TECHNOLOGY ACTION PLAN
EXECUTIVE SUMMARY

Eaton County, Michigan

January 2022

CONNECTED NATION℠

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OVERVIEW
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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 it adopts technology resources, which include access to reliable, high-speed networks; the digital literacy of residents; and the use of online resources for local business, government, and leisure.

As such, the Eaton County Broadband Communication Council partnered with Connected Nation Michigan's (CN Michigan) Connected Community Engagement Program to conduct a study designed to determine the availability of broadband infrastructure; how county residents are adopting and using broadband services; and what steps would have the greatest impact toward improving broadband access, adoption, and use across every local sector. Pursuant to this goal, between September and November 2021, Eaton County collected responses from 1,322 households, as well as other community sectors.

In addition to these surveys, CN Michigan staff met regularly with community leaders as part of this countywide study to help determine the community's technology needs and develop a plan to close those gaps.

EATON COUNTY, MICHIGAN QUICK FACTS
Population **109,175**
Households **44,420**
Median Household Income **$65,409**
Poverty Rate **6.6%**
Adults with a Bachelor's Degree or Higher **29.4%**
Age 65 and Older **19.4%**
Households with Broadband Access[1] **90.28%**

Source:
https://data.census.gov/cedsci/profile?g=0500000US26045
[1] The current FCC definition of broadband is a minimum of 25 Mbps download and 3 Mbps upload. These data are derived from CN Michigan as of September 2021.
https://connectednation.org/michigan/planning/

90.28%
of households in Eaton County have access to fixed broadband service

Nearly 3 out of 4 households surveyed in Eaton County (**74%**) say they subscribe to fixed broadband service. Among households that do not subscribe to home internet service, the top barrier is a **lack of available service,** followed by the **cost of internet service**.

Only **6.22%** of households in Eaton County have access to top-tier internet service with download speeds of 1 Gbps or greater. Statewide, **31.56%** of households can access broadband at this speed.

Eaton County households **pay more** on average for access to the internet (**$73.70**) than other Connected communities ($71.98). However, their average download speeds (**45.95 Mbps**) are faster than in other surveyed communities.

One-half of Eaton County households that subscribe to home internet service (**50%**) say their current service does not meet their needs. The top reasons for dissatisfaction are **slow speeds** and **unreliable connections**.

Nearly 9 out of 10 households (**89.2%**) say they would like to have improved or additional options for home internet service.

INFRASTRUCTURE
RESULTS
02

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According to CN Michigan broadband data initially released in September 2021 — followed by additional public feedback, field validation, and provider input — more than 9 out of 10 (90.28%) Eaton County households have access to broadband of at least 25/3 Mbps, the current definition of broadband set forth by the Federal Communications Commission (FCC). Broadband service in Eaton County is concentrated in the northern portions of the county.

Below is the list of internet service providers (ISPs) in Eaton County.

BROADBAND INFRASTRUCTURE
QUICK FACTS

|	
Unserved Households (25/3 Mbps) **6,928**	
Households Served (10/1 Mbps) **98.20%**	
Households Served (25/3 Mbps) **90.28%**	
Households Served (100/10 Mbps) **87.05%**	
Households Served (1 Gbps) **6.22%**	

Broadband data released by CN Michigan in September 2021:
https://connectednation.org/michigan/mapping-analysis/

PROVIDER	TECHNOLOGY	MAXIMUM DOWNLOAD SPEED (Mbps)	MAXIMUM UPLOAD SPEED (Mbps)
ACD Telecom Inc.	DSL	25	1.5
Barry County Telephone Co.	Fixed Wireless	30	5
CenturyLink Inc.	DSL	40	3
Comcast Cable Communications LLC	Cable	987	35
Frontier Communications Corp.	DSL	100	10
Martell Cable Services Inc.	Cable	10	1.5
MetroNet	Fiber	1,000	1,000
Michigan Bell Telephone Co.	DSL, Fixed Wireless	25	2
Springcom Inc./Springport Telephone	Cable, Fiber	50	50
Surf Broadband	Fixed Wireless, Fiber	25	3
Tri-County Electric Cooperative	Fiber	1,000	1,000
Vogtmann Engineering Inc.	Cable	100	15
WideOpenWest Michigan LLC	Cable	200	20

