

Office of Broadband Development

2022 Annual Report

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Introduction and 2022 Highlights

The Office of Broadband Development (Office of OBD) is located in the Minnesota Department of Employment and Economic Development (DEED). The Office was created by statute in 2013 and just completed its ninth year of work on its mission to improve access to broadband service that meets the state's speed goals, serving the needs of anchor institutions, and expanding the skills and knowledge needed to use these services.

Responsibilities of the OBD are outlined in statute at Minn. Stat. § 116J.39. Border-to-Border high speed Internet access is the goal throughout Minnesota. The Broadband Office connects communities, policy makers, providers, regional support organizations, and state and federal programs with each other and the resources they need to improve broadband access and use in Minnesota.

The need for ubiquitous broadband access continued at a critical level as the COVID-19 pandemic did not let up in 2022. Residents and businesses continued to rely on broadband connectivity to access telehealth services, for remote learning, to telework, to engage in commerce, to participate in government, and to remain connected to family and friends.

2022 milestones for the Office included:

- In December 2022, awarded 61 projects totaling \$99,592,711 with federal and FY23 state general revenue funds
- Certified 6 Telecommuter Forward! Communities
- Updated broadband availability maps in May and October
- Provided broadband availability analysis to over 126 constituents
- Participated in state and national meetings and conferences to continue to learn about and/or promote the broadband resources available from state and federal sources
- Met with local groups to provide technical assistance on broadband issues, including the state grant program
- Engaged Minnesota Congressional staff and federal agencies in work to maximize impacts of federal broadband programs in Minnesota
- Provided administrative support to the Governor's Task Force on Broadband
- Supported policy makers on broadband discussions throughout the 2022 legislative session
- Updated the broadband availability by township and by county maps to continue to engage township supervisors and county commissioners in discussion of how to improve broadband availability to their residents
- Updated the broadband availability by school district map to continue to document the homework gap in Minnesota

Border-to-Border Broadband Development Grant Program

FY22/FY23 Grant Program Update

In the 2022 legislative session, \$25 million in state general revenue funds were allocated to the Border-to Border Broadband Infrastructure grant program for FY23. Additionally, in the 2021 Special Session, the legislature had

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directed that for FY22 and FY23, the grant program would be funded at \$70 million with federal American Rescue Plan Act (ARPA) Sec. 604 Capital Projects Funds (CPF). Awards totaling \$99,592,711 were announced in December of 2022 for 61 projects which will bring broadband service at speeds of at least 100Mbps download/20Mbps upload to approximately 33,091 locations in the state.

FY24 Grant Program Information

In the 2022 legislative session, the legislature directed an additional over \$60 million of federal ARPA funds to be used for broadband programs of which \$42 million will be available for Border-to-Border grants. Additionally in the 2022 session, the legislature allocated \$25 million in State General Revenue Funds to the Border-to-Border grant program for FY24.

With the \$25 million in State General Revenue Funding and \$42 million in Capital Projects Funds, DEED opened the application window for the 2023 grant round on December 19, 2022. A maximum of \$67 million will be available for grants this round, including up to \$30 million for a Low-Density Pilot program. The latest information available on the Border-to-Border Broadband grant program is posted on the OBD website at:

Broadband Grant Program / Minnesota Department of Employment and Economic Development (mn.gov)

For reference, the below table summarizes the grant rounds for the Border-to-Border Broadband Infrastructure Grant program, the first six rounds were funded with state general fund appropriations. The seventh round was funded with a combination of both state general fund revenues and federal American Rescue Plan Act (ARPA) Sec. 604 Capital Project Funds (CPF):

Table 1: Border-to-Border Broadband Infrastructure Grant Program seven-year summary

Year	Applications Received	Applications Awarded	% Of Applications Funded	Amount Requested	Amount Awarded	Number of Locations Served
2014	40	16	40%	\$44,215,644	\$18,670,337	6,333
		<u> </u>				
2015	44	15	34%	\$29,063,436	\$11,008,366	4,098
2016	57	40	70%	\$54,228,825	\$29,040,896	16,708

¹ The difference, approximately \$18 million, is being used to fund the \$15 million Line Extension Connection program discussed below, and the remainder is to support grant administration.

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2017	70	39	56%	\$50,348,055	\$26,475,556	12,202
2019*	80	30	37%	\$67,809,312	\$23,270,933	10,938
2020	64	39	61%	\$42,038,097	\$20,645,425	6,922
2022*	130	61	47%	\$189,853,780	\$99,592,711	33,091

^{*}There was no grant round in 2018 as no appropriation was approved for FY19 and there was no grant round in 2021 due to no appropriation and a delay in federal approval of Capital Projects Funds Program Plans.

Telecommuter Forward! Community Certification Program

The Office launched the Telecommuter Forward! Community Certification Program in December 2019 and certified 29 communities in the initial year. In 2021, an additional 12 communities were certified. In 2022 six more communities were certified. Telecommuter Forward! certification recognizes communities that meet criteria for promoting telecommuting opportunities in partnership with broadband providers, economic development professionals, and OBD. Program guidance is provided by Minn. Stat. §116J.9923

Low-Density Pilot Program

In the 2022 legislative session, the legislature created a new program within the framework of the traditional Border-to-Border Broadband Grant Program called the Low-Density Pilot Program. The purpose for the pilot program is to address those areas of the state where a 50 percent funding match is not adequate to make a business case for the extension of broadband facilities. Grants awarded under this section must follow requirements of the Border-to-Border program but may fund up to 75 percent of the total cost of a project and awards may be up to \$10 million per project (versus the 50 percent and \$5 million cap in the traditional Border to-Border grant program). OBD is required to submit a report by December 31, 2023, to the chairs and ranking minority members of the senate and house committees with primary jurisdiction over broadband policy and finance analyzing the impacts of this pilot program on the number and amounts of grants awarded for broadband infrastructure.

