Data for Community Broadband Planning

August 7, 2023

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Data for Community Broadband Planning

1. Broadband Availability

2. Covered Populations

3. Community, Economic and Workforce Development



WHAT'S ON THE NATIONAL BROADBAND MAP?

The National Broadband Map consists of 2 datasets, both of which can be challenged:

FABRIC LOCATIONS

• What is it?

- The Fabric is a dataset of all locations in the United States and Territories where fixed broadband internet access service is or could be installed.
- Who creates it?
 - The Fabric is developed by CostQuest in consultation with the FCC and in accordance with FCC rules.

Challenges and updates timeline?

- The Fabric is updated twice per year.
- For the best opportunity for challenges to be included in version 4 of the Fabric, challenges should be submitted by September 8, 2023.

• What's on the current map?

 Version 2 of the Fabric is the base of the current map. Version 3 of the Fabric is available to license holders to submit challenges, and for ISPs to submit their updated availability data.

BROADBAND AVAILABILITY

• What is it?

- Broadband availability data shows what broadband services, if any, are available at locations included in the Fabric, as reported by internet service providers every 6 months.
- Who creates it?
 - Internet service providers report their availability data to the FCC every 6 months.

• Challenges and updates timeline?

- Broadband availability data is updated consistently over time as challenges are resolved.
- Challenges are accepted and resolved on a rolling and ongoing basis.
- What's on the current map?
 - The map shows availability data as-of December 31, 2022 and reflects resolved availability challenges. The map will be updated regularly as additional challenges are resolved.



BroadbandMap.gov

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

- Summarizes coverage by States, Counties, Congressional Districts, Census Places, Tribal Areas and Metro Areas (Does not include Towns, School Districts or other geographies that may be involved in broadband planning);
- Allows users to check (and challenge) availability at an address;
- Ability to filter access by speed, technology and year;
- Summarizes and visualizes data using the H3 Hexagonal Grid System – Great for indexing and spatial analysis; However, visualizations suffer from the Modifiable Areal Unit Problem (Scale Dependent);



Wisconsin Broadband Planning Map (Beta) – Wisconsin Broadband Office, Public Service Commission of Wisconsin https://maps.psc.wi.gov/apps/WisconsinBroadbandPlanningMap/

- Similar to the national broadband map, depicts access using the Federal Communications Commission's (FCC) Broadband Data Collection;
- In addition to H3 Hexagons, visualizes connectivity summaries by standard geographies;
- Depicts areas where broadband expansion funding has already been committed;
- Includes summary map layers from internet speed tests;
- Additional information on individual provider service areas;
- Allows maps to be exported/printed;
- Many other resources are available through the PSC Broadband Office.



Digital Equity Act - Covered Populations

Covered Populations, as defined by the Digital Equity Act of 2021, have historically experienced lower rates of computer and internet use.

The covered populations named in the legislation include:

- Households with incomes below 150% of the federal poverty level;
- Aging individuals, 60 years of age or older;
- Incarcerated individuals except those in Federal correctional facilities;
- Veterans;

- Individuals with disabilities;
- Individuals with a language barrier, including English learners and those with low levels of literacy;
- Members of racial or ethnic minority groups;
- Individuals who primarily reside in a rural area;

Covered Population Data from the Census Bureau and NTIA

- Covered Population data from the Census Bureau/NTIA rely on specific definitions and data methodologies to produce the county and tract estimates: <u>https://www2.census.gov/programs-</u> <u>surveys/demo/technical-documentation/community-</u> <u>resilience/total covered populations quick guide.pdf</u>
- Most of the data are derived from the Census Bureau's 2015-2019 American Community Survey;
- Census/NTIA Covered Population Data are available through a Population Viewer and summary files at the county and census tract level:

https://www.census.gov/programssurveys/community-resilienceestimates/partnerships/ntia/digitalequity.html

 In addition to Covered Population estimates, data include information on broadband and device usage/availability.



