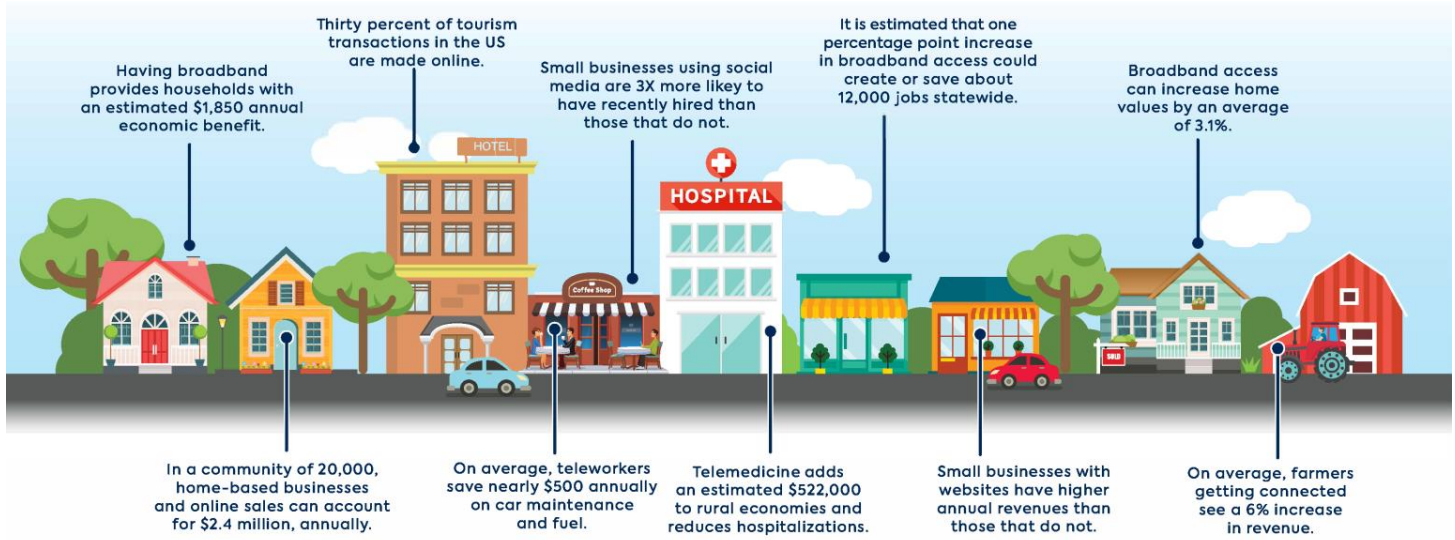# GOGEBIC COUNTY

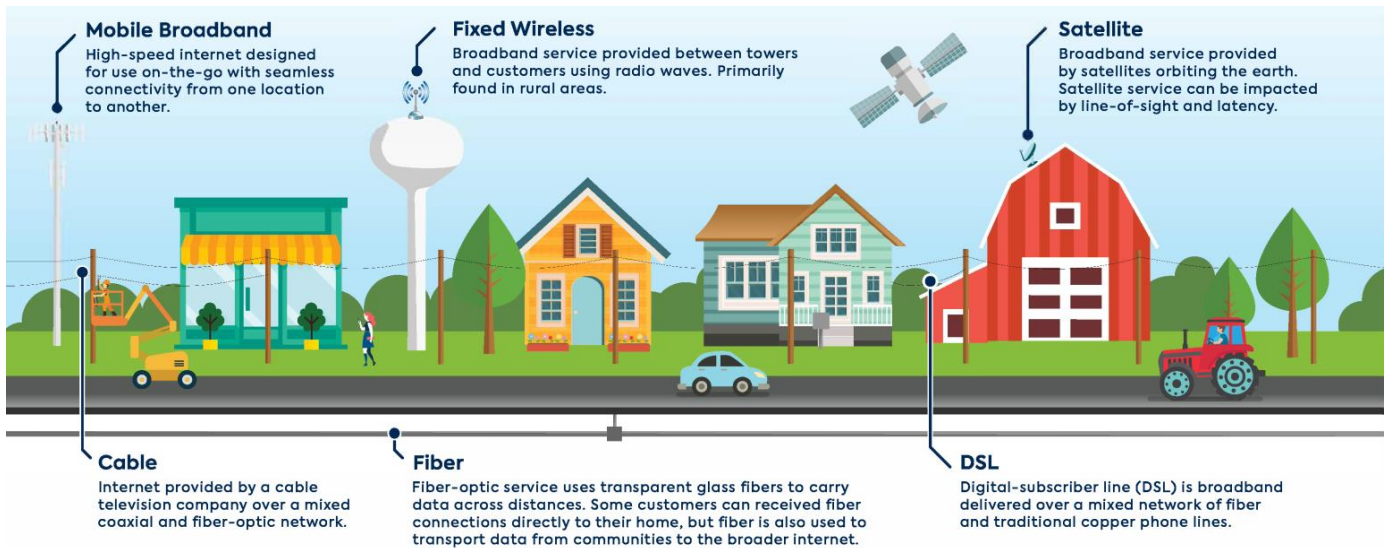## BROADBAND SURVEY RESULTS

CONNECTED
NATION™
Michigan

Today, technology plays a pivotal role in how businesses operate, how institutions provide services, and where consumers choose to live, work, and play. The success of a community has become dependent on how broadly and deeply the community adopts technology resources, which includes access to reliable, high-speed networks, the digital literacy of residents, and the use of online resources locally for business, government, and leisure.