Below is Eaton County's (25/3 Mbps) map. To access the full map, go to
https://connectednation.org/michigan/county-maps/ and select Eaton County from the list.
Portions of the county are served by internet service providers (ISPs) offering slower advertised
speeds, and those are not shown on this map.
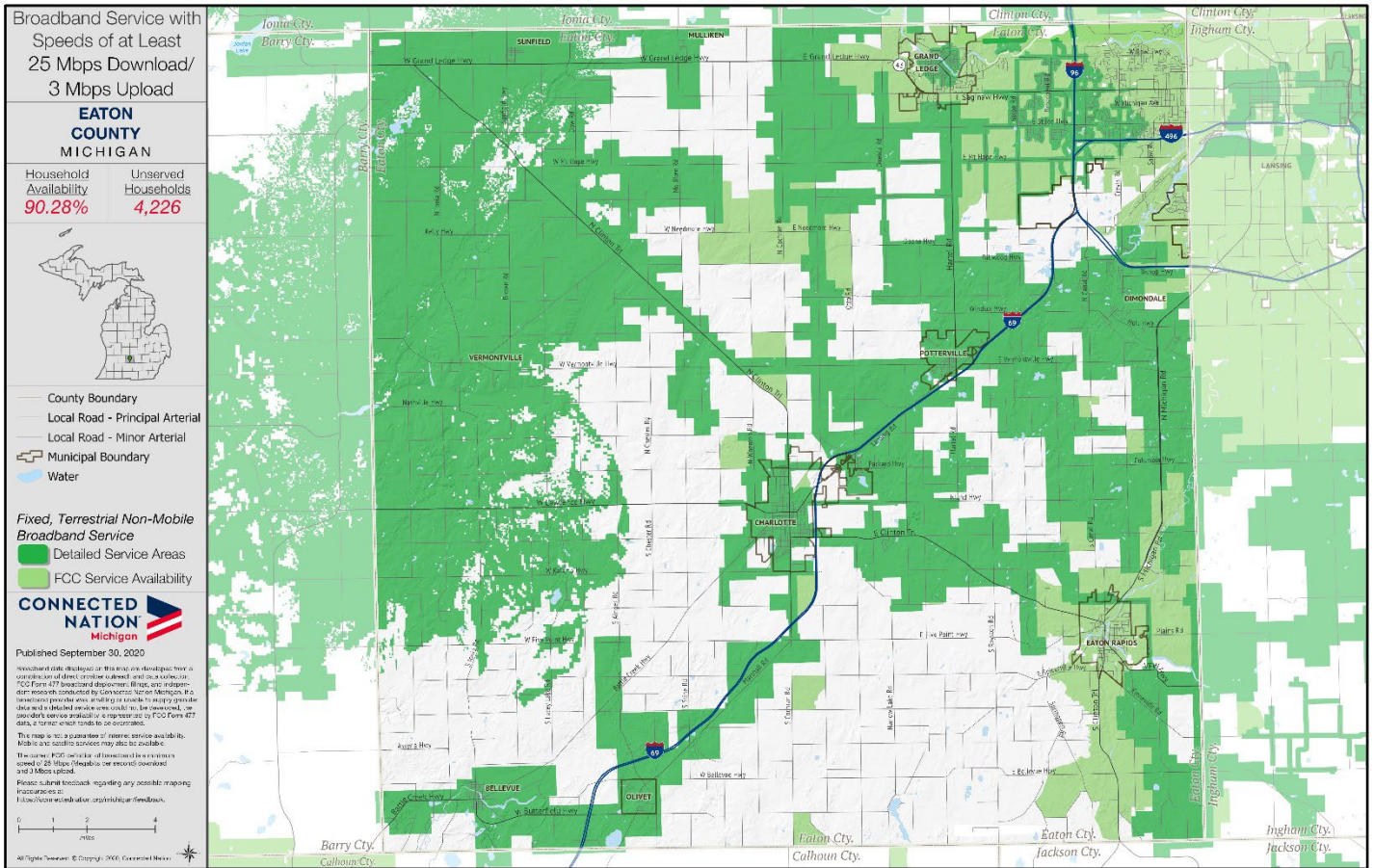
The first step in understanding the status of broadband infrastructure in Eaton County and statewide
is having accurate maps. Accordingly, CN Michigan works with providers to develop a variety of
broadband maps at a state and county level. Data shown on this map are derived from a
combination of direct provider outreach and data collection, FCC Form 477 broadband deployment
filings, and independent research conducted by CN Michigan. If a provider was unable or unwilling to
supply granular data and a detailed service area could not be developed, the provider's service is
represented by Form 477 data, a format that tends to overstate the service territory.