To fund this pilot program, the legislature directed that up to \$30 million could be used from either the \$60,703,000 appropriated to broadband from the American Rescue Plan Act Capital Projects Fund 2022 allocation or from the federal funding for broadband that Minnesota is expected to receive from the Infrastructure Investment and Jobs Act (or Bipartisan Infrastructure Law). To offer this program as soon as possible, and to ensure that OBD can meet the December 31, 2023, reporting requirement, the Low-Density Pilot Program was included in the Request for Proposals announced on December 19, 2022 and will be funded with ARPA Sec. 604 Capital Projects Funds. Applications are due no later than March 2, 2023, and awards are anticipated to be announced by early Summer 2023. The application for this program includes completing the

application for the traditional Border-to-Border Grant Program (except for the questions and points for requesting less than the 50 percent match) plus an addendum that requires documentation to support the need for the Low-Density Pilot Program Grant and a Low-Density Fiber Route Map.

Based on inquiries received, and the lack of applications from certain areas of the state over the seven grant rounds that the traditional Border-to-Border grant program has been offered, OBD anticipates high demand for this pilot program. OBD will include information on the number of applications received, funding requested, and projects awarded in our 2023 annual report, with more detailed information being available in the legislative report required on the Low-Density Pilot Program that is due at the end of 2023.

Line Extension Program

The 2022 legislature created a second new program called the Line Extension Program. More details are available on OBD's website here: mn.gov/deed/programs-services/broadband/extension/. The purpose of the program is to award grants for the extension of existing broadband infrastructure to unserved locations. This program will address those situations where the excess construction charge faced by a home or business to extend service from the road to their premise is a barrier to subscribing to monthly broadband service or for those locations where fiber is close by but needs to be extended further down the right-of-way and to the premise. The legislature directed that up to \$15 million from the 2022 ARPA Capital Projects Fund appropriation could be used for this program. The grant is awarded to the broadband provider (not the household or business) who successfully bid in the reverse auction. Grants issued under this program must not exceed \$25,000 per line extension.

As required by the new statute, OBD did open this program by the November 1, 2022, deadline. Residents or businesses can register their address on the portal available on the above referenced website or contact OBD by telephone and request the office to enter their information into the portal or to mail them a paper copy of the form (upon return receipt of the form, OBD staff enters the information into the portal). As of December 31, 2022, 523 applications have been submitted into the portal.

As provided for in statute, every six months OBD will send the list of addresses received into the portal to each broadband provider offering service in Minnesota. Providers then have ten days to notify OBD that they can already provide service to any of the addresses on the list. OBD will then contact the people who registered those addresses to let them know the name of the broadband provider that can offer them service and any discounted pricing plans available.

For those address that are not served by a provider and not in an area that will be built with an already awarded Border-to-Border or Low-Density Broadband grant project, OBD will hold a 60-day reverse auction where broadband service providers can bid to extend service to one or more of the addresses on the list. In their bid, providers will identify the grant amount requested to extend the broadband service. Within 60 days of the auction closing, OBD will select the bids that request the least amount of financial support from the state and that are a cost-effective expenditure of state resources. OBD will then enter into line extension agreements with each winning bidder. Winning bidders will have one year from the date the contract is signed to complete the

broadband line extension. The winning bidder must build broadband service that offers speeds of at least 100 Mbps download and 100 Mbps upload.

Minnesota Broadband Mapping Program

The OBD completed its eighth year of independently mapping broadband access and speeds across Minnesota in 2022. This work continues to be performed through a contract with Connected Nation, a non-profit organization that has considerable experience working with Minnesota broadband providers. The requirement to conduct these mapping activities was codified into law (Minn. Stat. §116J.397). It should be noted that funding for mapping activities comes from the administrative allowance of the Border-to-Border Grant program per Minn. Stat. § 116J.396 at Subd. 2(3). With the grant program being funded with federal ARPA monies for at least the next two years, OBD will also need to secure federal approval to use those funds for broadband mapping in order to continue the mapping program.

The state broadband speed goals are articulated at Minn. Stat. § 237.012. They call for achieving Border-to Border access by all homes and businesses in the state to a service that offers speeds of at least 25 Mbps download by 3 Mbps upload by the year 2022. A second goal, to be achieved by the year 2026, seeks to have broadband service offering 100 Mbps download and 20 Mbps upload from at least one provider available to all homes and businesses.

The most recent round of data collection shows that progress is being made toward these goals as measured from 2016 when the goals were adopted. Note that the most recent data shows a decline in availability at the 25 Mbps download and 3 Mbps upload speed and that is largely due to a decision to count habitable houses instead of occupied houses as was done in prior years. As noted in the discussion below regarding the FCC's mapping initiative, data based on census blocks (the current FCC methodology) overstates broadband availability. The more granular data generally collected by Connected Nation better reflects what is actually available at the customer location.

Table 2: Historic Overview of Broadband Availability, Statewide and Non-metro at 2022 and 2026 Broadband Speed Goals:

	2016	2017	2018	2019	2020	2021	2022
Statewide 25/3	87.53%	88.11%	91.13%	92.79%	92.47%	91.79%	92.03%
% of HH:	covered						
# of HH without:	260,000	248,000	185,000	150,000	157,000	171,000	198,000
	HH w/o						

Non-metro 25/3

% of HH:

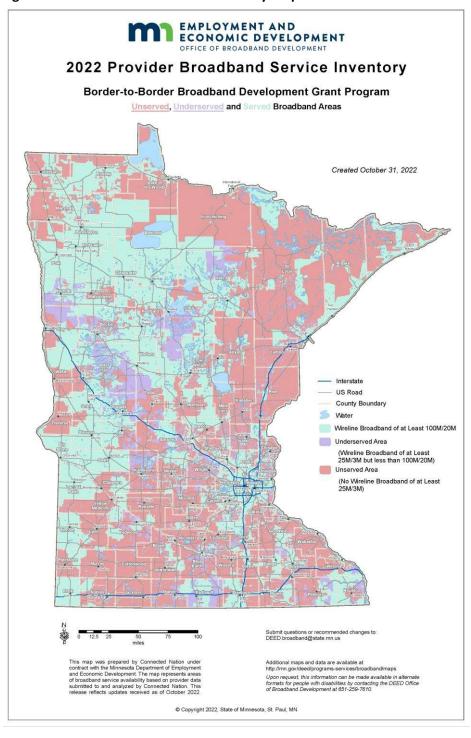
72.03% 73.45% 80.07% 83.92% 83.10% 81.99% 74.42% covered covered covered covered covered covered

of HH without: 251,000 238,000HH 179,000 144,000 152,000 161,000 180,000 HH w/o HH w/o HH w/o HH w/o

