Michigan Department of Labor and Economic Opportunity (LEO)

Michigan High-Speed Internet Office

Broadband Equity, Access, and Deployment (BEAD) Initial Proposal Volume I

September 2023

DRAFT for Public Comment

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1 Introduction

This document is the first of two submissions which together will comprise Michigan's Broadband Equity, Access and Deployment (BEAD) Initial Proposal to the National Telecommunications and Information Administration (NTIA). This first volume (Volume I) responds to four of nineteen requirements for the Initial Proposal as per the Notice of Funding Opportunity (NOFO). These requirements are:

- **Existing Broadband Funding (Requirement 3)** - Identify existing efforts funded by the federal government to deploy broadband and close the digital divide.
- **Unserved and Underserved Locations (Requirement 5)** - Identify each unserved location and underserved location.
- **Community Anchor Institutions (Requirement 6)** - Describe how the Eligible Entity applied the statutory definition of the term "community anchor institution" and identified all eligible CAIs.
- **Challenge Process (Requirement 7)** - Include a detailed plan as to how the Eligible Entity will conduct a challenge process for eligible locations and CAIs.

The Michigan High-Speed Internet Office has chosen to adopt the NTIA BEAD Model Challenge Process with the optional modules and two additional modifications. The Michigan High-Speed Internet Office will also plan to use the BEAD Eligible Entity Planning Toolkit provided by the NTIA to support the deduplication of funding where existing federally enforceable commitments may exist.

Following a 30-day public comment period, this proposal will be submitted to NTIA for approval. Following approval of Volume 1 (this document, with changes made based on public comments) and the submission of Volume 2, the Michigan High-Speed Internet Office will run the challenge process to determine the eligible unserved and underserved locations and CAIs for BEAD deployment projects.

2 Existing Broadband Funding (Requirement 3)

Michigan has received funding from various sources that are currently available for broadband deployment or that have already been committed for broadband deployment and other related activities in the state. As shown, most of the funding for deployment or related activities apart from BEAD funding has already been obligated.

Source	Purpose	Total	Obligated	Available
Broadband Equity, Access, and Deployment Program (BEAD)	Funded through IIJA, this program is the largest source of broadband funding. Priority in this program is given to building networks that connect unserved and underserved locations and community anchor institutions. This program will be implemented as a subgrant program to a variety of entities including private ISPs, nonprofits, communities, cooperatives, and others.	$1.559B	$0	$1.559B
US Dept. of Treasury, Coronavirus Capital Projects Fund	Realizing Opportunity with Broadband Infrastructure Networks (ROBIN) Program is a last mile and middle mile broadband infrastructure grant program. Applications were accepted from 01/13/2023 through 03/14/2023. Announcements of first round grants totaling approximately $203M and a 45-day comment-and-objection period for additional awards to complete this $238M grant program will be made in early October, with second round grants expected to be finalized in early 2024. The second round became necessary due to changes in eligible locations related to the FCC's Enhanced ACAM program, which was announced during the initial comment-and-objection period. Michigan High-Speed Internet Office anticipates being able to connect 80k-90k locations with the ROBIN program.	$238M	Approx. $203M	Approx. $35M
State Digital Equity Planning and Capacity Grant Programs (SDEPG & SDECG)	The State Digital Equity Planning Grant Program provided funding to develop the State Digital Equity Plan. The State Capacity Program will fund the implementation of this Plan and digital equity projects. Amounts are estimates.	$32M	$1.3M	$30.7M
USDA ReConnect	The USDA ReConnect program is a federal initiative that provides loans and grants to expand access to broadband services in rural communities. The program aims to improve economic and educational opportunities, as well as healthcare and public safety, by supporting the development of high-speed internet infrastructure in underserved areas. Eligible entities can apply for funding to construct, improve, or acquire broadband facilities and provide broadband service to rural households, businesses, and farms. Eleven entities have received ReConnect funds since 2020 in Michigan.	$89.7M	$89.7M	$0