The following provides an overview of broadband infrastructure and adoption among homes and businesses in Gogebic County.

A | BROADBAND ACCESS

Broadband access refers to the infrastructure that enables a high-speed internet connection. There are two primary types of broadband connections. Broadband availability is essential infrastructure for twenty-first century communities. Broadband empowers a community to access applications ranging from healthcare and education to business and government services. Unfortunately, many communities suffer from inequities of access on several fronts: between income levels; between urban and rural areas; between traditional business areas and nontraditional ones; and differing levels of service due to geography or infrastructure limitations.

According to data published by Connected Nation Michigan in July 2018, approximately 83% of households in Gogebic County have access to broadband at 25/3 Mbps (the current definition of broadband from the FCC). This level of service is concentrated in the communities of Ironwood, Wakefield, and Watersmeet, and portions of Marenisco Township. Services at slower speeds are also available in the county. The following map shows the maximum advertised download speed available throughout the county, and below is a table of known internet service providers in the county.
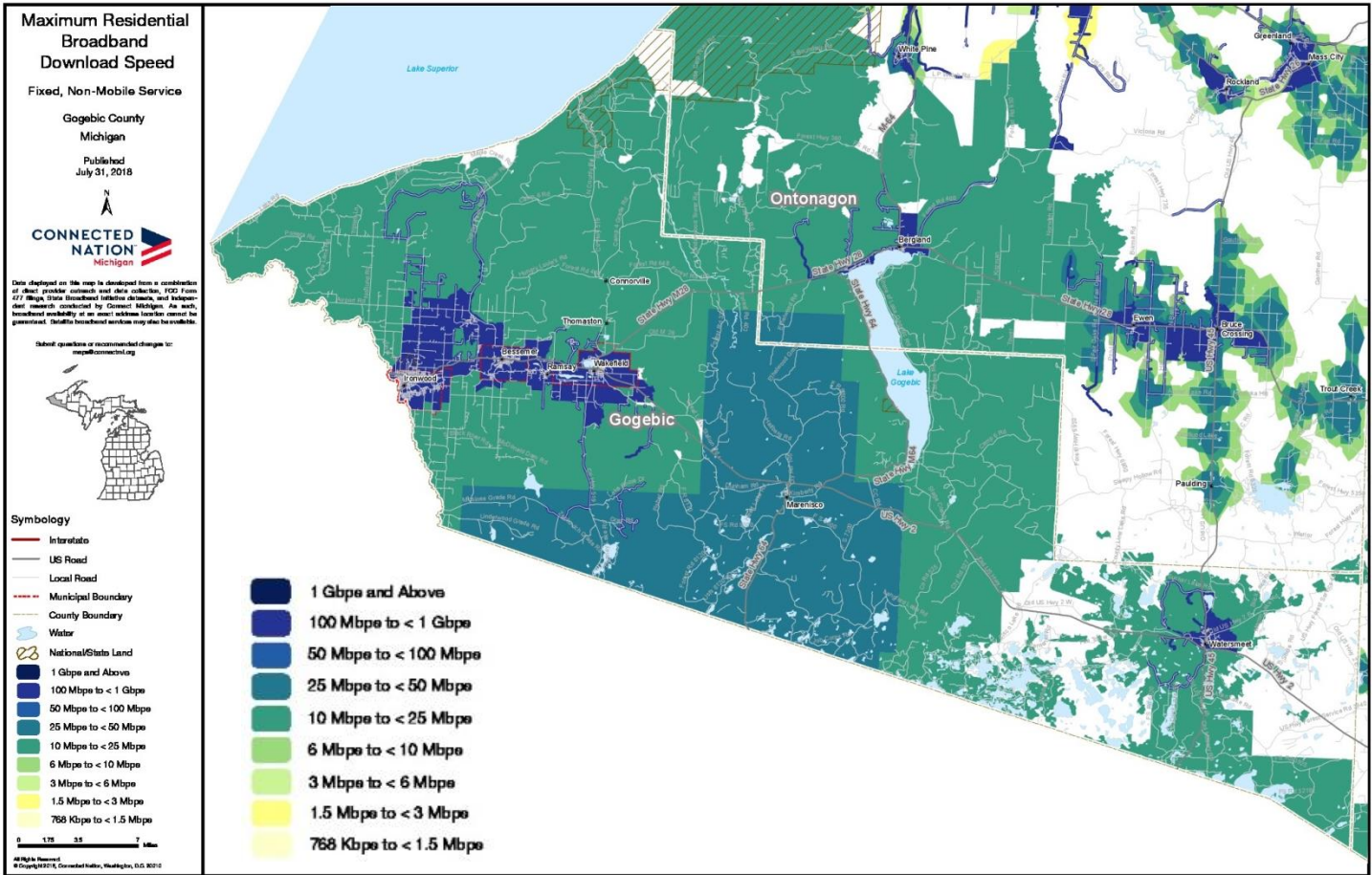