Statewide 100/20 %							
of HH:	68.53%	70.04%	74.11%	86.10%	87.75%	88.52%	88.29%
	covered						
# of HH without:	657,000	625,000	540,000	290,000	256,000	240,000	291,000
	HH w/o						
Non-metro 100/20							
% of HH	49.33%	52.88%	60.05%	68.74%	72.53%	75.05%	62.46%
	covered						
# of HH without	455,000	423,000	358,000	280,000	246,000	224,000	264,000
	HH w/o						

The data can also be viewed in map form. The below 2022 Broadband Service Inventory map depicts where broadband services are available at the statutory goal of 25 Mbps download by 3 Mbps upload (25/3) and 100 Mbps download by 20 Mbps upload (100/20). This map is also used for preliminary screening for the Border-toBorder Broadband Grant program. As state-funded grant projects are completed, the results are reflected on this map (for example, projects in Big Stone, Rock, and Swift Counties are large enough areas to be evident on the map).

Figure 1: 2021 Broadband Service Inventory Map

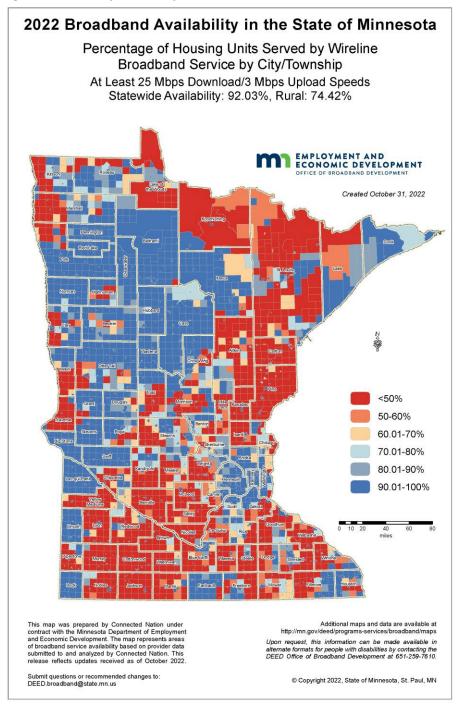


Above map also available on OBD website: Infrastructure Grants Map

The below township heat maps were initially created in 2016 and have been updated with each subsequent data collection process. This configuration provides a clearer view of where the actual areas of unserved or underserved territory are located within each county. The first map shows broadband availability at the 25

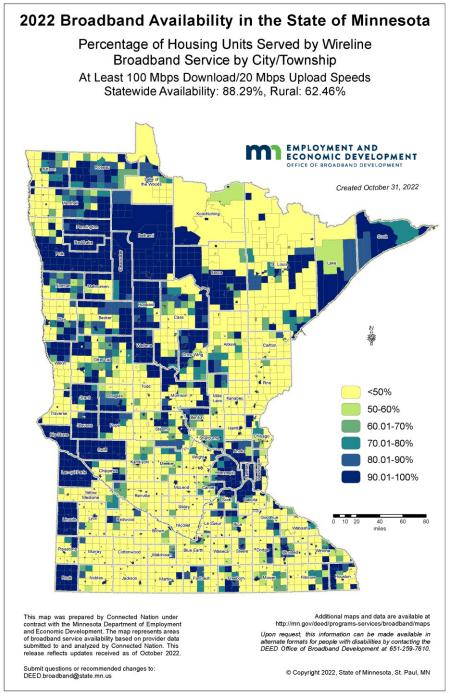
Mbps download and 3 Mbps upload (2022 goal) speeds and the second township maps shows availability at 100 Mbps download and 20 Mbps upload (2026 goal) speeds.

Figure 2: Township Heat Map of Percent Households Served at 2022 Broadband Speed Goal



Above map also available on OBD website: With speeds of at least 25Mbps download and 3Mbps upload - 2022 goal (Township map)

Figure 3: Township Heat Map of Percent Households Served at 2026 Broadband Speed Goal



Above map also available on OBD website: With speeds of at least 100Mbps download and 20Mbps upload - 2026 goal (Township map)

Additional maps and data are available on OBD's website at Maps and Data / Minnesota Department of Employment and Economic Development (mn.gov)

As of 2022, 88.29 percent of households had access to service that meets or exceeds the state's speed goal for 2026, which is 100 Mbps download by 20 Mbps upload from at least one provider. When looking at just nonmetro areas, that number drops to 62.46 percent. While the broadband grant program has largely focused on achieving the statutory speed goals, investments can only be funded under state law if they are scalable to deliver speeds at 100 Mbps download by 100 Mbps upload. The 100 Mbps symmetrical speed requirements are also included in the new federal funding guidelines. The increasing demand for upload speeds faster than 20 Mbps is also worth assessing since the 100 Mbps download/ 20 Mbps upload speed goals were first established in state law in 2016. With the pandemic driving more "production" to the home (telework, videoconferencing, distance learning, telehealth, uploading content/work product) which all require faster upload speeds, and federal funding requiring the availability of broadband speeds of 100Mbps symmetrical upon project completion, OBD will be focusing on awarding grants to projects that exceed the state's 2026 broadband speed goals. The Office will continue to track this data and produce both a county and township level map of this information in 2022.

Next Steps - Mapping

In 2022, OBD engaged in a new contract to continue the state's broadband mapping program (and assuming federal funding can be used to pay for the state mapping program). The contract has an initial two-year term with the ability to renew in one year increments up to a total of five years. This will enable OBD to revise as necessary to ensure that the data provided continues to meet the state's needs in light of federal funding from the ARPA Capital Projects Fund and the Infrastructure Investment and Jobs Act (IIJA) and incorporate data from the new broadband maps expected from the FCC.

At the federal level, the FCC is in the process of revising the manner in which it conducts broadband mapping as it was required to do in the Broadband Deployment Accuracy and Technology Availability (DATA) Act passed in March 2020 and subsequently funded in the December 2020 Consolidated Recovery Act. Given federal contracting requirements and the revised methodology that will result for broadband providers to submit data to the FCC, and the time needed to compile the data and review for accuracy, the new FCC maps were still under development in 2022. This date is important as the formula to distribute the broadband funding to states contained in the IIJA is tied to the availability of the new FCC broadband availability maps.