Source	Purpose	Total	Obligated	Available
FCC Emergency Connectivity Fund (ECP)	The FCC's ECP is a $7.17 billion program that aims to help schools and libraries provide internet connectivity and devices to students and staff who lack access to them. The program provides funding to educational institutions to purchase and distribute laptops, tablets, Wi-Fi hotspots, modems, routers, and other necessary equipment. The ECP was launched in response to the COVID-19 pandemic. Since its launch, 373 schools and libraries in Michigan have received ECP funds. Data provides is aggregated across the state.	$158M	$158M	$0
FCC Rural Digital Opportunity Fund (RDOF)	The FCC's Rural Digital Opportunity Fund (RDOF) is a program designed to expand high-speed internet access in unserved rural areas of the United States. The program offered up to $20.4 billion in funding over 10 years to internet service providers (ISPs) to deploy broadband infrastructure in eligible areas. ISPs in Michigan won $363M in RDOF awards in 2020 and are currently building to meet their obligations.	$363M	$363M	$0
FCC Enhanced Alternative Connect America Cost Model	The FCC's Enhanced Alternative Connect America Cost Model (E-ACAM) is a program designed to provide funding to telecommunications providers that serve high-cost, rural areas of the United States. The program offers predictable, ongoing support for the deployment and maintenance of broadband infrastructure in these areas. Providers that accept the E-ACAM offer commit to deploying broadband with specified speeds and latency, and to meet certain build-out requirements over a fifteen-year period. The funds indicated are annual estimates of the on-going subsidy in Michigan.	$42.5M	$42.5M	$0
FCC Supply Chain Reimbursement Program	The FCC's Supply Chain Reimbursement Program is an initiative aimed at helping small and rural communications providers remove and replace equipment that poses a national security risk. The program provides funding to cover the costs of removing and replacing equipment from certain designated companies that pose a risk to national security. This program does not constitute a federally enforceable commitment for deploying service. One entity has received funds from this program.	$21M	$21M	$0
FCC E-Rate Program	The E-Rate program is an initiative that provides funding to help schools and libraries obtain affordable access to broadband internet and other telecommunications services. The program is administered by the Universal Service Administrative Company and is funded by fees charged to telecommunications providers. E-Rate funding can be used to pay for services such as broadband internet access, Wi-Fi networks, and internal connections like routers and switches. Data is from 2020-2023 and is aggregated among all E-Rate participating entities.	$124M	$124M	$0

Source	Purpose	Total	Obligated	Available
FCC Rural Healthcare Program	The FCC Rural Health Care Program is an initiative aimed at helping healthcare providers in rural areas obtain affordable access to telecommunications and broadband services. The program is administered by the Universal Service Administrative Company and is funded through the Universal Service Fund. The program provides funding for eligible healthcare providers to help cover the costs of broadband connectivity, network equipment, and other related expenses. Data is from 2020-2023.	$85k	$85k	$0
ARPA State and Local Fiscal Recovery Funds	The State and Local Fiscal Recovery Fund is a program created by ARPA that provides funding to states, territories, and eligible local governments to help them recover from the economic impacts of the COVID-19 pandemic. The program aims to support public health efforts, replace lost revenue, and address negative economic impacts such as job loss and decreased economic activity. Several Michigan communities have used these funds for broadband expansion.	$26M	$26M	$0
NTIA Connecting Minority Communities Pilot Program	The NTIA's Connecting Minority Communities Pilot Program is an initiative aimed at addressing the digital divide in communities that are traditionally underserved or underrepresented in broadband adoption. The program provides $268 million in funding to support broadband infrastructure deployment, digital inclusion activities, and workforce development in minority communities, including those with high poverty rates. One entity in Michigan received an award in this program in 2023.	$3M	$3M	$0
NTIA Broadband Infrastructure Program	The NTIA's broadband infrastructure program provides grants to support broadband deployment and adoption in unserved and underserved areas. The grants can be used for a range of activities, such as building and upgrading broadband infrastructure, establishing public computer centers, and providing digital skills training. One entity received funding through this program in 2022.	$22M	$22M	$0
NTIA Tribal Broadband Connectivity Program	The NTIA's Tribal Broadband Connectivity Program is an initiative that provides grants to support broadband deployment and adoption in tribal communities across the United States. The program offers $1 billion in funding to tribal governments and tribal organizations to expand access to high-speed internet and improve digital inclusion. The grants can be used for a range of activities, such as building and upgrading broadband infrastructure, establishing public computer centers, and providing digital skills training. Four entities have received an award through this program for deployment.	$2.7M	$2.7M	$0