HOUSEHOLD
SURVEY RESULTS
03

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HOUSEHOLD
QUICK FACTS

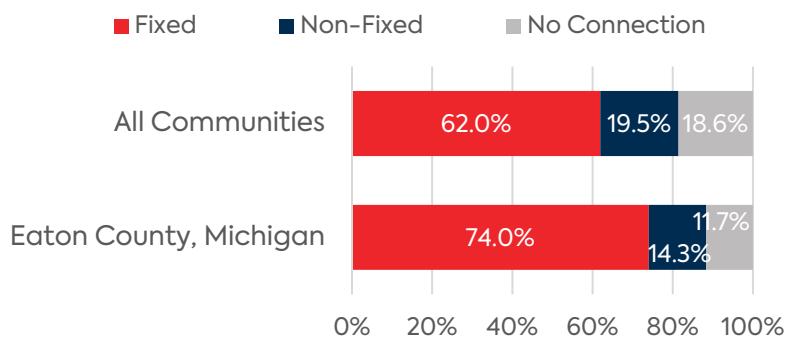Fixed Home Broadband Adoption
74.0%

Average Monthly Internet Cost
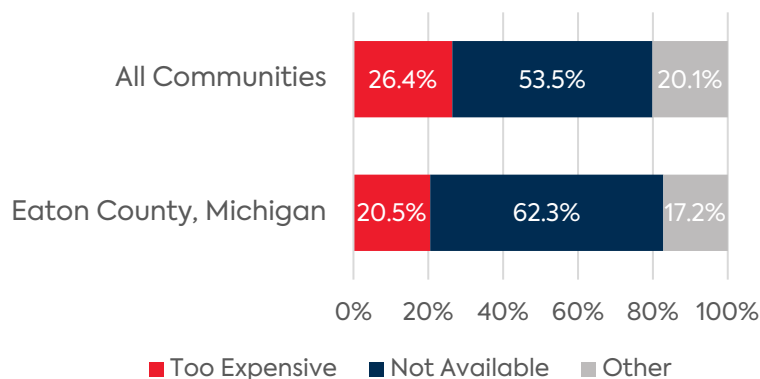**$73.70**

Average Download Speed
45.95 Mbps

Households Satisfied with Service
50%

The following section provides an overview of results from a broadband survey conducted in Eaton County between September and November 2021. Altogether, CN Michigan received 1,322 completed surveys from households across the county, and respondents provided insights into their internet connectivity or lack thereof. Data from Eaton County are compared to data from hundreds of other rural, participating Connected communities across Michigan, Ohio, Texas, and Pennsylvania to benchmark and identify areas for improvement.

Home Broadband Adoption

Legend: ■ Fixed ■ Non-Fixed ■ No Connection

All Communities: 62.0% | 19.5% | 18.6%

Eaton County, Michigan: 74.0% | 14.3% | 11.7%

(x-axis: 0% 20% 40% 60% 80% 100%)

ADOPTION

In Eaton County, 74% of households that took the survey subscribe to fixed broadband service delivered via a cable, DSL, fiber, or fixed wireless technology. One in 7 respondents (14.3%) indicate they have internet service delivered via dial-up, satellite, or a mobile wireless service. This leaves 11.7% of survey respondents without internet access at home.