In December 2022, OBD entered into a service agreement with the Minnesota Geospatial Information Office (MNGeo) to develop a state address level data set for comparison to the new FCC broadband availability map and for determining locations within the state that are or should be serviceable for broadband service. This data set will enhance OBD's ability to validate FCC's mapping and measure progress toward meeting the state's broadband goals. The partnership also ensures the State owns the data set which provides for uses beyond broadband such as Next-Gen 911.

Broadband Equity, Access and Deployment Planning

The Infrastructure Investment and Jobs Act (aka Bipartisan Infrastructure Law) included approximately \$67 billion for broadband nationally. One program authorized with that funding is the Broadband Equity, Access and Deployment (BEAD) program under which each state will receive a minimum of \$100 million with an additional allocation based on the number of unserved locations (locations lacking broadband service of at least 25Mbps download and 3 Mbps by a wireline or fixed wireless over licensed spectrum technology). As part of each state's initial \$100 million, the state could apply for and receive up to \$5 million if it undertook an effort to create a Five-Year Action Plan.

The Infrastructure Investment and Jobs Act was signed into law on November 15, 2021. On May 13, 2022, the National Telecommunications Information and Administration (NTIA) of the U.S. Department of Commerce, the administering entity for BEAD funding, issued a Notice of Funding Opportunity (NOFO). The NOFO required each eligible entity (the state) to notify NTIA if it intended to participate in the BEAD program, and Minnesota Governor Tim Walz did submit a letter and named the Office of Broadband Development at DEED as the point of contact. By the deadline of August 15, 2022, OBD did submit a request for Initial Planning Funds, committing itself to preparing a Five-Year Action Plan. The request for Initial Planning Funds was approved by NTIA in November and the Five-Year Plan is due July 12, 2023.

BEAD funds, per the NOFO, are to be dedicated to three priority uses: 1. deployment of broadband infrastructure to unserved locations; 2. deployment of broadband infrastructure to underserved locations; and 3. deployment of broadband infrastructure of at least 1Gbps to community anchor institutions. If there are funds remaining after the three priority uses have been satisfied, a state can look to fund non-deployment programs. Minnesota's initial planning budget as submitted to NTIA, was devised to assist in the development and implementation of the Five Year Action Plan and includes funding to ensure adequate OBD staff (funding for the director, a GIS staff person, a grants manager and an outreach coordinator), to document serviceable addresses, supplemental funding to the Minnesota Department of Natural Resources and/or the Minnesota Department of Transportation to assist in their increased workload to process the higher number of permit requests related to broadband deployment until and unless they can get legislative approval for increased staffing, and potentially a contract to develop the cost to serve the identified un- and underserved locations remaining in the state.

While the exact number and location of unserved and underserved locations is not yet known for Minnesota, nor is the allocation above the \$100 million that each state will receive, preliminary calculations indicate that all of Minnesota's BEAD funding will need to be used to achieve the first two priority goals outlined in the NOFO. As such, Minnesota's Five-Year Action Plan will address how best to achieve the priority goals.

Work achieved in 2022 in preparation for the BEAD funding coming to Minnesota included the submission of the Letter of Intent; OBD being named as the Point of Contact; the submission of the Letter of Intent; the submission, curing and eventual approval by NTIA of a budget narrative and budget for the creation of the Five Year Action Plan; appointment by the Governor of Director Bree Maki; posting and interviews for the grants manager; preparing the job announcement for an outreach coordinator; planning for a Kick-Off event for both BEAD and Digital Equity (discussed below) to occur on January 25, 2023; and continued stakeholder engagement by OBD and now required as part of the development of the Five-Year Action Plan.

In 2023, work will continue on the development of the Five-Year Action Plan including the Kick-Off event, continued stakeholder engagement (including OBD's responsibilities with regard to the Governor's Task Force on Broadband, the DEED Commissioner's regular meetings with broadband leaders, and participation in legislative hearings), onboarding a new grants administrator, hiring an outreach coordinator, posting and hiring a GIS specialist, and the writing of the Five-Year Action Plan. 2023 should also include NTIA's notice of funding and OBD work on its initial proposal for that funding. The legislature has directed that federal funding for broadband directed to Minnesota from the IIJA should be distributed through the Border-to-Border Broadband Grant Program. As such, the Five-Year Action Plan (as well as the Initial proposal required 180 days after Minnesota's full allocation is known) will follow the directives contained in state law.

The chart below, created by NTIA, provides a visual on the estimated timeline for BEAD funding:



In summary, while work related to BEAD funding began in 2022, significant effort will be required of OBD in 2023 to more fully develop the plan for that funding with expenditures extending to 2026 and beyond.

Digital Equity Planning

In addition to BEAD, the Bipartisan Infrastructure Law also authorized the Digital Equity Act (DEA), appropriating \$2.75 billion to support digital equity investments nationally. As articulated in the bill text, "digital equity" is defined as "the condition in which individuals and communities have the information technology capacity that is needed for full participation in the society and economy of the United States." In alignment with this definition, DEA funding supports states, tribes, and territories in developing and implementing strategies that help residents access technology in equitable ways. This means addressing affordability of internet service, availability of internet-enabled devices, and individuals' digital skills. Nationally, from DEA's \$2.75 billion total, \$60 million is allocated to support states, tribes, and territories in developing digital equity plans over the course of one year; \$1.44 billion supports states, tribes, and territories in implementing their approved plans over a subsequent five-year period; and \$1.25 billion is set aside for NTIA to administer separately through a competitive grant process likely beginning in 2024.

On May 13, 2022, NTIA issued the Notice of Funding Opportunity (NOFO) addressing the \$60 million portion of DEA funds earmarked for the development of digital equity plans. At this time, NTIA communicated the amount of planning grant funds each state could anticipate receiving. These distributions were determined using the following formula:

- 50 percent based on the population of each state in proportion to the eligible population nationally
- 25 percent based on the number of individuals in each state who are members of "covered populations"² in proportion to the total number of individuals nationally who are members of covered populations

² DEA covered populations are as follows:

- (1) individuals living in households where the household income is not more than 150% of an amount equal to the poverty level;
- (2) aging individuals 60 years of age and older;
- (3) incarcerated individuals, other than individuals who are incarcerated in Federal correctional facilities;
- (4) veterans;
- (5) individuals with disabilities;
- 25 percent based on the comparative lack of availability and adoption of broadband service in each state relative to all states

Through this formula, Minnesota's DEA planning grant allocation totals \$881,905.10. These DEA planning grant funds, per the NOFO, must be used to develop the state's digital equity plan and/or make subgrants to entities that will assist in the development of the plan. NTIA has made it clear in further clarifications that DEA planning grant funds cannot be used to implement or pilot digital skills or access programs. Minnesota's planning grant application was submitted on July 12, 2022, naming OBD as the administering entity of the funds. The performance period for this grant is December 1, 2022 to November 30, 2023, and the completed digital equity plan is due to NTIA on this latter date.