American Community Survey (ACS) and Decennial Census

Available at https://data.census.gov/

- Data on population and housing characteristics;
- Available by different geographic levels (county, place, census tract, school districts, etc.);
- Decennial Census Data and 1-Year and 5-Year Estimates through the ACS;
- ACS Estimates include margins of error;
- APIs are available for data extraction;



 Census Academy has many training resources: <u>https://www.census.gov/data/academy.html</u>

Covered Populations – Data Sources

Category/Definition	Sources
Households and individuals below poverty level	 American Community Survey Table S1701 – Poverty Status in the Last 12 Months;
	 Small Area Income and Poverty Estimates (SAIPE) Program (<u>https://www.census.gov/programs-surveys/saipe.html</u>);
Aging individuals	 American Community Survey Table S0101 – Age and Sex;
	 2020 Decennial Census Table DP1 – General Demographic Characteristics;
Incarcerated individuals	 American Community Survey Table S2603 - Characteristics of the Group Quarters Population by Group Quarters Type;
	 2020 Decennial Census Table P18 - Group Quarters Population by Sex By Age by Major Group Quarters Type
	 Wisconsin Department of Corrections (<u>https://doc.wi.gov/Pages/Home.aspx</u>)
	 Federal Bureau of Prisons (<u>https://www.bop.gov/</u>)

Covered Populations – Data Sources

Category/Definition	Sources
Veterans	 American Community Survey Table S2101 - Veteran Status;
Individuals with disabilities;	 American Community Survey Table S1810 - Disability Characteristics; Aging and Disability Resource Centers (<u>https://www.dhs.wisconsin.gov/adrc/consumer/index.htm</u>)
Individuals with a language barrier, including English	 American Community Survey Table S1601 - Language Spoken At Home
learners and those with low levels of literacy;	 American Community Survey Table B16001 - Language Spoken at Home by Ability to Speak English for the Population 5 Years and Over
	PIAAC State and County Small Area Estimates of Adult Skills

(https://nces.ed.gov/surveys/piaac/skillsmap)

Covered Populations – Data Sources

Category/Definition	Sources
Members of racial or ethnic minority groups	 Decennial Census Table DP1 - Profile of General Population and Housing Characteristics
	 American Community Survey Table DP05 - ACS Demographic and Housing Estimates
Rural population	 Decennial Census Table DP2 – Urban and Rural
Population without internet, broadband or	American Community Survey Table S2801 - Types Of Computers And Internet Subscriptions
computer/device	 American Community Survey Table S2802 - Types Of Internet Subscriptions By Selected Characteristics

Why Should we Consider Economic and Labor Force Data for Community Broadband Planning?

Uses:

- Stimulate discussion;
- Identify potential partners and stakeholders;
- Affirm or challenge current perceptions;
- Identify local strengths and weaknesses;
- Recognize and prepare for change.

Considerations:

- Looking for patterns, not a single answer;
- More concerned with trends than precision;
- Focus more attention on comparing figures rather than ranking them.

There is a "story to be told" about the local economy, data can help us tell that story.

As broadband becomes increasingly ubiquitous, its availability will become less of a community or regional comparative advantage.

Instead, a community's ability to adopt and leverage broadband for community, economic and workforce development will provide the greatest advantage.

What Story do We Want to Tell?

What Types of Questions do we Want to Answer?

Census Bureau and NTIA ACCESS BROADBAND Dashboard

ACCESS BROADBAND Dashboard is intended for "policymakers and the public to assess how changes in broadband availability and adoption could influence local economies."

https://www.census.gov/programs-surveys/community-resilienceestimates/partnerships/ntia/broadband-act.html

Includes indicators in map and table formats such as:

- Employment;
- Small business establishments;
- Wages and income;
- Poverty;
- Home values;
- Population change and migration;
- Educational attainment;
- Gross Domestic Product (GDP).



Bureau of Labor Statistics

http://www.bls.gov

- Quarterly Census of Employment and Wages (ES-202) Data on employment, wages, location quotients, number of establishments by industry. Quarterly/Annual data by state and county starting with 1990. Figures are based on UI filings. Some data will be suppressed;
- Unemployment Statistics (LAUS) Monthly/Annual figures for U.S., Wisconsin, counties, metropolitan/micropolitan areas, certain cities, etc.
- Occupation Employment Statistics (OES) Distributions of occupations and wages for nation, state and metropolitan areas;
- Industry-Occupational Matrices National industry employment distributions by occupation (3, 4, and 5-digit NAICS codes)
- Other State and National Data (mass layoffs and plant closings, productivity, alternate measures of unemployment, labor participation, etc.)

WisConomy

https://jobcenterofwisconsin.com/wisconomy/

Quarterly Census of Employment and Wages (ES-202) – Data on employment, wages and number of establishments by industry. Quarterly/Annual data by state and county starting with 1990.

Unemployment Statistics (LAUS) – Monthly/Annual figures for U.S., Wisconsin, counties, metropolitan/micropolitan areas, certain cities, etc.

Occupation Employment Statistics (OES) – Distributions of occupations and wages.



