)	$960,000
12	Bug Tussel Wireless #2 (Menominee Indian Tribe of Wi.)	$756,000
13	Bug Tussel Wireless #4 / Hilbert Comm., LLC (Green County)	$1,000,371
14	Bug Tussel Wireless #5 / Hilbert Comm., LLC (Iowa County)	$732,310
15	CenturyLink #3 (Boma Coulee)	$35,676
16	CenturyLink #4 (Boulder Junction)	$1,624,094
17	CenturyLink #9 (Tomah)	$11,010
18	Charter Comm. #1 (T. Anson)	$49,000
19	Charter Comm. #2 (T. Belguim)	$8,658
20	Charter Comm. #5 (V. Fairwater)	$76,744
21	Charter Comm. #8 (T. Jackson)	$54,716
22	Charter Comm. #10 (T. Lincoln & Washington)	$133,645
23	Charter Comm. #12 (V. Marquette)	$341,461
24	Charter Comm. #16 (V. Randolph)	$104,034
25	Charter Comm. #20 (T. Sturgeon Bay)	$188,044
26	Charter Comm. #21 (T. Woodruff)	$16,500
27	Chibardun Tel. Coop. #2 (T. Barron)	$71,163
28	Chibardun Tel. Coop. #3 (Tuscobia)	$123,423
29	Clear Lake Tel. Co. (V. Clear Lake)	$350,000
30	Door County Broadband LLC #4 (T. Nasewaupee)	$65,282
31	e-vergent.com (T. Raymond & V. Yorkville)	$248,458
32	Edge Broadband / Whitewater Wideband (Lake Lorraine, North & Turtle Lakes)	$283,467
33	Forest County	$939,200
34	Janesville, City of	$114,230
35	Lakeland Comm. #2 (T. Eureka, Phase 3)	$153,100
36	Lakeland Comm. #3 (T. Eureka, Phase 4)	$187,825
37	Lakeland Comm. #6 (T. St. Croix Falls, Deer Lake)	$41,850
38	LaValle Tel. Coop. #1 (T. Rockbridge, Phase 2)	$399,000
39	LaValle Tel. Coop. #2 (STH 58)	$290,000
40	Marquette-Adams Tel. Coop. #1 (T. Marcellon, Randolph, & Scott)	$193,689
41	Marquette-Adams Tel. Coop. #2 (T. Newport)	$172,801
42	Marquette-Adams Tel. Coop. #3 (T. Newton)	$116,808
43	Mediacom LLC #1 (Co. Crawford)	$256,685
44	Nelson Comm. (Gehrke Road)	$12,500
45	Northern Tel. & Data #1 (EAA Grounds)	$199,782
46	Norvado/Chequamegon Comm. Co-op. #1 (T. Cloverland)	$443,000
47	Norvado/Chequamegon Comm. Co-op. #2 (STH 13)	$392,000
48	Nsight Teleservices #2 / Bayland Tel. (V. Egg Harbor)	$48,960
49	Nsight Teleservices #7 / Brown County C-LEC, LLC (Co. Langlade & Lincoln)	$358,205
50	Ntera #1 (T. Arthur & Estella)	$397,641
51	Ntera #2 (Cranberry Lake)	$63,117
52	Ntera #3 (V. Sheldon)	$238,660
53	Oconto County EDC (Phase 2)	$182,058
54	Orfordville, Town of	$303,224
55	Price County Tel. Co. (T. Prentice)	$950,000
56	Red Cliff Band of Lake Superior Chippewa Indians	$107,698
57	Reedsburg Utility Commission #1 (T. Excelsior)	$173,000
58	Reedsburg Utility Commission #2 (River Valley, Phase 2)	$542,500
59	Reedsburg Utility Commission #3 (Vanhy & Reedsburg Roads)	$182,500
60	Richland Grant Tel. Coop. (STH 80)	$405,000
61	Sawyer County & Lac Courte Oreilles EDC (Co. Sawyer)	$41,400
62	Siren Tel. Co. #2 (Hayden Rd. & Yellow River)	$152,447
63	Starwire Technologies #3 (T. Clam Falls, Phase 3)	$300,566
64	TDS #4 / Midway Tel. Co., LLC (Stetsonville)	$265,460
65	TDS #5 / Mosinee Tel. Co., LLC (Mosinee)	$1,058,610
66	Tech Com (Co. Richland)	$228,000
67	Union Telephone (T. Coburn & Hancock)	$598,805
68	US Internet (Co. Winnebago)	$2,250,000
69	Vernon Comm. Co-op. #1 (V. De Soto)	$129,525
70	Vernon Comm. Co-op. #2 (Co. Vernon, Phase 4)	$472,600
71	Wittenberg Tel. Co. #1 (V. Bowler)	$457,508
72	Wittenberg Tel. Co. #2 (C. Marathon City)	$36,902



Future of Broadband



Source: http://news.bbc.co.uk/2/hi/technology/8069768.stm

Future of Broadband

Internet Speeds Are Rising

Most of America already has access to home internet speeds of 1 Gigabit per second (Gbps) via cable's broadband networks. Millions of miles of fiber-rich broadband networks have been deployed over the last several decades, powering our video and broadband internet experiences. New technologies have dramatically improved the ability to transfer data at a much higher rate. In the near future, further development and deployment of these technologies will enable the same networks to deliver 10 Gigabit speeds in the coming years.