In 2022, the following objectives were completed in preparing for and receiving DEA funding: From January through April, OBD convened three digital equity meetings bringing together representatives from several state agencies; in July, OBD submitted the DEA planning grant application and conducted interviews for a new 1.0-FTE position, Digital Equity Program Lead, to oversee the DEA planning process; in August, the Digital Equity Program Lead began working at DEED; in November, the Digital Equity Program Lead and OBD Executive Director attended a two-day DEA technical assistance workshop in Louisville, KY to receive resources that will support planning activities; on November 17, NTIA approved the DEA planning grant application; and in December, OBD submitted additional documentation to NTIA to satisfy two specific award conditions. Throughout this time, work has been underway to identify key partners and strategies that will move the DEA planning process forward in 2023.

OBD's DEA work in 2023 will focus almost exclusively on preparing, revising, and submitting the state's digital equity plan to NTIA. The plan must address the eight covered populations stated previously and has fifteen required sections, including but not limited to a state digital equity vision statement; a statewide inventory of digital equity assets; the identification of digital equity barriers faced by covered populations; potential digital equity strategies to support technology access for covered populations into the future; and measurable goals for the state's future digital equity activities. OBD will facilitate the gathering of this data and insight through the following primary activities:

- Encouraging cities, counties, townships, and organizations serving covered populations to form and register Digital Inclusion Planning Teams. These teams will create a network for OBD to draw input from throughout the planning process
- Awarding mini grants to Digital Inclusion Planning Teams to support their efforts in local digital equity data collection
- (6) individuals with a language barrier, including English language learners and individual with low literacy;
- (7) individual who are members of a racial or ethnic minority group; and
- (8) individuals who reside in a rural area.
- Hosting regional gatherings to solicit feedback on a draft digital equity plan

While the groundwork for the DEA planning grant began in 2022, significant effort will be required throughout 2023 to craft the state's digital equity plan in full by the November 30, 2023 deadline. After NTIA approves this plan, OBD will apply for additional DEA funds to implement the strategies highlighted in the plan.

Connectivity for Community Anchor Institutions

In 2022, OBD engaged in a new contract to continue the state's broadband mapping program. The contract has an initial two-year term with the ability to renew in one-year increments up to a total of five years. This will enable OBD to ensure the mapping data provided meets the state's needs in light of federal funding from the ARPA Capital Projects Fund and the Infrastructure Investment and Jobs Act (IIJA). OBD will also be able to incorporate data from the new broadband maps expected from the FCC and use this dataset to support the BEAD and DEA planning processes. The BEAD NOFO also provides as a third priority the ability to use that funding to ensure gigabit connectivity to Community Anchor Institutions (CAIs). Therefore, if Minnesota does not use all of its BEAD allocation (amount still unknown) for the first two priority uses (connecting all unserved and underserved homes and businesses), funding would be available for ensuring gigabit connectivity to CAIs.

K-12 Connectivity Update

The COVID-19 pandemic fundamentally changed the role and significance of high-speed internet service and digital equity in K-12 classrooms. In 2022, the Office continued convening the K-12 Connect Forward work group. Launched in 2016, the Minnesota K-12 Connect Forward Initiative is a joint partnership between the Minnesota Department of Education (MDE), the Department of Employment and Economic Development (DEED), the national non-profit Connected Nation, EducationSuperHighway (which has shifted its focus to getting students and teachers connected where learning frequently occurs -- in the home), and representatives from the Minnesota Education Technology Network, Minnesota School Board Administrators, Minnesota School Superintendents, Minnesota Rural Education Association, and the Minnesota Association of Charter Schools. The group meets monthly to share information and ideas to assist in addressing the need for all students and

teachers to have access to scalable infrastructure, high-speed, affordable bandwidth, and ubiquitous access for distance learning. The education representative on the Governor's Task Force on Broadband participates in the K-12 Connect Forward work group and relays information between the two groups.

The K-12 Connect Forward work group has frequently discussed the need for the state to fully fund Telecom Equity Aid (TEA), which helps overcome the geographic disparity in pricing that exists in providing broadband access to districts across the state. The work group has also discussed the need for more resources, such as dedicated K-12 telecommunications staff at MDE for school personnel to access for information on the federal E-Rate program, mitigate cybersecurity issues, stay current on instructional technology, and enhance digital equity and digital skills resources. Both of these measures are formal recommendations of the Governor's Task Force on Broadband in its 2022 annual report.

In 2023, the K-12 Connect Forward work group looks forward to exploring new data recently collected by MDE. As part of its annual K-12 data collection initiative, MDE posed new questions in 2022 addressing K-12 students' home access to technology. These digital equity data counts include measures of device availability in the students' homes, home internet availability for students, and whether these devices and connections are robust enough to support the students' at-home learning. In the future, OBD can use this data to help school districts, community partners, internet service providers, public libraries, and local government units identify areas of digital need and prioritize resources appropriately.

Additional Community Anchor Institutions

Public Library Update

The Minnesota Department of Education (MDE) captures upload and download speed data of public libraries during its annual Public Library Report process. In 2021, 71.1 percent of 357 responding library locations indicated receiving download speeds above 50 Mbps, and 82.9 percent reported upload speeds above 20 Mbps. Eighteen percent reported service at or above 1 Gbps symmetrical, and all but 1 public library location indicated they provide free Wi-Fi access. More data from the Public Library Report is available through MDE's website.

Public Safety

The <u>interactive broadband map</u> maintained by the Office includes the locations of public safety facilities such as police and fire stations when you activate the "Anchor Institutions" layer on the map. Work remains to be done to devise a reliable means of gathering robust connectivity data for these anchor institutions.