Among those without a home internet connection, 62.3% said they did not have broadband because it was not available to them, while one-fifth (20.5%) indicate that it was too expensive. Like in many communities, cost and availability are the two primary barriers to home broadband adoption.

Primary Barrier

All Communities: 26.4% | 53.5% | 20.1%

Eaton County, Michigan: 20.5% | 62.3% | 17.2%

(x-axis: 0% 20% 40% 60% 80% 100%)

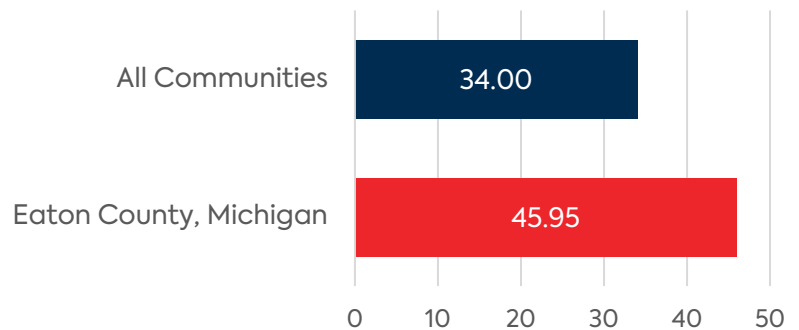Legend: ■ Too Expensive ■ Not Available ■ Other

CONNECTION DETAILS

Two percent of monthly income is a recognized standard for measuring the affordability of a home internet connection. Eaton County respondents indicate that they pay about $73.70 per month on average for their internet service. This is slightly higher than the monthly cost in other communities ($71.96). Two percent of the median household income in Eaton County is $107.25 per month.

Average Monthly Cost

All Communities: $71.96
Eaton County, Michigan: $73.70
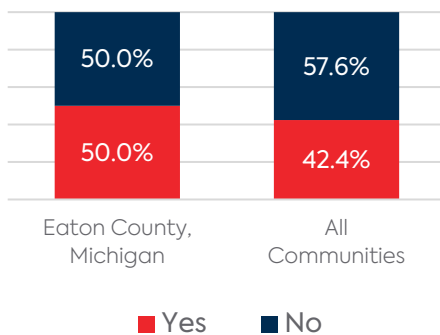Eaton County 2% Median Household Income: $107.25
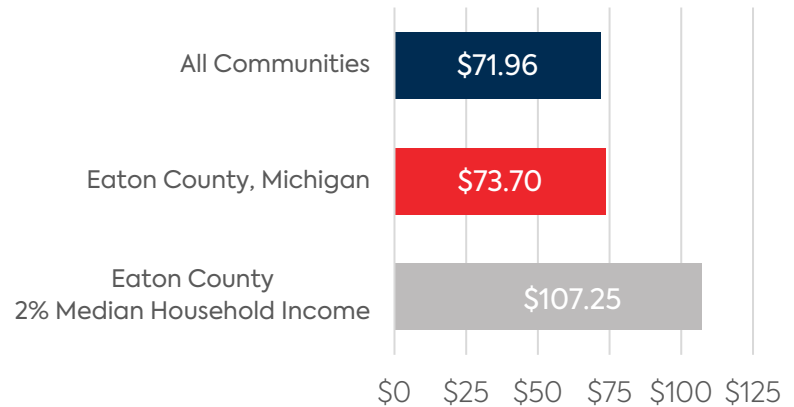
The FCC currently defines broadband as an internet connection with a download speed of at least 25 Mbps and upload speed of at least 3 Mbps. On average, respondents indicate that their connection's download speed is 45.95 Mbps, which is significantly higher than the minimum defined speed.
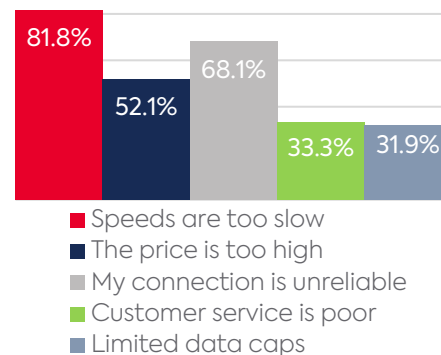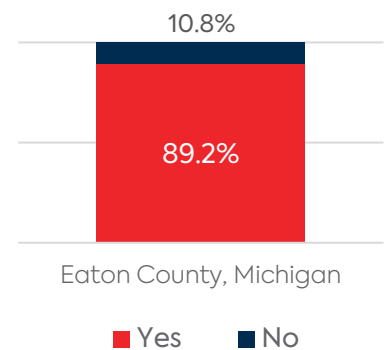
Average Speeds (Mbps)