Internet Service Provider	Technology	Max.Advertised Download Speed (Mbps)	Max. Advertised Upload Speed (Mbps)
KTVS Cable TV and Internet	Cable	24	1.8
Spectrum	Cable	100	5
AT&T Michigan	DSL	24	3
MI Broadband Services	DSL	25	3
GogebicRange.net	Fixed Wireless	12	3
NMU Educational Access Network	Fixed Wireless	20	5
SonicNet, Inc.	Fixed Wireless	10	2
AT&T Michigan	Mobile Wireless	n/a	n/a
Nsight	Mobile Wireless	0.7	0.4
Verizon Wireless	Mobile Wireless	n/a	n/a

GOGEBIC COUNTY – BROADBAND SURVEY RESULTS

B | HOUSEHOLDS

The following provides an overview of results from a broadband survey conducted in Gogebic County between 2017 and 2019. Nearly 350 surveys were received from households across the county, and respondents provided insights into their internet connectivity, or lack thereof. Data from Gogebic County is compared to data from across dozens of other rural communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

ADOPTION

Home Broadband Adoption
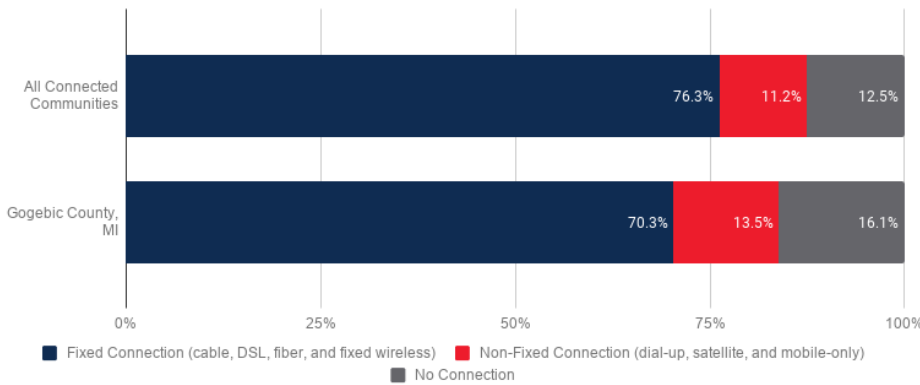
Approximately 70% of households in Gogebic County that took the survey adopt, (subscribe), to fixed broadband service. Fixed service is delivered via a cable, DSL, fiber, or fixed wireless technology. Just over 13% of respondents indicate they have internet service, but it is delivered via dial-up, satellite, or a mobile wireless service. This leaves just over 16% of households without internet access at home.


Primary Barrier to Home Broadband Adoption
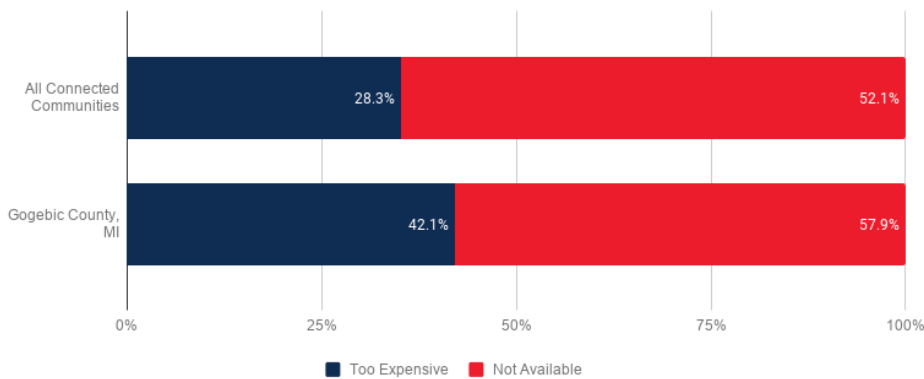
Among those without a home internet connection, 42% indicate that the monthly cost of service is too expensive, and the balance (58%) indicate that broadband service isn't available at their location. Cost and availability are the two primary barriers to home broadband adoption in many communities, however, Gogebic County has a slightly higher rate of those indicating affordability as their primary barrier to subscribing.