Additionally, construction of the nationwide first responder network, known as FirstNet, continues. The federal government awarded the FirstNet contact to AT&T in 2017. Minnesota's participation is coordinated by the Minnesota Department of Public Safety's Emergency Communication Networks (ECN) division. The purpose of FirstNet is to build, operate, and maintain a high speed, nationwide wireless broadband network dedicated to public safety and operable across the country. As new towers are added to expand FirstNet coverage, those towers are also capable of hosting commercial service which helps to expand both cellular phone and broadband coverage. OBD works with both ECN and AT&T to share information regarding areas that could

benefit from improved FirstNet and commercial broadband service. In 2022, new towers include locations near Hokah, Ely, Gary, and Deer River.

Rural Healthcare

The federal government, through one of its Universal Service programs, has funding to assist rural health care providers address connectivity needs. The Rural Health Care Program, or RHC, receives funding and is administered by the Universal Service Administrative Company (USAC). Broadband services and network equipment can receive up to a 65 percent discount for eligible applicants.

As with public safety anchors, the Office includes the locations of hospitals on the interactive broadband map and continues to work on locating a reliable data source to map connectivity levels to individual healthcare facilities.

Next Steps and Recommendations – Additional Community Anchor Institutions

In awarding Border-to-Border Broadband grants, DEED requests that applicants provide information on whether community anchor institutions would be served as part of the grant-funded area. Additional points are awarded if that is the case. DEED staff has also found instances where an anchor institution was not part of the project, but because the project brought fiber closer to the location, it became affordable to extend fiber to the anchor institution not included in the grant project area.

State and Federal Broadband Funding

State Broadband Funding

While prior rounds of the Border-to-Border Broadband Grant program were funded with state general revenue funds, for 2022 and 2023, this program will be funded with a combination of state and federal funding and is thus included in the federal funding summary below.

Federal Broadband Funding

Federal funding for broadband, while in some instances include longstanding programs, also has received recent emphasis as policy makers take note of the need for universal broadband availability and affordability brought to light by the pandemic. This section addresses the many federal funding sources and the federal agencies administering those funds. Federal appropriations for broadband have been included or allowed in laws passed to address the pandemic, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act passed in March 2020; the Consolidated Recovery Act signed into law in December 2020; the American Recovery Plan Act (ARPA) approved in March 2021; and most recently the Infrastructure Investment and Jobs Act (IIJA)/Bipartisan Infrastructure Law signed by President Biden on November 15, 2021. Other federal funding programs have been in place for many years in agency budgets or as part of the Federal Communications Commission's universal service fund (revenues collected from telephone ratepayers, not taxpayers). Each federal funding source or program is discussed below.

CARES Act Funding

Funding provided by the CARES Act to state and local governments was to be used to address circumstances created by the pandemic. A few local governments in Minnesota used this as an opportunity to award funding to broadband providers to construct broadband infrastructure to enable residents to negotiate the need for telework, distance learning, and telehealth. The initial deadline set for this funding to be expended was December 31, 2020 which resulted in approved projects being those that could be constructed quickly or small in size. While the deadline was later extended to December 31, 2021, most decisions on how to use the funding had already been made and could not be redirected to broadband. The Office is attempting to capture projects constructed with CARES Act funding through its mapping vendor's data collection efforts but will likely not be able to separately identify CARES Act funded projects separately from all upgrades being made. It should also be noted that CARES Act funding received by the state was not used for any broadband infrastructure although some school districts did use funding that they received from the state to distribute cellular broadband hotspots or provide assistance to families struggling to pay their monthly internet service bills.

Consolidated Recovery Act Programs

Under the Consolidated Recovery Act (CRA), the National Telecommunications and Information Administration of the U.S. Department of Commerce administered three broadband grant programs, Tribal Broadband Connectivity Program (\$980 million), Broadband Expansion to Underserved Communities (\$288 million), and Connecting Minority Communities (\$268 million). The Tribal Broadband Connectivity Program directs funding to tribal governments to be used for broadband deployment on tribal lands, as well as for telehealth, distance learning, broadband affordability, and digital inclusion. NTIA solicited applications nationally and the Office provided information on these grant opportunities on its website under Financial Assistance: Financial Assistance / Minnesota Department of Employment and Economic Development (mn.gov) (The Tribal Broadband Connectivity Program received an additional \$2 billion appropriation under the IIJA/Consolidated Recovery Act, which was combined with the CRA funding, so the total for this program is just under \$3 billion.) Several applicants from Minnesota submitted proposals. In 2022, three Tribal entities were awarded NTIA Tribal Broadband Connectivity Program projects: the Bois Forte Band of Chippewa received an award of \$19,800,704, the Lower Sioux Indian Community received an award of \$1,995,787 and the Leech Lake Band of Ojibwe received an award of \$18,797,452. OBD will continue to monitor for any additional awards and all awards for projects in Minnesota will be identified on the state broadband maps.

The Consolidated Recovery Act also provided funding to the FCC to administer two programs. First, the FCC implemented the Emergency Broadband Benefit (EBB), a temporary program to offer up to a \$50/month credit to participating providers for broadband services subscribed to by eligible households and a discount for broadband device purchases. The FCC initiated the program in May 2021 and availability ended in December 2021 as eligible households transitioned to the Affordable Connectivity Plan created in the Infrastructure Investment and Jobs Act (see below). In Minnesota, over 86,000 households were identified as having participated in the EBB program; information on Minnesota household participation in ACP is discussed below. The second program administer by the FCC is the Emergency Connectivity Fund which provides funding to schools and libraries for tools and services that enable remote learning. The FCC has been distributing that

funding via competitive grant rounds and to date \$77,794,524 has been committed to Minnesota schools and libraries.

American Rescue Plan Act State and Local Fiscal Recovery Funds

The American Rescue Plan Act (ARPA) included broadband infrastructure as an allowed use for State and Local Fiscal Recovery Funds. To date, Minnesota has not awarded any State Fiscal Recovery Funds for broadband infrastructure. The state did receive an overall allocation of \$2.83 billion and approximately half remains unallocated. Decisions on how the remainder will be spent are likely to be made in the 2023 legislative session.