All Communities: 34.00
Eaton County, Michigan: 45.95

Does Your Internet Meet Your Needs?

	Eaton County, Michigan	All Communities
No	50.0%	57.6%
Yes	50.0%	42.4%

Yes / No

Why Doesn't Your Internet Meet Your Needs?

Speeds are too slow: 81.8%
The price is too high: 52.1%
My connection is unreliable: 68.1%
Customer service is poor: 33.3%
Limited data caps: 31.9%

Are You Interested in More Choices at Home?

Eaton County, Michigan
No: 10.8%
Yes: 89.2%

Yes / No

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Michigan

Competition provides residents with choices for service, allowing households the ability to switch providers if their current service does not meet their needs. One-half (50%) of responding households indicate that their internet connection does not meet their needs. This is a lower rate of dissatisfaction than among households in other communities (57.6%).

When asked why their connection does not meet their needs, 81.8% of dissatisfied households indicate that their speed is too slow, 52.1% say the price is too high, and more than 2 out of 3 (68.1%) indicate that the connection is unreliable. Respondents could choose more than one reason.

Finally, 89.2% of all respondents indicate that they are interested in additional internet choices for their home.
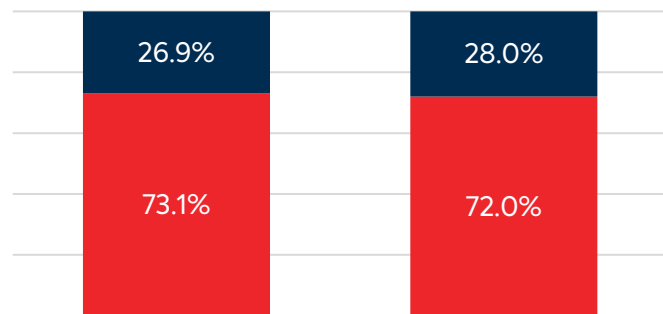
MOBILE CONNECTIVITY

Almost 3 out of 4 households (73.1%) reported that they subscribe to mobile internet service, which they access via a smartphone or similar mobile device. This is on par with what is reported in other Connected communities (72.0%).

Additionally, nearly one-quarter of mobile-connected households (24.6%) report that they rely on those mobile connections as their primary source of home internet connectivity or use mobile service to connect other household devices to the internet.