CONNECTION DETAILS

Average Monthly Cost of Internet Service
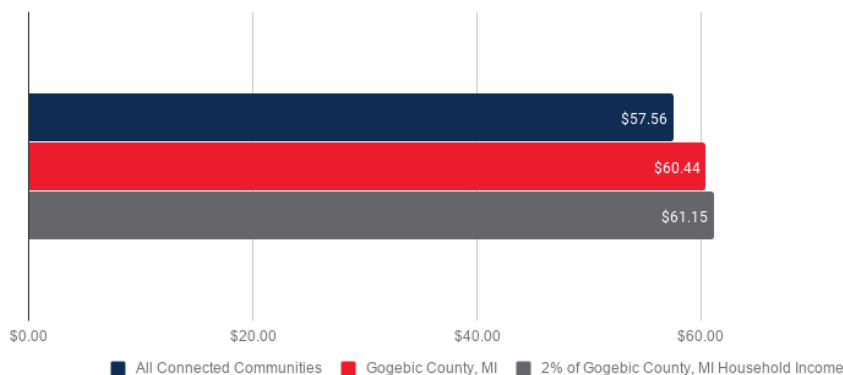
Two-percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Respondents indicate that, on average, their internet connection costs approximately $60 per month. This is higher than monthly costs in other communities. Two-percent of the median household income in Gogebic County is $61 per month. These results show that the average cost of service is on the cusp of being unaffordable in the county.

4

Average Subscribed to Download Speed (Mbps)
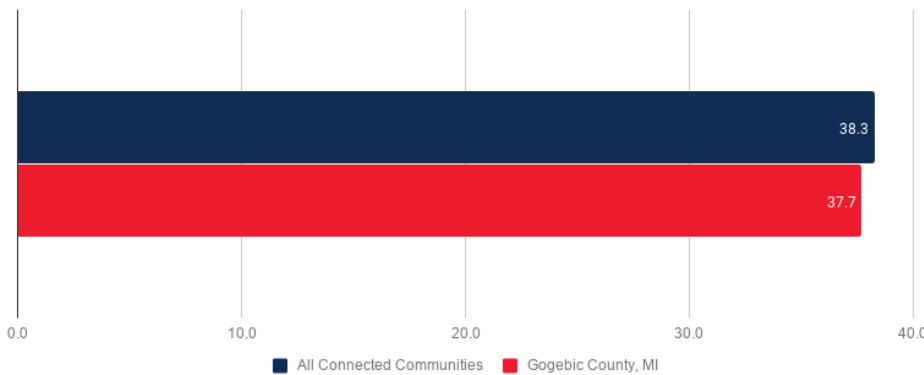
The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection download speed is 37 Mbps, which is on par with household connections in other communities. However, approximately 46% of households in Gogebic County have a connection that does not meet the FCC speed definition.
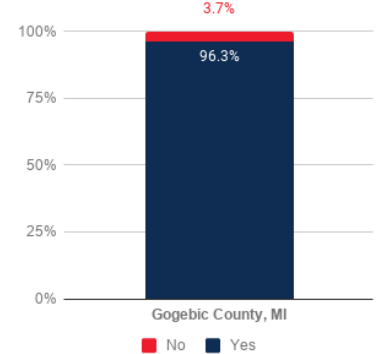
Does Your Internet Connection Meet Your Needs?
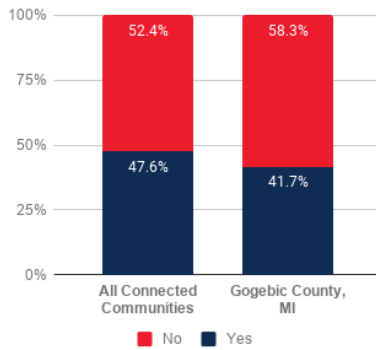
## Why Does Your Connection Not Meet Your Needs?
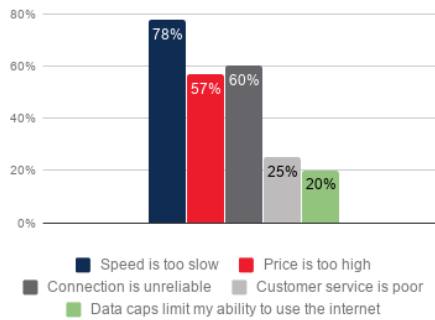
Are You Interested in Additional Internet Choices at Home?

Competition provides residents with choices for service, allowing them the ability to switch providers if their current service does not meet their needs. Nearly 60% of respondents indicate that their internet connection does not meet their needs. This is a higher rate of dissatisfaction than among households in other communities. When asked why their connection does not meet their needs, more than three-quarters (78%) of households indicate that the speed is too slow. More than half (57%) say the cost is too high, and 60% indicate that the connection is unreliable, (respondents could choose more than one reason). Finally, nearly all (96%) of respondents indicate that they are interested in additional internet choices for their home.