The Office is aware that several local units of government have or are considering using some of their Local Fiscal Recovery Funds (LFRF) for broadband infrastructure, some as independent projects and others included ARPA LFRF as part of the match for a state Border-to-Border Broadband grant application in the 2022 grant round. The Office anticipates seeing additional Local Fiscal Recovery Funds as match in applications due March 2, 2023. For those projects that move forward independently, the Office will try and identify such construction on its maps as paid for with Local Fiscal Recovery Funds. For those projects that end up moving forward as part of a state Border-to-Border Broadband grant project, construction funded in part with Local Fiscal Recovery Funds can be readily captured.

American Rescue Plan Act Sec. 604 Capital Projects Fund:

Altogether, Minnesota received an allocation of \$180,702,620 in ARPA Sec. 604 Capital Projects Funds and the legislature directed that \$130,703,000 be used for broadband infrastructure purposes with \$70 million being authorized for that purpose in the 2021 legislative session and \$60,703,000 in the 2022 session. ARPA funding is being administered by the U.S. Department of the Treasury. For the applications received in August 2022, the state Border-to-Border Broadband Grant program was funded with \$70 million in Capital Projects Fund (CPF) approved by the legislature in the 2021 session and \$25 million in state general revenue funds approved by the legislature in the 2022 session. The 2023 grant round, announced on December 19, 2022, will include approximately \$12 million in CPF funding and \$25 million in state general revenue funds. The remaining CPF funds approved in the 2022 session for broadband are being used to support the Low-Density Pilot Program and the Line Extension Connection Program as discussed above.

OBD would note that while \$70 million in Capital Projects Fund funding was approved in the 2021 legislative session for the Border-to-Border Broadband grant program, guidance on applying for and using those funds was not issued by Treasury until the Fall of 2021. Without a process in place from Treasury on how to obtain the funding, OBD was unable to open a Border-to-Border grant round in 2021. DEED applied for, and received approval for, the overall CPF allocation in February 2022. Upon receipt of that approval, OBD submitted a Program Plan to use the \$70 million for the Border-to-Border grant program in January 2022 and received final approval from Treasury in July 2022. Based on the timing for approval, OBD was able to open a grant round in the summer of 2022. A similar process applied to the 2022 allocation by the legislature, where OBD had to submit new Program Plans for the Low-Density Pilot Program and the Line Extension Programs. OBD did that in September 2022 and approval was received from Treasury in December 2022. OBD opened the Line Extension

Connection program on November 1, 2022 as required in statute, and included the Low-Density Pilot Program in the grant round that opened on December 19, 2022.

Infrastructure Investment and Jobs Act (IIJA)

The Infrastructure Investment and Jobs Act includes \$65 billion in funding for broadband related expenditures which will be administered by three different federal agencies.

NTIA: For broadband infrastructure, called the Broadband Equity, Access, and Deployment (BEAD) Program, each state will receive a base amount of \$100 million and then an additional amount based on the number of locations lacking a reliable broadband service (provided either via wireline technology or from a fixed wireless provider using licensed spectrum) of at least 25 Mbps download and 3 Mbps upload as determined by the new maps being prepared by the FCC. While additional detail on how those infrastructure funds can be accessed and expended was provided in a Notice of Funding Opportunity that NTIA issued in May 2022, many of the deadlines are still ahead. As discussed above under BEAD Planning, OBD spent significant time the second half of this year applying for the planning funding, responding to questions from NTIA to cure the application, and attending webinars and conferences for overall and compliance information. Additionally, the IIJA included \$2.75 billion for digital equity programs, which also required the submission of an application and follow-up webinars and training. IIJA also includes funding for programs that are not under the state's purview but may benefit broadband providers in Minnesota. Those programs and funding amounts are \$2 billion for tribal connectivity and \$1 billion for middle mile broadband projects and both are also administered by NTIA.

FCC: To help ensure that broadband is affordable, the IIJA included \$14.2 billion for the new Affordable Connectivity Program (ACP), which is to replace the temporary Emergency Broadband Benefit that was available in 2021. The FCC worked diligently to stand up the ACP and eligible households were transitioned to this new benefit program in early 2022. While the eligibility criteria to participate in ACP generally stayed the same as for the EBB, the monthly benefit under the new program was reduced from the \$50/month it had been under EBB to \$30/month. (The benefit of \$75/month for eligible households on tribal lands remained the same as the EBB.) The latest data shows that as of the week of December 19, 2022, 164,324 households in Minnesota were participating in ACP (out of approximately 772,000 households that are eligible).

USDA: The IIJA also provided \$2 billion to the USDA for future rounds of the ReConnect program (see below).

Traditional Federal Programs for Broadband

U.S. Department of Agriculture ReConnect Program

The U.S. Department of Agriculture (USDA) opened its third ReConnect round on November 24, 2021 with applications due on February 22, 2022. The USDA announcement indicated that \$1.15 billion was available for grants, grant/loans and loans in this round. In the first two rounds of the ReConnect program, Minnesota applicants had been awarded three projects totaling approximately \$13.6 million in grants and loans.

Several Minnesota projects were funded in the ReConnect 3 round, including grants to Mille Lacs Energy Cooperative (\$3,788,680), Tekstar (Arvig) (\$12,602,274), and 50/50 grant-loan combinations to Winnebago

Cooperative Telephone Association (\$25,113,544), Upsala Cooperative Telephone Association (\$6,551,758) and Spring Grove Communications (\$11,414,096). Broadband projects in Minnesota constructed with ReConnect funds are identified as such on the state broadband maps. A fourth ReConnect round opened in August 2022 with applications due November 2, 2022 with funding from the \$2 billion appropriated in the Infrastructure Investment and Jobs Act for the ReConnect program. OBD is aware of several applications being filed in ReConnect 4 and will report on any recipients in next year's annual report.

The USDA also conducts a Community Connect grant program for broadband infrastructure and a Distance Learning and Telemedicine (DLT) grant program that provides funding generally used for equipment. Information on both programs is included on the Financial Assistance section of the OBD website. The Community Connect program did not offer an application in 2022. Prior recipients of Community Connect grants in Minnesota include Northeast Service Cooperative, Fond du Lac Band of Ojibwe, Mille Lacs Energy Cooperative and Consolidated Telephone Company. The Distance Learning and Telemedicine grant window opened on December 1, 2022 and closes January 30, 2023. OBD will report on any recipients for Minnesota from that DLT grant round in next year's report.