Households Subscribing to Mobile Internet Service

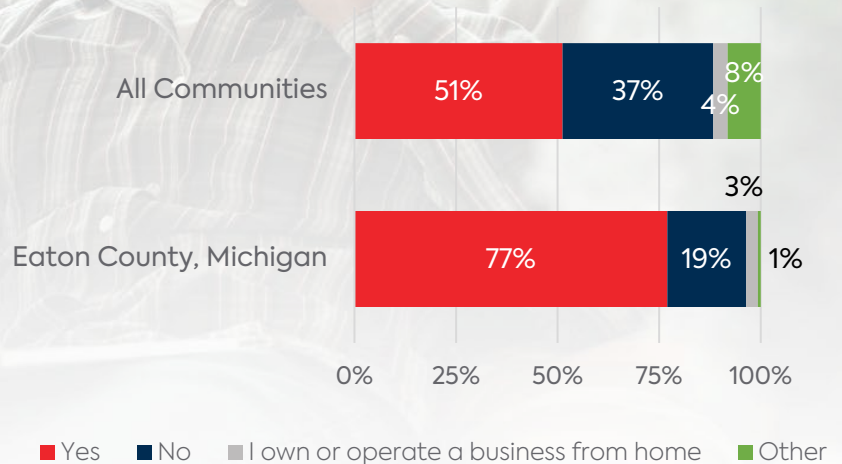|	Eaton County, Michigan	All Communities
No	26.9%	28.0%
Yes	73.1%	72.0%

■ Yes ■ No

TELEWORKING

Teleworking, or telecommuting, refers to working outside of the conventional workplace by way of telecommunications or computer-based technology. The COVID-19 pandemic forced many organizations to allow their staff to telework. In Eaton County, broadband access likely helped organizations operate virtually when needed.
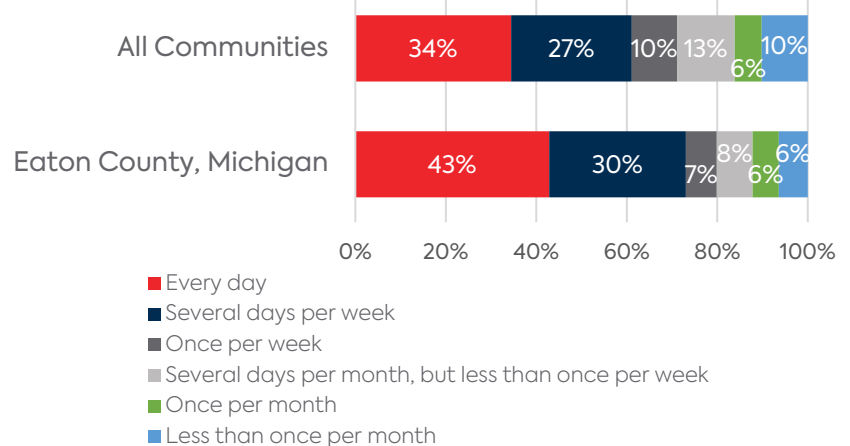
Teleworking is quickly becoming a critical part of growing a local economy because it represents an opportunity to attract and retain employees even when employees are not located in the same community as their employers. However, this only works if those employees have access to advanced broadband infrastructure.

Approximately 77% of employed respondents in Eaton County telework in some capacity. More than 2 in 5 (43% of this group) telework every day.

Do You Currently Telework?

	Yes	No	I own or operate a business from home	Other
All Communities	51%	37%	4%	8%
Eaton County, Michigan	77%	19%	1%	3%

How Frequently Do You Telework?

	Every day	Several days per week	Once per week	Several days per month, but less than once per week	Once per month	Less than once per month
All Communities	34%	27%	10%	13%	6%	10%
Eaton County, Michigan	43%	30%	7%	8%	6%	6%

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RECOMMENDATIONS
04

T he following recommendations are offered to assist Eaton County in expanding broadband access and adoption throughout the community.

Recommendation 1: Form an Eaton County "Broadband Workgroup"

Goal: Establish a small, empowered team of motivated individuals to focus on broadband-related needs and actions to benefit Eaton County.

A primary responsibility of this Workgroup is to manage and execute the following recommended actions to form the Eaton County Technology Action Plan, while also serving as the "go-to" resource for broadband-related needs, questions and information across the county.

Actions

1) Identify and solicit candidates for the Eaton County Broadband Workgroup to provide leadership and direction; and set goals and objectives, structure, and meeting agendas.

2) Begin regularly scheduled meetings to develop workplans, foster individual broadband provider discussions, develop partnerships and recruit businesses and individuals to the Workgroup as appropriate.