The Path To Gigabit Internet

Over the last decade, top broadband speeds have increased exponentially from 16 Mbps all the way to 2 Gbps. In 2008, only 16% of Americans had access to internet service of 10 Mbps. Today, 96% of Americans can access a 25/3 Mbps connection and 1 gigabit speeds are available to over 80%.

80%

U.S. homes have access to 1 Gbps internet speeds

12,400%

Increase in top available internet speeds in the last ten years

15GB

Amount of data needed daily to make autonomous cars a reality

Source: https://www.ncta.com/positions/the-future-of-superfast-internet

Future of Broadband

Home broadband providers face an uncertain future in the 5G era

Analysts, mobile network providers, and home broadband companies have starkly different views about how 5G will impact how consumers get online. Some say 5G will upend the current broadband reality, while others, including the cable companies that stand to lose a huge cash cow, argue that 5G will have limited impact on their businesses.

What is clear is that 5G can provide download speeds of up to 10 Gbps, which is much faster than most existing wireless and home broadband connections. Cable company home broadband plans often start at 100Mbps—a fraction of what's possible with 5G.

T-Mobile, Verizon, and AT&T plan to invest billions of dollars in 5G networks over the next several years. They say they can replace home broadband providers, like Cox, Comcast, and Charter, which for decades, have had a big share of the home Internet market. Cable company Cox insists that 5G won't significantly impact its home broadband business. In fact, it says 5G and broadband are complementary, similar to existing broadband and wireless networks.

At minimum, Cox says that 5G cell towers will have to be connected to wired lines to function. Providing that back-end infrastructure is a huge opportunity, says the company, which already powers 82% of the non-5G towers currently in operation in its coverage area.

Source: https://fortune.com/2020/02/13/5g-impact-on-broadband/

Future of Broadband

Wireless Internet

10G: The Next Great Leap for Broadband

10G is the broadband platform of the future that will deliver residential internet speeds of 10 gigabits per second – 10 times faster than today's networks. With upgraded power and capacity, 10G will enable creators and innovators to fulfill their dreams while providing reliability and security

Speed

Getting to 10G

Reaching 10Gbps speeds requires innovation. Deployment of several types of DOCSIS technologies will improve performance of our existing networks, without having to update the infrastructure. For example, DOCSIS 3.1 gives the ability to transmit up to 50 percent more data, enabling improved quality of video conferencing, virtual reality, live gaming, and connected devices. It also supports symmetrical upload and download speeds, therefore shortening response time to 1 millisecond, and removing lag time, or "latency."

Source: https://www.ncta.com/positions/the-future-of-superfast-internet

Future of Broadband

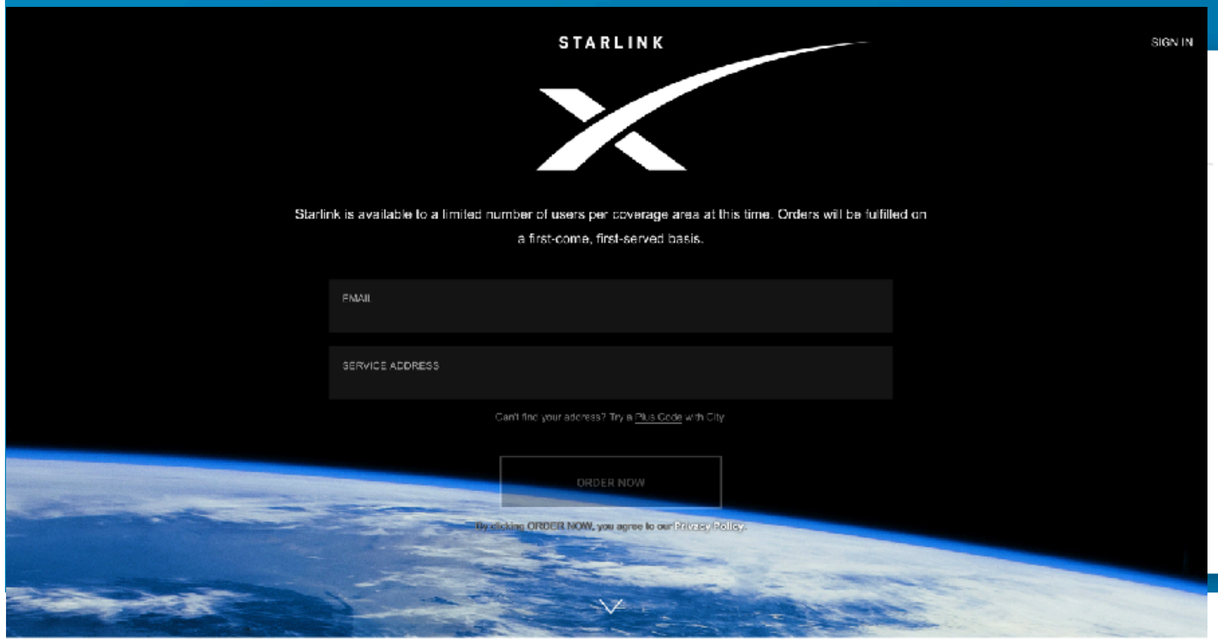
Satellite Companies

satelliteinternet

Find Providers Resources Search for...

SpaceX Starlink Satellite Internet Service

What to know about Starlink before you sign up for the "Better than Nothing Beta."



- ✓ $99/mo. satellite internet service
- ✓ Download speeds vary: 50–150 Mbps
- ✓ Unlimited data
- ✗ $499 one-time equipment fee
- ✗ Periodic outages (beta test phase)
- ✗ Limited availability