FCC CAF and RDOF

The Federal Communications Commission (FCC) has transitioned its Universal Service Fund to the Rural Digital Opportunity Fund (RDOF). The RDOF-1 auction was held in November/December 2020 with auction winners announced in late 2020 and follow up filings due at the FCC in 2021. During 2021 and 2022, the FCC announced the final award or denial of funding to most bidders on eligible census block groups bid on in Minnesota. Once approved for funding, the clock starts on the six-year time frame for construction. The following chart shows the auction winners and dollar amounts awarded in the RDOF auction. The entities highlighted in green received final approval for funding at the time of this report while those in yellow were found to be in default by the FCC.

Bidder	Support	Locations
AMG	\$3,736,316	1,408
Arrowhead Elec. Coop.	\$18,462,273	4,879
CenturyLink (Qwest)	\$15,646,093	3,265
Consolidated Comm.	\$11,126	12
Consolidated Tel. Co. (CTC)	\$2,040,279	979
Consortium of AEG and Heron	\$6,709,428	1,150
Farmers Mutual Tel. Co.	\$759,822	332
Federated Tel. Coop.	\$537,399	248
Fond du Lac Comm.	\$1,046,123	728
Garden Valley Tel. Co.	\$2,792,139	492
Gardonville Coop. Tel.	\$63,903	24
Great Plains Consortium	\$81,701	402
Halstad Tel. Co.	\$325,917	111
Interstate Telecom Coop. Inc.	\$51,749	391
LTD Broadband LLC	\$311,877,936	102,005
Midcontinent Comm.	\$4,452,047	6,054
Paul Bunyan Rural Tel. Coop.	\$16,307,892	5,088
Red River Rural Tel. Assn.	\$29,952	11
Roseau Electric Coop.	\$1,228,494	266
Savage Comm. (SCI)	\$6,090,479	4,541
SpaceX	\$8,424,808	7,529
Wikstrom Tel. Co.	\$983,637	228
Windstream	\$6,548,964	2,899
Winnebago Coop. Tel.	\$20,542	178

Green=Long Form Approved

Yellow=Default

The interactive map available on OBD's website

(https://mn.gov/deed/programsservices/broadband/maps/general-maps.jsp) includes the RDOF funded areas as an overlay.

Other FCC funding (Alternative Connect America Cost Model or ACAM and Broadband Loop Support) for the smaller incumbent telephone companies in the state continues to aid these companies as they upgrade broadband service in their historic telephone exchange areas. These areas can also be seen as an overlay on the interactive map.

Economic Impact of Broadband

In addition to the examples from the Border-to-Border Broadband Infrastructure grant projects, which positively impact individual households and businesses as they are connected, national studies and reports show the benefits of and/or need for high-speed broadband access.

- A Deloitte economic model found that a 10-percentage point increase in broadband access in 2014 would have resulted in \$186 billion more in economic output and 875,000 additional jobs in 2019.
- 23 Office of Broadband Development Annual Report 2022

https://www2.deloitte.com/us/en/pages/consulting/articles/bridging-the-digital-divide-withbroadband-for-all.html

- The Benton Institute for Broadband & Society issued a report in September 2021 that describes how
 farmers need connectivity in the farm house and office, in the field, and in the community to enable
 sustainable, precision agriculture to meet the world's rising demand for food.
 (https://www.benton.org/sites/default/files/FutureAmericanFarming.pdf)
- The Federal Reserve Bank of Richmond, in December 2020, issued a paper describing the research showing positive impacts of high-speed broadband service on increased job and population growth, new business formation, home values, lower unemployment, and telemedicine and distance learning. https://www.richmondfed.org/publications/community_development/community_scope/2020/comm_ scope vol8 no1
- A Pew Research Center December 2021 study found that 16 percent of Americans have earned money through an online gig platform. Six out of ten recent or current gig workers say that the money earned has been essential or important to them for meeting basic needs. The State of Gig Work in 2021 | Pew Research Center
- A spring 2021 report by the Consortium for School Networking (CoSN) discussed the impact of home internet for distance learning during the pandemic and noted that even when students return to the classroom, adequate home internet will be needed to ensure an equitable education experience. https://drive.google.com/file/d/1ZU9gj6PVXE8Co8rMVr-8x3PvCeYV4OhR/view

Digital Equity

In August 2022, an allocation of funding from the U.S. Economic Development Administration was used to create and fill a 1-FTE position to facilitate development of Minnesota's digital equity plan. More information on the digital equity planning process and 2022 accomplishments is available in the <u>Digital Equity Planning section</u> of this report.

As the central broadband planning body of the state of Minnesota, OBD is tasked with encouraging, fostering, developing, and improving broadband access within the state in order to drive job creation, promote innovation, and expand markets for Minnesota businesses; to serve the ongoing and growing needs of Minnesota's education systems, health care system, public safety system, industries and businesses, governmental operations, and citizens; and to improve accessibility for underserved communities and populations. This new digital equity position will enable OBD to expand the breadth and depth of the digital equity work OBD handles.

Next Steps and Recommendations

This year, we announced FY23 Border-to-Border Broadband Infrastructure grants totaling \$99,592,711 for 61 new projects. Of the 179 total projects awarded over the initial six rounds of the grant program, 145 of those projects (including three awarded in early 2021) are fully constructed and providing broadband service to

homes, farms, businesses and community anchor institutions in Minnesota. While we were unable to open a new grant application window in 2021, with the legislative appropriations from the American Rescue Plan Act (ARPA) Sec. 604 Capital Projects Fund and state general revenue funding of \$25 million for each of FY23 and FY24, OBD was able to initiate two grant rounds in 2022. Under the first round, grantees were announced on December 8, 2022 and the second RFP was issued on December 19, 2022.

In 2023, in addition to concluding the grant round that opened in December 2022, the Office will be working to ensure it meets all requirements to receive Minnesota's allocation from the IIJA Broadband Equity, Access and Deployment and Digital Equity funding.

All told, the funding for broadband and for digital equity will require engagement by the Office and partners, stakeholders, and various organizations to ensure that the resources are put to the best and most efficient use to meet the state's broadband speed goals and fulfill the definition of digital equity for all Minnesotans.