3) Create a centralized technology portal/website or other information source that promotes local technology resources for use by residents. Resources could include broadband provider identification and contact information, Eaton County Broadband Workgroup updates, public hotspot locations, calendars of events, online training resources, local computer resources, etc.

Recommendation 2: Identify and Prioritize Specific Areas in Need of Service Improvements Based on Broadband Survey Findings

Goal: Effectively target unserved and underserved areas in Eaton County for improvements.

Actions

1) Review most recent broadband coverage maps from Connected Nation Michigan to assess estimated residential broadband coverage at various speeds across Eaton County (10 Mbps, 25 Mbps, 100 Mbps, and 1 Gbps).

2) Use the new Eaton County Interactive Map to overlay broadband coverage with broadband survey

data to narrow in on key areas and population centers that lack service or need improvements.

3) Use Connected Nation Michigan's statewide interactive map to view additional layers of broadband-related information and zoom to specific areas of Eaton County for more detail.

4) Overlay population maps and data with broadband coverage maps to further identify which areas would provide the greatest return for new broadband investment.

5) Engage with municipality leaders in the identified unserved and underserved areas to gather additional input and confirm the need for broadband expansion in their communities.

6) Engage with library directors in these areas to understand the local, residential demand for library connectivity resources (due to lack of at-home service).

Initial geographic areas identified (with little or no current RDOF commitments):

Bellevue Township, Carmel Township, Roxand Township, Sunfield Township, Windsor Township, Kalamo Township, Vermontville Township

Eaton County Interactive Map:

https://connectednation.org/michigan/eaton/interactivemap

Recommendation 3: Engage with Winning RDOF Providers to Understand Their Plans and Identify Opportunities to Accelerate, Ease, and Maximize Broadband Expansion

Goal: Establish and grow working relationships with RDOF providers for mutual benefit.

The Rural Digital Opportunity Fund (RDOF) has currently committed $2.18 million to three fiber broadband providers for expanded broadband buildout in Eaton County over the next five to six years. The following map indicates where that buildout will take place, which will bring at least 100 Mbps to 1 Gbps service to over 3,000 locations (homes, businesses, other buildings).

Rural Digital Opportunity Fund (RDOF) Commitments in Eaton County
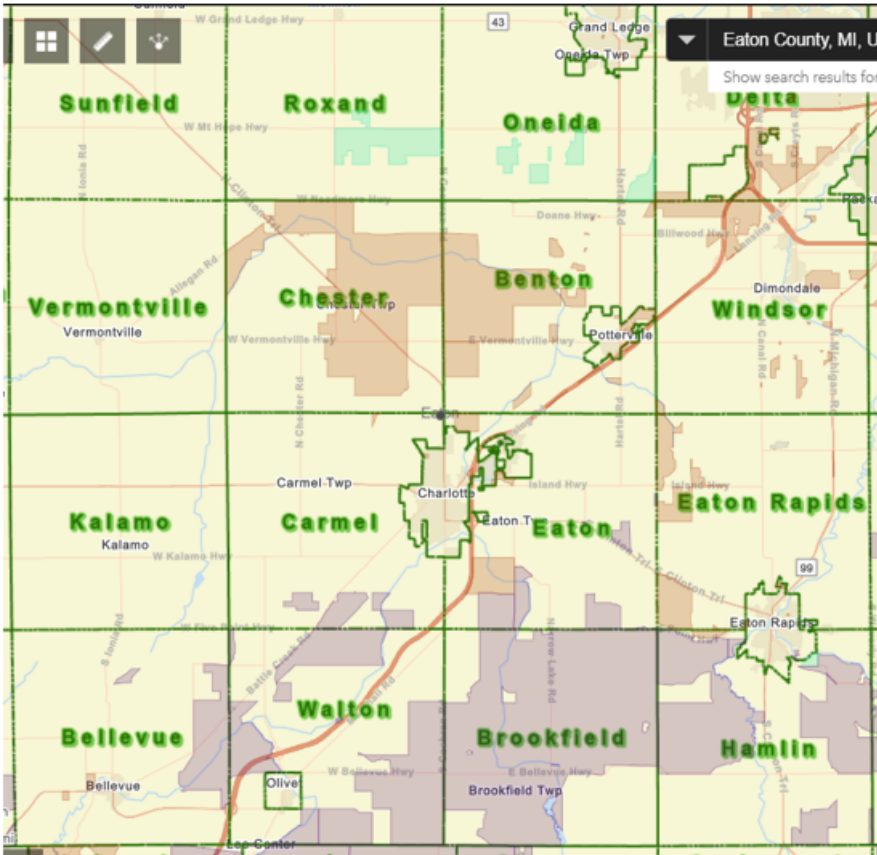
Commitments to 100 Mbps or 1 Gbps service over next 5 years

