

**Broadband in Minnesota's East Central Region:
A regional crisis**

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Regional Broadband Overview

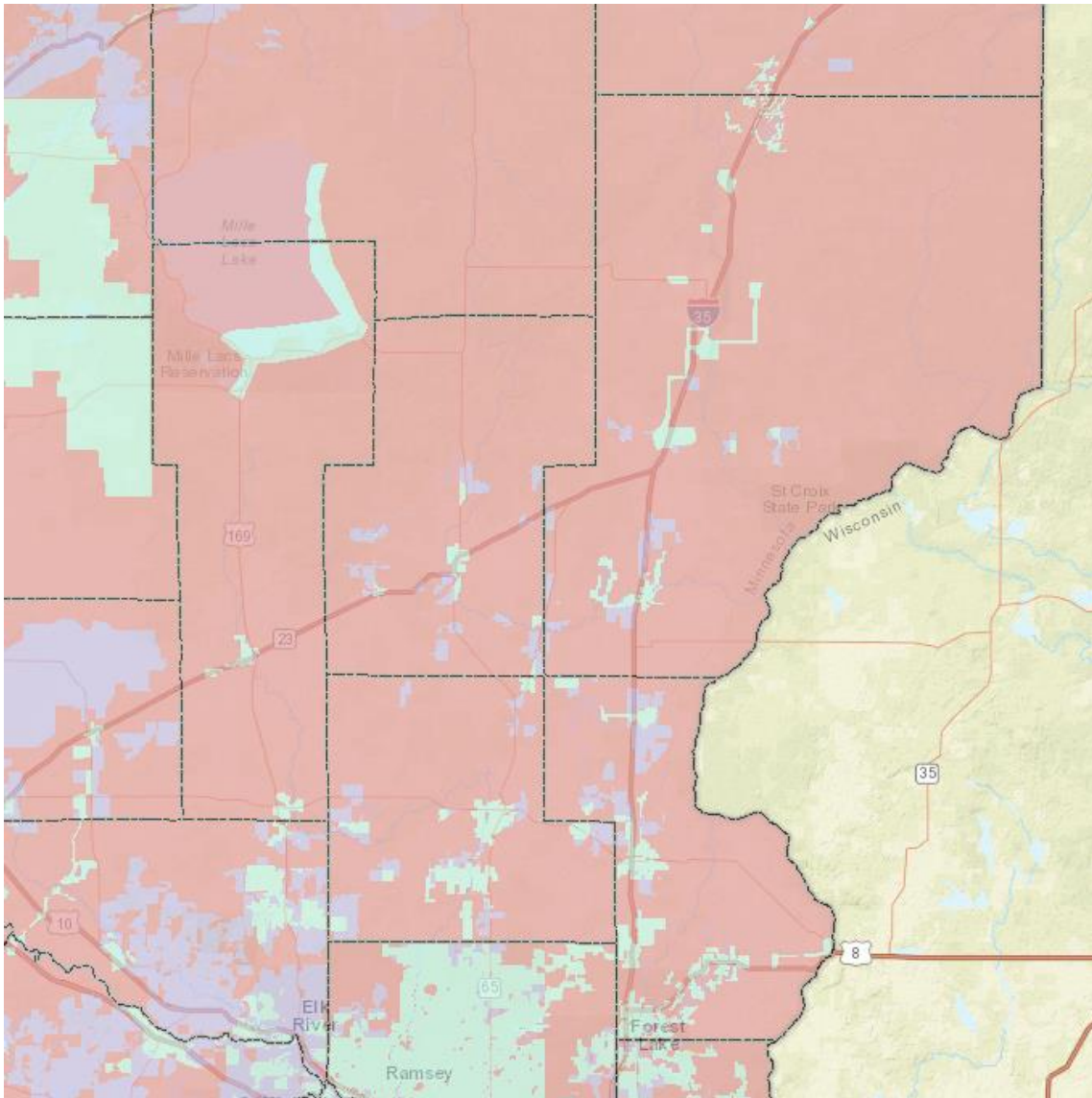
Minnesota's East Central Region includes Chisago, Isanti, Kanabec, Mille Lacs and Pine Counties. Within Minnesota, the Minneapolis-St. Paul, St. Cloud and Duluth Metropolitan Areas surround the region. In fact, Mille Lacs, Isanti and Chisago Counties are considered to be part of the MSP metro area. The east central region has many small towns and a significant rural-based population living on farms and in the woods and by lakes and rivers.