Wage and Salary Employment by Industry Sector (2021 Annual Average, Percent of Total Employment)



Data Source: Quarterly Census of Employment and Wages

Data Axle Available through WisConomy

Area 🖨	Business Name 🗘	Industry ¢	Business Description 🔶	Employee Size Range 🔶	Address 🖨
Chippewa County	Bauman Construction- Chippewa	236115 - New SingleFam Home Const (Exc For- Sale Bldrs)	General Contractors	20-49	Chippewa Fal WI
Chippewa County	Bartingale Mechanical Inc	238210 - Electrical Contractors and Other Wiring Installation Contractors	Mechanical Contractors	20-49	Eau Claire WI
Chippewa County	Bohl & Proulx Plumbing Inc	238220 - Plumbing, Heating, and Air- Conditioning Contractors	Plumbing Contractors	10-1 9	Chippewa Fal WI
Chippewa County	H G Meigs LLC	237310 - Highway, Street, and Bridge Construction	Asphalt & Asphalt Products	1-4	Eau Claire WI
Chippewa County	A1 Excavating Inc	238910 - Site Preparation Contractors	Excavating Contractors	100-249	Bloomer WI
Chippewa County	Geissler Plumbing Inc	238220 - Plumbing, Heating, and Air- Conditioning Contractors	Heating Contractors	10-19	Bloomer WI
Chippewa County	Tri-City Concrete Contrs Inc	238110 - Poured Concrete Foundation and Structure Contractors	Concrete Contractors	10-19	Bloomer WI
Chippewa County	Mc Quillan Plumbing	238220 - Plumbing, Heating, and Air- Conditioning Contractors	Plumbing Contractors	1-4	Boyd WI
Chippewa County	Area Electric Inc	238210 - Electrical Contractors and Other Wiring Installation Contractors	Electric Contractors	5-9	ChippeGo Bad

Bureau of Economic Analysis

https://www.bea.gov/data/income-saving/personal-income-county-metro-and-other-areas

- Employment, income, population, gross domestic product, etc.;
- County datasets are available for the entire nation starting in 1969;
- Also includes state, metro/non-metro and national level data;
- Resource for proprietor and farm employment.



(301) 278-9264

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Proprietors and Business Ownership – Other Data Sources

Category/Definition	Sources
Self-Employment Income	 American Community Survey Table B19053: Self-employment Income in the Past 12 Months for Households
Business Formation Statistics	 U.S. Census Bureau - <u>https://www.census.gov/econ/bfs/data.html</u>
Non-Employer Statistics	 U.S. Census Bureau - <u>https://www.census.gov/programs-</u> <u>surveys/nonemployer-statistics.html</u>
Annual Business Survey and Non-Employment Statistics by Demographics (NES-D)	 Annual Business Survey - <u>https://www.census.gov/programs-surveys/abs.html</u> Non-Employment Statistics by Demographics <u>https://www.census.gov/programs-surveys/abs/data/nesd.html</u>

Example of Nonemployer Statistics in Lincoln County, WI

	An official website of the United States gove	rnment Here's how you know					
(Census	NONEMP2019.NS190	ONONEMP		X 1 Q Advanced Searc	h	
-	Bureau	All Tables	Maps Pages			Microdata Help FAQ	Feedback
Filters Filters Results	NS1900NONEMP All Sectors: Nonem Organization and Receipts Size Class Geographies: 2019 Economic Surveys 2019: ECNSVY Nonemployer Sta	nployer Statistics by Legal Fo for the U.S., States, and Sele atistics	orm of ected Notes Geos Topics	123 1 Codes Year	Image: Non-State Image: Non-State </th <th>Share Print More Data Map</th> <th></th>	Share Print More Data Map	
	Geographic Area Name	2017 NAICS code	Meaning of NAICS code	Year	Number of nonemployer establis	Nonemployer sales, value of shipments, or revenue (\$1,000)	
	Lincoln County, Wisconsin	00	Total for all sectors	2019	1,717	79,324	Filt
	Lincoln County, Wisconsin	11	Agriculture, forestry, fishing and hunting	2019	123	5,703	ers
	Lincoln County, Wisconsin	21	Mining, quarrying, and oil and gas extr	2019	3	75	
	Lincoln County, Wisconsin	23	Construction	2019	228	16,442	Column
	Lincoln County, Wisconsin	31-33	Manufacturing	2019	60	3,314	ى س
	Lincoln County, Wisconsin	42	Wholesale trade	2019	39	3,369	<u>p</u> .
	Lincoln County, Wisconsin	44-45	Retail trade	2019	233	10,116	vot
	Lincoln County, Wisconsin	48-49	Transportation and warehousing	2019	91	8,852	R
	Lincoln County, Wisconsin	51	Information	2019	14	380	ell/Colu
	Lincoln County, Wisconsin	52	Finance and insurance	2019	50	2,367	Imn No
	Lincoln County, Wisconsin	53	Real estate and rental and leasing	2019	151	9,957	ites
X	Lincoln County, Wisconsin	54	Professional, scientific, and technical s	2019	136	4,413	~
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Using Workforce Data to Inform Other Strategies