TELEWORK

Do You Currently Telework for Your Job?
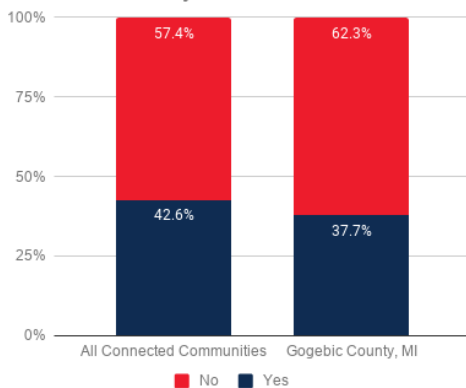
Teleworking, or telecommuting, refers to working outside of the conventional workplace and communicating with it by way of telecommunications or computer-based technology. Teleworkers often do not register on typical measures of economic or workforce activity. Economic development strategies traditionally involve the attraction or retention of employers. While this is a critical part of growing a local economy, telework represents an opportunity to attract or retain employees even though their employer may not be located within the community, but only if those employees have access to advanced broadband infrastructure. Approximately 38% of residents in Gogebic County indicate that they telework. While this is less than residents in other communities, 45% of teleworkers in the county do so on a daily basis; compared to 32% of teleworkers in other communities

DEVICES IN THE HOME

Avg. Number of Devices in the Home

Gogebic County, MI: 5.7
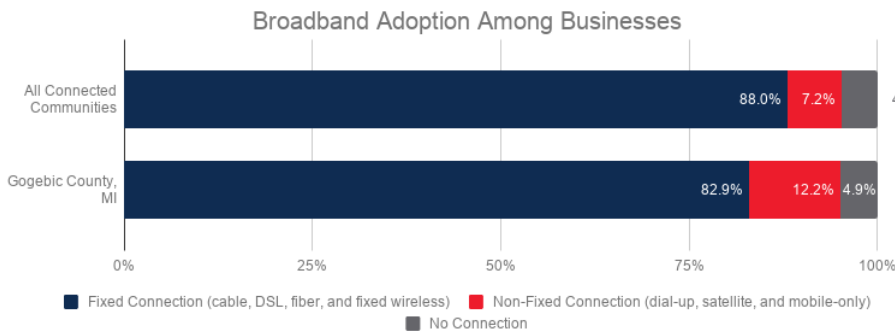All Connected Communities: 16.3
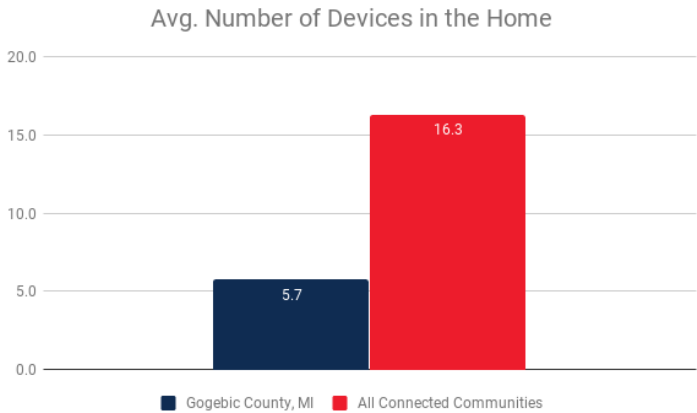
In the early days of the internet, a desktop computer was the primary, and virtually the only, way of connecting to the internet. However, with the rise of Wi-Fi, mobile broadband, Bluetooth, and many other revolutionary technologies, residents have multiple ways through which they can access the internet. While a wide variety of devices are available to connect to the internet, sometimes the lack of an internet-enabled device is cited as a barrier to home broadband adoption. Households in Gogebic County, on average, report having far fewer internet-connected devices than households in other communities.
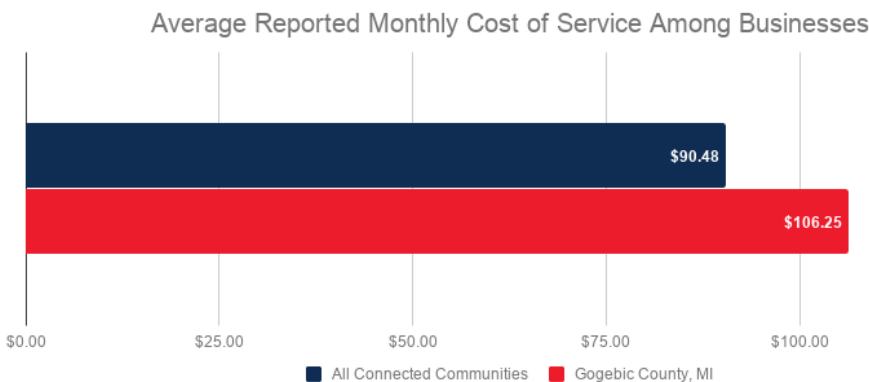
C | BUSINESSES

Positive economic activity in a community depends on the success of its private-sector business establishments to develop new and innovative products, provide services, attract investment, and create jobs. Small business establishment and growth, entrepreneurship, and innovation are hallmarks of the American economic system, and internet connectivity, coupled with new technology, devices, and applications, is perpetuating these ideals in new and exciting ways.