Why is quality broadband so important for the east central region?

- Many East Central residents have significant commutes for quality jobs; telework represents a significant economic development opportunity.
- According to Gartner Group, the average US family now has 13 devices that connect to the Internet in their homes; they predict that number to rise to 50 Internet connected devices by 2022.
- The average Internet-connected US household now uses an average of 200 GB of data per month; those with slow or data-capped Internet connections cannot make full use of the Internet.
- Multiple studies and anecdotal stories document the increase in value of fiber-connected homes and the general reticence of buyers to purchase a home without high speed Internet.
- Broadband Internet is the way that schools, businesses, health care and government, plus friends and family, communicate.
- While the FCC definition of broadband is now established at 25 Mb/3 Mb, be aware that this is a thirty-fold increase from 2008 and that the marketplace is delivering Gigabit (1000 Mb) connections in both urban and rural places.

The map below, provided by the Minnesota Office of Broadband, illustrates the overall broadband situation in the East Central Region. Areas in red are considered "unserved" and lack wired broadband of at least 25 Mb download and 3 Mb upload, generally shown as 25/3. Areas in purple show areas categorized as "underserved" reflecting availability broadband services in excess of 25/3, but less than 100/20. Areas in green have broadband available in excess of 100/20.

These categories reflect federal broadband standards and current state goals. The Federal Communications Commission has set 25/3 as the minimum definition of broadband services. The State of Minnesota has established two goals: 1) that all Minnesotans should have access to 25/3 by 2022 and 2) that all Minnesotans should have access to 100/20 by 2026.



DEED OBD Border to Border Grant Eligibility Map

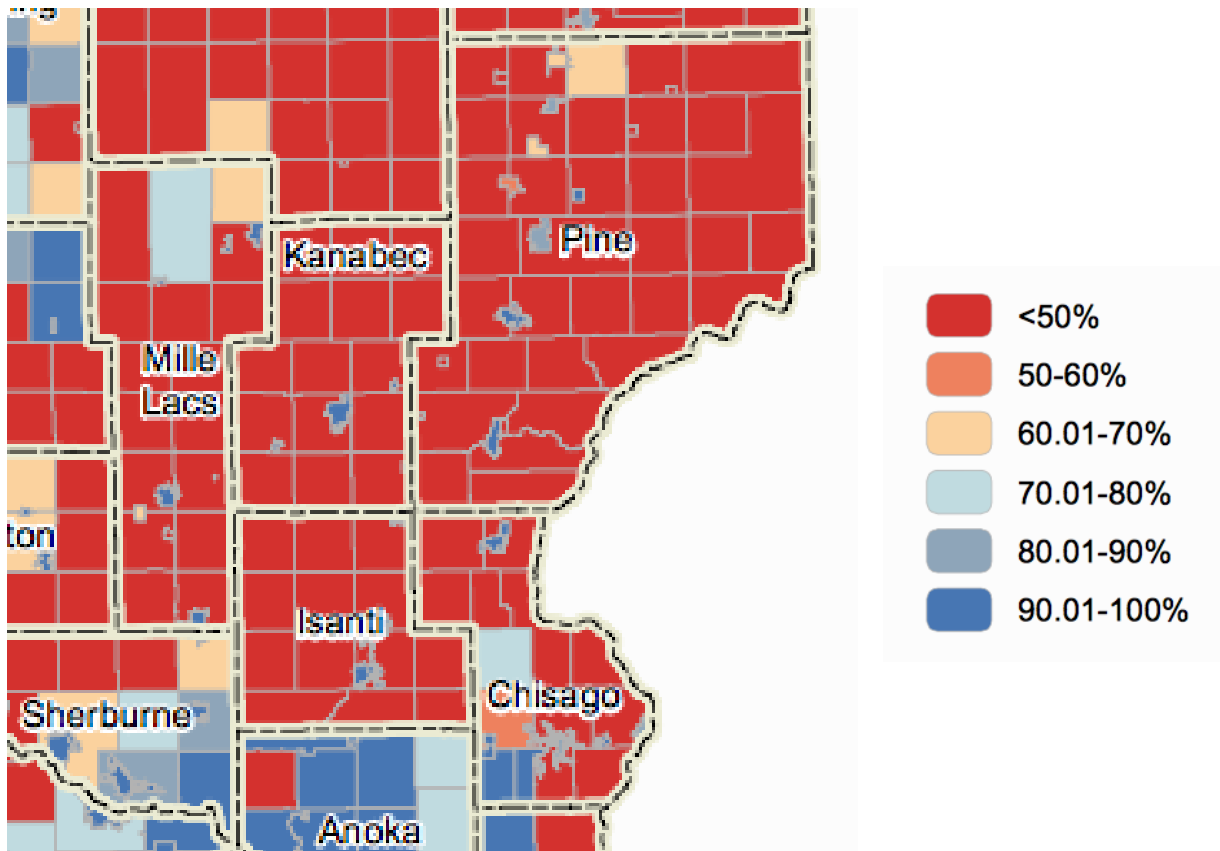
Red = Unserviced (less than 25/3)