Examples of Strategies:

- Talent attraction and retention initiatives;
- Assisting in the creation of career pathways and DACUMs;
- Creating opportunities for individuals facing barriers to employment (childcare, dislocated workers, veterans, etc.);
- Developing phased retirement programs and non-traditional schedules (flexible, seasonal, job sharing, etc.);
- Capital improvement funds;
- Automation/computerization investment and transition planning/training;
- Placemaking and amenity development;
- Housing development;
- Knowledge transfer and reverse mentoring.

Examples of Measures:

- Commuting Patterns;
- Population Growth and Churn;
- Age Structure;
- Mass Layoffs/Plant Closings
- Occupation;
- Educational Attainment;
- Labor Participation and Unemployment Rates;
- Turnover rates;
- Housing costs and availability;
- Skill Requirements;
- Wages.

Example of Occupation Data in the Green Bay Metro Area – Bureau of Labor Statistics

49-3053	Outdoor Power Equipment and Other Small Engine Mechanics	detail	40	15.4%	0.254	1.06	\$19.29	\$20.40	\$42,440	3.1%
49-3093	Tire Repairers and Changers	detail	180	6.3%	1.064	1.57	\$16.60	\$16.78	\$34,910	1.5%
49-9012	<u>Control and Valve Installers and</u> <u>Repairers, Except Mechanical Door</u>	detail	80	12.2%	0.448	1.43	\$45.98	\$42.44	\$88,280	2.3%
49-9021	<u>Heating, Air Conditioning, and</u> <u>Refrigeration Mechanics and</u> <u>Installers</u>	detail	340	8.5%	2.037	0.80	\$28.77	\$29.92	\$62,230	2.9%
49-9041	Industrial Machinery Mechanics	detail	1,170	4.3%	6.933	2.66	\$29.34	\$29.06	\$60,450	0.7%
49-9043	Maintenance Workers, Machinery	detail	50	14.7%	0.290	0.68	\$28.00	\$27.42	\$57,030	4.1%
49-9044	Mittwrights	detail	40	20.3%	0.232	0.84	\$30.46	\$31.65	\$65,830	4.1%
49-9051	Electrical Power-Line Installers and Repairers	detail	130	11.2%	0.771	0.95	\$48.41	\$44.67	\$92,910	1.5%
49-9052	Telecommunications Line Installers and Repairers	detail	120	17.0%	0.720	0.99	\$24.87	\$26.84	\$55,820	2.5%
49-9062	Medical Equipment Repairers	detail	50	24.7%	0.323	0.81	\$31.13	\$31.72	\$65,980	1.7%
49-9071	Maintenance and Repair Workers, General	detail	1,640	2.8%	9.767	0.97	\$22.34	\$22.47	\$46,750	1.1%
49-9091	Coin, Vending, and Amusement Machine Servicers and Repairers	detail	50	14.2%	0.297	1.23	\$20.47	\$19.65	\$40,870	4.0%
49-9098	HelpersInstallation, Maintenance, and Repair Workers	detail	100	8.0%	0.584	0.92	\$12.22	\$13.51	\$28,100	2.5%
49-9099	Installation, Maintenance, and	detail	60	17.0%	0.384	0.33	\$22.86	<u>\$24.6</u> 2	\$51,200	<mark>5.6%</mark>
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Occupational Information Network - O*NET OnLine

http://www.onetonline.org



O*NET Telecommunication Occupation Examples

20 occupations shown	How do they match?	,	•
Code 🗘	Occupation		
15-1241.01	Telecommunications Engineering Specialists		
49-9052.00	Telecommunications Line Installers and Repairers 🔅 Bright Outlook		
49-2022.00	Telecommunications Equipment Installers and Repairers, Except Line Installers 🔅		
49-2021.00	Radio, Cellular, and Tower Equipment Installers and Repairers	- 1	l
17-2072.00	Electronics Engineers, Except Computer		
43-5031.00	Public Safety Telecommunicators		
15-1231.00	Computer Network Support Specialists		
15-1241.00	Computer Network Architects		
15-1244.00	Network and Computer Systems Administrators		
17-2061.00	Computer Hardware Engineers		
43-2011.00	Switchboard Operators, Including Answering Service		
43-2021.00	Telephone Operators		
49-1011.00	First-Line Supervisors of Mechanics, Installers, and Repairers		
17-2071.00	<u>Electrical Engineers</u>		,
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O*NET Occupation Specific Information

