INTRODUCTION

Access to and use of the internet has become an integral component of everyday life in the 21st century. Digital information has reshaped how individuals participate in nearly every dimension of society. It is imperative that communities leverage broadband network access to eliminate the homework gap and improve education, socioeconomic equality, telemedicine, public safety and economic development to maintain and grow the quality of life for their residents. In the wake of the COVID-19 pandemic, home broadband access that enables these benefits is more critical than ever.

The Washtenaw County Broadband Subcommittee (2017-2018), along with community leaders, suspected that broadband internet access was lacking in Washtenaw County, and that this dearth of connectivity was negatively impacting economic prosperity and quality of life for its citizens. When seeking to address the broadband gap, understanding which households have access to broadband, and at what speeds they are currently connected, is critical. All state and federal grant programs rely upon coverage data for funding eligibility. The primary existing source of coverage data, the Federal Communications Commission (FCC) Form 477, is self-reported by service providers and aggregated to the census block level. This data is unreliable and lacks the granularity needed for accurate coverage inferences.

The Washtenaw Broadband Task Force (2019-2022) was formed in April, 2019 to develop a data collection study that established accurate, granular connectivity data in much of Washtenaw County, in order to collect the coverage data needed to pursue state and federal grant funds. In addition to this information, the County sought to:

1. Gather residents’ sentiments about broadband usage and the ways in which access, or lack of access, impacts quality of life
2. Understand residents’ positions regarding broadband service pricing
3. Develop connectivity information for the County’s K12 student population
WHAT IS BROADBAND?

Broadband is defined by the FCC as a fixed internet connection that provides a minimum of 25 Mbps download and 3 Mbps upload.¹ Broadband service provides users with internet fast enough for video conferencing, schoolwork, telemedicine applications, video streaming and more.

Michigan Broadband Stats:

- Michigan ranks 30th in the nation for broadband availability.²
- 368,000 homes in rural Michigan do not have access to broadband (according to FCC data)
- 27% of Michigan students do not have access to broadband in their homes, according to FCC data.²
SURVEY DESIGN AND METHODOLOGY

The Washtenaw County Broadband Task Force partnered with Merit Network’s Michigan Moonshot team to develop and deploy a survey of 15 townships with unserved areas and community awareness outreach campaign. Survey responses were collected via a print mailing and/or an online survey.

Residents with internet access at their properties were instructed to complete a survey and broadband connection speed measurement online. Residents without internet connectivity were asked to complete and return a print survey via the U.S. Mail. After data cleanup, 4,865 online surveys and 2,325 paper surveys were collected for analysis.* This represents a very strong participation rate of about 23%, which increases the confidence in the findings (the typical response rate of external surveys is 10-15%).

SURVEY RESULTS:**

The results indicate that 64% of households in participating townships do not have access to fixed broadband at the FCC threshold of 25 Mbps download and 3 Mbps upload. Areas lacking broadband access are concentrated in the southwest corner of the County, but all participating townships have at least some areas that lack access. Additionally, at the lower threshold of 10 Mbps download and 1 Mbps upload (which is the “unserved” threshold for some grant programs) 55% of households do not have access at even this basic level. In fact, 32% of responding households reported having no home internet access at all. The two primary reasons for lack of home internet access were service unavailability at their address and high cost.

These results are in stark contrast to the previous FCC Form 477 coverage data. This previous data indicated that in the participating townships only about 1.8% of households did not have access to broadband at 25 Mbps/3 Mbps, as opposed to the 64% shown in this study. This means that the magnitude of the problem is much higher than suggested by official data.

66% of residents with internet access felt there were not sufficient internet service provider options at their homes. While users with worse access were more likely to feel there were not enough options (78% of residents with <10 Mbps), it is notable that even for users with excellent access (>100 Mbps) the majority (57%) felt there were insufficient service provider options. Residents with the lowest quality service were willing to pay the most for internet access. Of those without current broadband access, 33% were willing to pay $75/month or more for 100 Mbps, compared to 23% of users who already had some level of broadband. 78% of residents were willing to switch to a new internet service provider.
BROADBAND DENSITY:
AMONG SURVEY HOUSEHOLDS
PER CENSUS BLOCK

0-10% has broadband
10-50% has broadband
50-90% has broadband
90-100% has broadband

The map reflects the share of respondents who indicated having broadband. Using these numbers as indicators of the share of all households (including those who did not respond) that have broadband must take margins of errors into consideration, which depend on the total number of responses and the total households in an area. At the county level, the margin of error is in the 1% range. For individual townships, the margin of error is in the 2.4%-7% range. Response rates at the level of some census blocks were low and therefore imply higher margins of error. See the full report for details.

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community.
Availability by the Numbers:
The differences between coverage reported by the FCC and data from this survey are drastic. This study demonstrates that:

- 61% fewer homes have access to broadband internet speeds
- 29% fewer homes have some connectivity at speeds lower than broadband
- 32% more homes have no internet connectivity whatsoever

**POORLY CONNECTED USERS:**

- **33%**
  - were willing to pay $75/month or more for 100 Mbps

- **33%**
  - Were willing to spend $50/month or less

**USERS WITH BROADBAND:**

- **23%**
  - Of users were willing to spend $75/month or more

- **46%**
  - Of users were willing to spend $50/month or less

**RESIDENT SENTIMENT:**

- **78%**
  - 78% of residents were willing to switch to a new internet service provider.

- **66%**
  - 66% of residents felt there were not sufficient internet service provider options at their homes
THE HOMEWORK GAP AND STUDENT BROADBAND ACCESS:

Of responding households with K12 students, 57% lack broadband access. Households with students place more demands on their internet connections, with 81% of those households feeling there were not sufficient service provider options available, compared to 75% of households without K12 students. Households with students also place more value on faster connectivity - those that currently have access to service slower than 100 Mbps are willing to pay 50% more (up to $75/month vs $50/month) for 100 Mbps service versus households without K12 students.
CONCLUSION

Broadband is critical to a community’s ability to thrive and remain competitive in terms of education, economic development, talent retention, employment opportunities and population growth. Broadband within a neighborhood has been shown to increase median home values and has also been shown to contribute to lower crime rates. Much of Washtenaw County is unconnected or insufficiently connected. Connectivity data indicates a problem more stark than established FCC data suggests. Residents without broadband desire service, and connected citizens believe that more provider options are needed. Data from this study will be used to support grant applications to increase broadband availability in Washtenaw County. To view the full results of this study, visit:

washtenaw.org/broadband

TO LEARN MORE, VISIT

WashtenawBroadband.org

Merit.edu/Moonshot
Sources:


* Footnote: Only responses from Internet Service Providers (ISP) within the State of Michigan were included in this analysis. This process of ISP “filtering” excluded responses performed from a VPN connection. Duplicate responses were consolidated into a single response.

**Footnote: For detailed survey data, see the complete Washtenaw Broadband Data Collection report.

***Footnote: This figure represents households with both access and affordability challenges, in addition to those who simply prefer to not purchase broadband internet.