Purple = Underserved (between 25/3 and 100/20)

Green = Served (More than 100/20)

In general, the areas served via cable modems through companies like Midco and SCI have services that meet the 2026 goal. Areas served by DSL may meet the 2022 goal though the services available are significantly affected by a location's distance from DSL electronics. Unserviced areas may have DSL services with much slower speeds than 25/3, or may have access to a mix of fixed wireless, cellular or satellite broadband services.

The map below highlights 25/3 broadband availability at the township level. It is evident that the vast majority of townships lack broadband at this level. It is likely that availability is well below the bottom category of 50%.



The table below illustrates the lack of broadband services in the region in comparison to other rural Minnesotans. All five counties are in the bottom third of Minnesota counties; four of five are in the bottom 20 percent.

| County | County Rank at 25 Mb/3 Mb | Percent Wireline Broadband (25Mbps/3Mbps) | Percent Wireline Broadband (100Mbps/20Mbps) | Percent Broadband (1Gbps/1Gbps) |
|---------------|----------------------------------|--|--|--|
| Chisago | 63 | 65.15 | 62.32 | 0.00 |
| Isanti | 70 | 54.33 | 49.28 | 0.02 |
| Kanabec | 84 | 34.48 | 26.59 | 0.00 |
| Mille Lacs | 77 | 47.57 | 47.07 | 0.00 |
| Pine | 82 | 39.70 | 36.95 | 0.00 |
| Rural MN | | 73.06 | 52.46 | 14.24 |

Broadband Initiatives within the East Central Region

Regional leaders have been actively working to improve broadband within the region for many years. This work has included both efforts to improve infrastructure as well as to spur market development to make the region more attractive for investment.

Regional residents want broadband and recognize its importance. In a 2015 survey to which over 800 Chisago County residents responded, the said:

- 27% already use the Internet to operate their businesses and 31% said that they would start a home business with better Internet
- 35% said that they would telecommute with better Internet service
- 45% would use Internet for educational purposes
- 86% would use better Internet for web surfing and social networking; 20.4% would access tele-health; and 79.8 % would get entertainment, all improving the quality of life for our citizens.

Examples include:

- ECMECC, the region's school cooperative, leveraged its purchasing power to spur Midco's and SCI's investment in regional fiber optics. This project enabled these companies to build fiber between communities, enabling advanced cable broadband services while facilitating delivery of Gigabit services to the region's schools.
- NetPlan – Pine City was the first community to create a broadband plan in collaboration with the MN State Department of Administration. This plan spurred a public investment to bring fiber optics to the city's industrial park.
- Blandin Broadband Communities – Chisago, Kanabec and Mille Lacs Counties and the Mille Lacs Band of Ojibwe have each participated in this program to spur broadband deployment and use. Each community created a team, conducted community surveys and visioning processes, developed and implemented community broadband training programs, created public access sites and many other projects.
- Regional entities collaborated to host two regional broadband summits to bring key stakeholders, including providers, to the discussion. Chisago County has hosted its own broadband summits as well.
- Feasibility studies – Kanabec and Mille Lacs Counties hired consultants to conduct broadband feasibility studies; an Isanti County feasibility study is

now underway. As a result of these studies, each county continues to seek private – public partnerships with existing or prospective providers for incremental and/or countywide solutions.