- Mercury Broadband
- Midwest Energy & Communications
- Tri-County Electric / HomeWorks

Recommendation 4: Work with Local Broadband Providers to Assess Targeted Unserved and Underserved Areas for Potential Buildout

Goal: Determine why some areas of the community remain unserved, assess the feasibility of deploying various technologies in the targeted areas, and help generate a business case for deployment.

Actions

1) Identify incumbent or nearby broadband providers in targeted areas and arrange meetings to understand current issues and plans for potential deployment in those areas.

2) Assess the feasibility and use of various broadband technologies and implementation approaches as potential solutions for broadband deployment in these areas.

3) Explore potential partnerships between affected municipalities, community organizations, economic development groups, and broadband providers to help eliminate barriers to broadband expansion in these targeted areas.

4) Explore and evaluate funding sources that could support broadband efforts and solutions in these targeted areas (local, state, federal).

Recommendation 5: Evaluate and Develop Public-Private Partnerships to Support the Deployment of Expanded Broadband Service

Goal: Leverage existing community assets (including American Rescue Plan funds) in partnership with interested broadband providers to expand broadband network deployment.

The strength of these partnerships is that each party brings something important to the table that the other doesn't have or can't easily acquire. The community can offer infrastructure (publicly owned building rooftops, light poles, towers, and other vertical assets for mounting infrastructure) for the deployment of a network, as well as committed anchor tenants. Private-sector partners bring network-building and operations experience.

1) Determine priorities: Competition, enhanced service, equity, and service to all; public control over infrastructure; risk avoidance; redundancy, etc.

2) Consider different models of partnership:

> Model 1: Private Investment, Public Facilitation — Make available public assets such as fiber and conduit, share geographic information systems data, streamline permitting and inspection

processes, offer economic development incentives to attract private broadband investment.

Model 2: Private Execution, Public Funding — Identify revenue streams that can be directed to a private partner, issue RFP for private turnkey execution.

Model 3: Shared Investment and Risk — Evaluate using assets to attract private investment, evaluate funding new assets to attract private investment, evaluate building new fiber assets to businesses and/or homes for leasing to private ISPs.

3) Understand key legal considerations for localities looking to build a broadband partnership: Review authority issues, understand the legal tools and instruments that could shape the partnership, negotiate the agreement.

Recommendation 6: Assess and Pursue Available Funding Sources for Broadband Expansion in Partnership with Interested Broadband Providers

Goal: Understand the applicability and timing of broadband funding programs (federal/state/local) that could support community plans for broadband expansion.

- Rural Digital Opportunity Fund (RDOF)

- Broadband Equity, Access, and Deployment program (2021 Bipartisan Infrastructure Bill)

- USDA ReConnect program — grants and loans

- Connecting Michigan Communities (CMIC) grants

- American Rescue Plan funds

Recommendation 7: Identify and Promote Low-Cost Broadband Service Offerings for Vulnerable Populations

Goal: Overcome the cost barrier to broadband adoption for low-income and vulnerable residents.

Actions

1) Promote the availability and use of low-cost monthly broadband programs for eligible households offered by national broadband providers.

2) Pursue relief for low-income households with the cost of broadband service via the new **Affordable Connectivity Program (2022)** https://www.fcc.gov/acp