ADOPTION

Broadband Adoption Among Businesses

	Fixed Connection	Non-Fixed Connection	No Connection
All Connected Communities	88.0%	7.2%	4.8%
Gogebic County, MI	82.9%	12.2%	4.9%

Fixed Connection (cable, DSL, fiber, and fixed wireless) — Non-Fixed Connection (dial-up, satellite, and mobile-only) — No Connection

Approximately 83% of businesses in Gogebic County that took the survey adopt, (subscribe), to fixed broadband service. Fixed service is delivered via a cable, DSL, fiber, or fixed wireless technology. Just over 12% of respondents indicate they have internet service, but it is delivered via dial-up, satellite, or a mobile wireless service. This leaves less than 5% of businesses without internet access. Non-adopting business cite cost and availability as primary barriers to adoption.

CONNECTION DETAILS

Average Reported Monthly Cost of Service Among Businesses

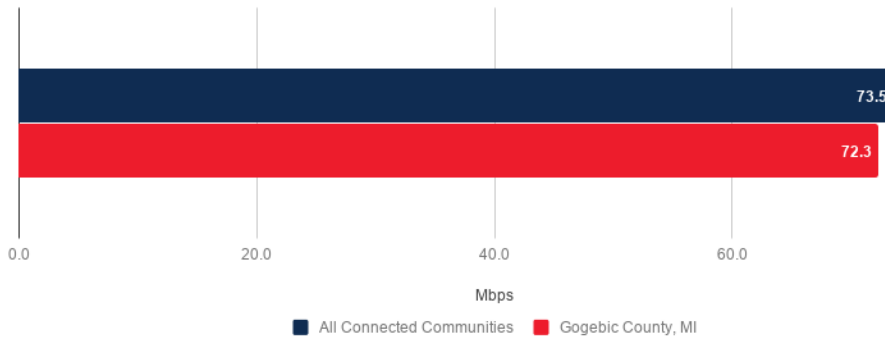All Connected Communities: $90.48
Gogebic County, MI: $106.25

Businesses indicate that, on average, their internet connection costs approximately $106 per month. Businesses in Gogebic County, on average, pay more per month for internet service than those in other communities.

Average Reported Download Speed (Mbps) Among Businesses

All Connected Communities: 73.5
Gogebic County, MI: 72.3

Legend: ■ All Connected Communities ■ Gogebic County, MI

The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, businesses indicate that their connection download speed is 72 Mbps, which is on par with business connections in other communities. However, approximately 53% of businesses in Gogebic County have a connection that does not meet the FCC speed definition.

Does Your Business Offer Free Wi-Fi to the Public?

All Connected Communities: Yes 28.6%, No 71.4%
Gogebic County, MI: Yes 44.4%, No 55.6%

Legend: ■ Yes ■ No
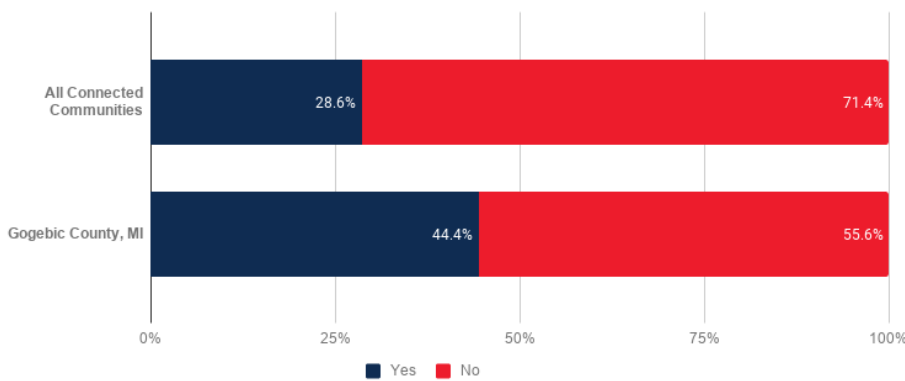
Public Wi-Fi can assist in creating a better connected community by providing additional access points for those with devices limited by mobile data plans or those without mobile broadband capability. Approximately 44% of businesses responding to the survey indicate that they offer free Wi-Fi to the public. This is higher than businesses in other communities.

WEBSITES

Does Your Business Have a Website?