- Chisago County’s Sunrise Township partnered with CenturyLink to apply for and receive DEED funding to upgrade CenturyLink’s network to Fiber to the Home enabling Gigabit level services. The township sold bonds and CenturyLink contributed federal Connect America Fund dollars and other corporate capital. A similar project for Fish Lake Township was submitted to DEED for funding in September 2017.
- Both CenturyLink and Frontier have made CAF2 funded improvements in the region. It is difficult to understand the reach and capabilities of these improved networks. An analysis by the regional broadband team is underway.

Barriers to Broadband Success in East Central Minnesota

Despite their best efforts, the east central region lags behind other regions in Minnesota in solving broadband deficiencies. There are significant barriers to the successful deployment of broadband services in the region, including:

- The counties in the region lack the financial capacity to provide significant public sector financial support to prospective broadband projects.
- The demographics of the region are challenging with high percentages of rural poverty. Affordability of broadband is a significant issue, thus negatively impacting the potential profitability of prospective network operators.
- The region lacks ready access to provider partners, both incumbents and prospective competitors.
 - In general, the incumbent telephone providers – CenturyLink and Frontier – have generally not shared their CAF2 plans to improve services. Centurylink did work with Sunrise Township to obtain DEED funds to upgrade planned CAF2 network improvements to FTTH. A similar application involving Fish Lake Township is under review by DEED. Both townships are located in Chisago County.
 - Midco and SCI have generally limited their expansion plans to relatively densely populated areas directly adjacent to their existing service areas.
 - Competitive providers, including telephone cooperatives and other aggressive private providers like Hiawatha Broadband, are located some distance away from this region. These companies have many

opportunities to expand with other community partners in other parts of the state.

- As evidence of the lack of provider interest, few applications have been submitted to DEED for funding. Only two regional projects totaling just under \$1.6 million have been funded of the \$65 million dollars distributed.
- Detracting from competitive provider interest, significant portions of the region are eligible for CAF2 (Connect America Funds) available to both CenturyLink and Frontier. There is concern from competitive providers that the incumbents will strategically use these funds to squelch any competitive challenges. Community broadband advocates fear that without a competitor, the region will see only marginal and inconsistent improvements by incumbents leaving the region still mostly underserved. Neither Frontier nor CenturyLink share their specific CAF2 deployment plans. The map below illustrates the CAF2 eligible areas, but there is no commitment of deployment.



- While wireless technologies represent an option, large areas of the region have thick pine forests that hinder wireless deployments. In addition, modern wireless networks require significant fiber to the tower to deliver speeds meeting either state goal. Competitive fiber pricing in the east central region is in short supply, which hinders small wireless broadband providers. The Mille Lacs County feasibility study recommended a fiber-wireless hybrid solution.

What we are seeking...

- Recognition by all of our leaders – government, business, health care and community:
 - That a modern broadband infrastructure and affordable broadband services are a requirement for an economically competitive environment and a high quality of life.
 - That the rural portions of the East Central Region will not attract adequate private sector broadband investment without government assistance.

- Commitment from our legislators to:
 - Long-term funding of broadband through the Border-to-Border grant program. As more areas see their broadband problems addressed, the political will to address this issue will diminish.
 - Overcome any legal barriers to the use of state bonding as a tool to spur broadband partnerships as broadband infrastructure is a long-term asset

- Commitment from our county, city and township elected officials to play an active role in spurring broadband deployment using all financial, regulatory and political tools to move projects forward and over the finish line.

- Better faith efforts from existing and prospective broadband providers to help us move forward on broadband deployment, including:
 - Planned improvements by incumbent providers
 - Financial hurdles of prospective providers so that realistic and successful models of partnership can be developed in a straightforward fashion.