Help - Find Occupations - Advanced Searches - O*NET Data - Crosswalks -

Share - Sites -

Telecommunications Equipment Installers and Repairers, Except Line Installers 49-2022.00

Install, set up, rearrange, or remove switching, distribution, routing, and dialing equipment used in central offices or headends. Service or repair telephone, cable television, Internet, and other communications equipment on customers' property. May install communications equipment or communications wiring in buildings.

Sample of reported job titles: Broadband Technician, Central Office Technician, Combination Technician, Customer Service Technician (CST), Field Technician, Install and Repair Technician, Installer, Outside Plant Technician, Service Technician, Telecommunications Technician

Summary Details Cu	stom 🤌 Easy Read	👂 Veterans 🛛 🧔 Espa	iñol
📔 Contents 🗸			
Occupation-Specific Information	Worker Requirements	Workforce Characteristics	
Overview	Skills	Wages & Employment	
Tasks	Knowledge	Job Openings	
Technology Skills	Education		
Tools Used		More Information	
	Worker Characteristics	Related Occupations	
Occupational Requirements	Abilities	Additional Information	inment to sustements and explain its use responding to any inguisies or
Work Activities	Interests	-	ipment to customers and explain its use, responding to any inquines or

Census Bureau Local Employment Dynamics Quarterly Workforce Indicators (QWI)

https://ledextract.ces.census.gov/qwi/all

Quarterly Workforce Indicators -Detailed county, WIA and MSA estimates of employment, earnings, gross job creation and destruction by detailed industry, gender and age of workers. (Currently through Q4 2022)

QWI avoids many of the data disclosure problems associated with other data sets. <u>However, it does so</u> by introducing noise (distortions) into the data.



Madison Region Employees Age 55 and Over by Industry Sector Percent of All Employees - Q2 2022



53 Real Estate and Rental and Leasing 21 Mining, Quarrying, and Oil and Gas Extraction 11 Agriculture, Forestry, Fishing and Hunting 48-49 Transportation and Warehousing 42 Wholesale Trade 22 Utilities 92 Public Administration 31-33 Manufacturing 52 Finance and Insurance 61 Educational Services 44-45 Retail Trade 55 Management of Companies and Enterprises 81 Other Services (except Public Administration) 00 All NAICS Sectors 56 Administrative and Support and Waste... 62 Health Care and Social Assistance 71 Arts, Entertainment, and Recreation 23 Construction 54 Professional, Scientific, and Technical Services 72 Accommodation and Food Services 51 Information

Thinking About Internships and Apprenticeships Madison Region Employees Age 24 and Under by Industry Sector Percent of All Employees - Q2 2021



Data Source: U.S. Census Bureau LEHD

Madison Region Employees of Color by Industry – Percent of Total Employment Q2 2021



Data Source: Census Bureau LEHD

0.0%

10.0%

15.0%

25.0%

30.0%

Percent of Jobs that can be Done from Home by Occupation



120%



Seasonal and Recreational Housing Units as a Percent of All Housing Units



Other Data Sources - U.S. Census Bureau Local Employment Dynamics - OnTheMap http://onthemap.ces.census.gov

OnTheMap - Mapping and reporting application showing:

- Where workers are employed and where they live;
- Companion reports on worker characteristics;
- Filtering by age, earnings, or industry groups;
- Based on synthetic data that are statistically analogous to actual worker counts and locations but not exact.



Other Data Sources - WI Department of Administration Demographic Services Center

https://doa.wi.gov/Pages/LocalGovtsGrants/Demographic_Services.aspx

Estimates and Projections

- Annual population estimates for the state, counties and municipalities;
- Housing unit estimates;
- Projections by county, age, gender and components of change;
- Tools for visualizing population change.



Other Data Sources - WI Department of Revenue

https://www.revenue.wi.gov/Pages/Report/Home.aspx

Reports and Visualizations for:

- Economic indicators such as employment, labor force, industry concentration, etc.;
- Sales tax collections;
- Exports;
- Local government finance;



Reports

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~ (J)

All Reports

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