All Connected Communities: Yes 79.0%, No 21.0%
Gogebic County, MI: Yes 66.7%, No 33.3%

Legend: ■ Yes ■ No
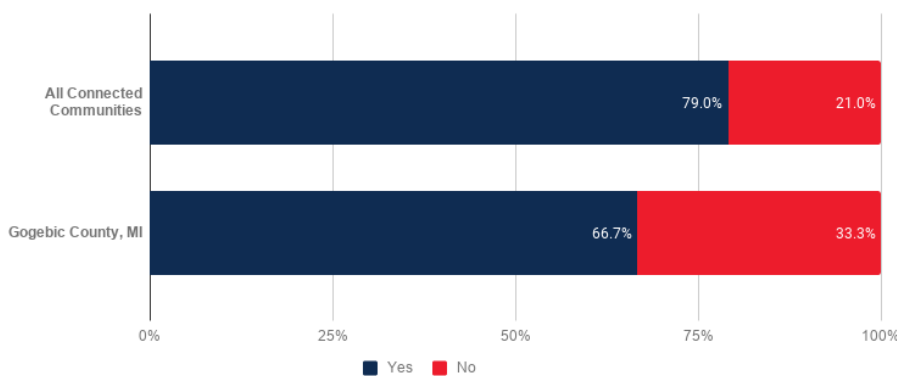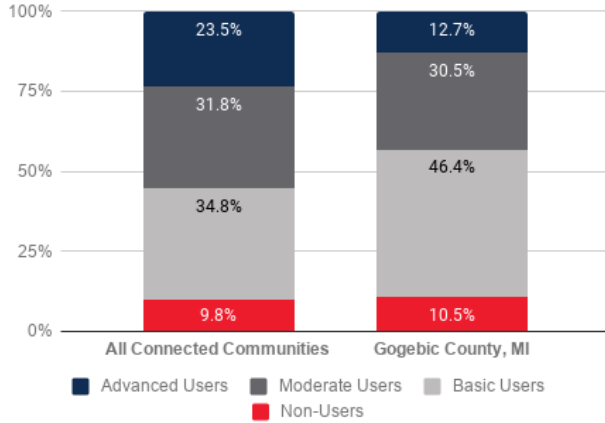
A website is one of the most basic ways in which a business establishes an online presence. A website provides a "virtual face" for a business. Approximately two-thirds of businesses in Gogebic County have a website. This is a lower rate of website use than businesses in other communities.

SKILLS AND TRAINING
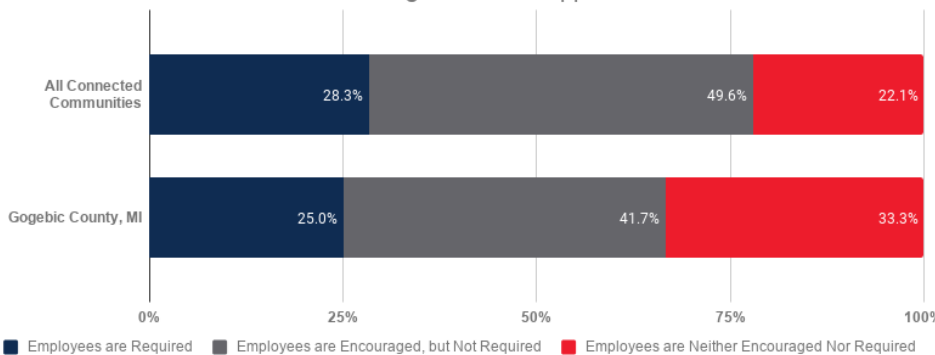

Employee Technology Skill Mix

How Well Do the Technology Skills of Your Employees Match the Technology Needs of Your Business
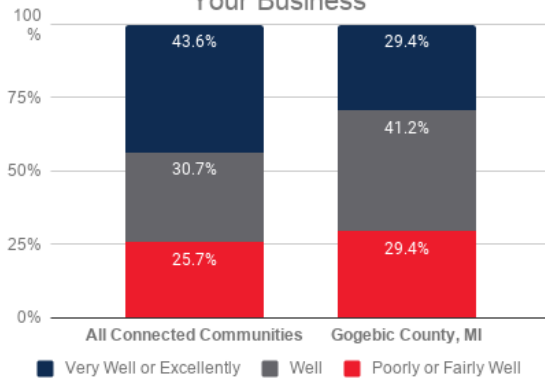
The technology-related skills necessary to be successful on the job are changing to keep pace with new innovations, tools, and applications that make production and services more efficient. The skills of the workforce should match the needed skills of the employer in order for establishments to take advantage of new technologies. This chart shows the mix of employee technology skills (as indicated by employers) as well as how well employers say those skills match the technology needs of their organization. Non-Users: Employees that do not need any technology-related skills; Basic Users: Employees that use basic office software, internet browsers, e-mail, or other primary technologies in their job; Moderate Users: Employees that are required to use more advanced software/hardware in their job that may be sector/industry/task-specific; and Advanced Users: Employees that develop, operate, maintain, modify, and manipulate technology systems, software, or hardware.

In Gogebic County, approximately 43% of employees have moderate to advanced technology skills as reported by their employers, compared to 55% in other communities. Variations in local economic drivers and key industries are indicators of the types of technology skills needed by the workforce; not every occupation requires the same technology skill set. However, only 29% of employers in Gogebic County report that their employee technology skills match their technology needs "very well," or "excellently," compared to nearly 44% in other communities. Businesses in the county may not have access to the skill sets they need.

Are Employees Required, Encouraged, or Neither Encouraged Nor Required to Pursue Continuing Education Opportunities?

Growing the technology skills of the workforce is critical to ensure employers have the talent they need to expand and sustain their operations. Businesses were asked to indicate if they require, encourage but don't require, or neither encourage nor require employees to participate in continuing education or training activities. About one-third of employers do not encourage or require continuing education of any kind among their employees, compared to 22% in other communities.

D | RECOMMENDATIONS

The following recommendations are presented to assist Gogebic County in expanding broadband access and adoption throughout the community.

Perform a Broadband Build-Out Analysis and Validate Demand for Broadband Service in Underserved Areas

Conduct onsite visual assessments of the defined geographic areas unserved with broadband coverage. The assessment determines the feasibility of deploying various Internet systems in a defined area.

Use the results of the Residential Technology Survey to identify pockets of demand in areas without service. Survey results can also provide information on currently adopted speeds and costs.

A market analysis should also be performed to identify potential broadband providers, understand potential service offerings, and respective rates.

Results of the studies should be analyzed and released to providers to inform a business case for expansion or upgrades. Community broadband team members should include broadband providers in discussions of access expansion.

Perform an Analysis of Local Policies and Ordinances

High capital investment costs, including permit processing, pole attachment costs, and lack of effective planning and coordination with public authorities, negatively impact the case for deployment. The costs and time associated with obtaining permits and leasing pole attachments and rights-of-way is one of the most expensive functions in a service provider's plans.

Speak with providers and determine barriers they face at a local and county level. Review local policies, ordinances, and other barriers to broadband deployment and consult with community leaders, providers, utilities, and other members of the community to ensure that they are supporting policies that are conducive to broadband build-out. Work with local leaders to adopt new policies.

Develop Public-Private Partnerships to Deploy Broadband Service

Public-private partnerships take many forms, limited only by the imagination and legal framework in which the municipality operates. Some communities issue municipal bonds to fund construction of a network, others create non-profit organizations to develop networks in collaboration with private carriers or provide seed investment to jumpstart construction of networks that the private sector is unable to cost-justify on its own.

Determine priorities for the partnership; competition, enhanced service, equity and service to all, public control over infrastructure, redundancy, etc. Research partnership models; Private investment, public facilitation; Private execution, public funding; or Shared investment and risk.

More information here:
http://bit.ly/1B7L9YD

Complete a Vertical Assets Inventory

Develop a single repository of vertical assets, such as communications towers, water tanks, and other structures potentially useful for the support of deploying affordable, reliable wireless broadband in less populated rural areas or topographically challenged areas. "Vertical assets" are defined as structures on which wireless broadband equipment can be mounted and positioned to broadcast a signal over as much terrain as possible.

Identify or develop a vertical assets inventory toolkit to provide guidelines to identify structures or land that could serve as a site for installation of wireless communications equipment. Data should include vertical asset type, owner type, minimum base elevation, minimum height above ground, and location. Map vertical assets. The resulting database should be open-ended; localities should be encouraged to continuously map assets as they are made available. Market the identified assets to providers.

Host Website and Social Media Classes for Local Businesses

Training should be provided to small businesses regarding the use of websites and social media within that small business. Website topics should range from starting a basic website to more advanced topics such as e-commerce. Social media topics should include a variety of social media outlets including Facebook, Twitter, YouTube, Pinterest, and LinkedIn.

Work with the local chambers and libraries to expand on existing programs that promote e-commerce and web development and marketing within the small business community including those involved in agriculture. Identify regional and community partners with resources and expertise to assist in producing workshops. Schedule workshops and advertise classes via local media.

Create a Telework Support and Attraction Program

Teleworking allows employees to lower their commuting costs, and accommodates people with disabilities, the elderly, working mothers, and rural residents who may not be in a position to work outside the home. It is unlikely that all employees will be able to telework. A good way to start is to identify types of positions or job types that can be performed remotely and initiate a trial period and track results.

Gather a local team of those that support businesses and employees such as chambers, business associations, citizens, and other relevant interest groups. Determine if there is interest from current or prospective teleworkers in services the community could offer or needs that are not currently met. Reach out to other communities and learn from their experience: www.shorturl.at/oEQS0.

Promote Telemedicine in Remote Areas

Promote the delivery of healthcare services from a distance using video-based technologies. Telemedicine can help to address challenges associated with living in sparsely populated areas and having to travel long distances to seek medical care—particularly for patients with chronic illnesses. While telemedicine can be delivered to patient homes, it can also be implemented in partnership with local clinics, libraries, churches, schools, or businesses that have the appropriate equipment and staff to manage it.

Gather a local team to begin exploring the opportunity: healthcare providers and broadband providers; state, county, and local government healthcare departments; healthcare advocates and community organizations; and citizens. Determine the healthcare service currently offered via telemedicine technology and build awareness in the community. Determine digital literacy needs for telemedicine applications and identify or develop training programs for those skills. Explore funding opportunities such as: https://www.usac.org/rural-health-care/.