Source	Purpose	Total	Obligated	Available
NTIA Enabling Middle Mile Broadband Infrastructure Program	NTIA's Middle Mile Broadband Infrastructure Program provides $1B from the Bipartisan Infrastructure Law to reduce the cost of bringing high-speed internet service to unserved and underserved communities by connecting local networks to major networks. Peninsula Fiber Network was awarded $61.2M in funding to construct middle mile networks connecting the Upper and Lower Peninsulas with fiber via Beaver Island to create new redundant routes from Benton Harbor to Chicago. New overland routes are also planned to provide greater capacity to unserved areas of the state.	$61.2M	$61.2M	$0
Connecting Michigan Communities (CMIC) Program	CMIC was created in late 2018 as Michigan's first broadband infrastructure grant program and seeded with $20M in initial funds. An additional $14.3M was added to the program in mid-2020. The program has issued three rounds of grants with the last occurring in 2022.	$34.4M	$34.4M	$0

3 Unserved and Underserved Locations (Requirement 5)

To identify all unserved[1] and underserved[2] locations in the State of Michigan, the Michigan High-Speed Internet Office has provided two .csv files which list each location and provides a unique location ID. A copy of these files can be found here:

Unserved Locations:
https://www.michigan.gov/leo/-/media/Project/Websites/leo/Documents/MIHI/Unserved.csv

Underserved Locations:
https://www.michigan.gov/leo/-/media/Project/Websites/leo/Documents/MIHI/Underserved.csv

When identifying all unserved and underserved locations for purposes of preparing this draft version of Volume I as well as the .csv files identified in Section 2.1 for public comment and review by the NTIA, the Michigan High-Speed Internet Office utilized the Broadband Data Collection (BDC) data as of December 31st, 2022 last updated on August 29, 2023 from the National Broadband Map.

In order to base the state challenge process on the most current information available, MIHI plans to utilize the BDC data as of June 30, 2023 (BDC Version 3) as the baseline for the state challenge process. MIHI encourages those who are participating in the public comment process to focus their comments on the process described in this document, and plan to use the state challenge process itself for providing feedback on whether certain broadband serviceable locations have been correctly identified as served, underserved, or unserved.

[1] Defined as a location without any broadband service at all or with internet service offering speeds below 25/3 Mbps, as per the BEAD NOFO.
[2] Defined as a location as one without broadband service offering speeds of 100/20 Mbps, as per the BEAD NOFO.

4 Community Anchor Institutions (Requirements 6)

4.1 Definition and sources of CAIs in Michigan

Based on the statutory definition of "community anchor institution" as defined in 47 USC 1702 (a)(2)(E), the Michigan High-Speed Internet Office finds "community anchor institution" to mean a school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization (including any public housing agency, HUD-assisted housing organization, or Tribal housing organization), or community support organization that facilitates greater use of broadband service by vulnerable populations, including, but not limited to, low-income individuals, unemployed individuals, children, the incarcerated, and aged individuals.

In addition to the definition above, the Michigan High-Speed Internet Office defines government facilities, public transportation facilities, and agricultural labor camps as community anchor institutions. These organizations serve as hubs for digital access in their communities and often have specialized technology needs and require affordable, high-speed, reliable broadband connections to provide their services effectively.

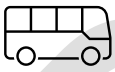
Based on the statutory definition above, the following criteria were used to determine the inclusion or exclusion of community support organizations not specifically listed in 47 USC 1702(a)(2)(E):

> Whether the community support organization facilitates greater use of broadband service by vulnerable populations, including, but not limited to, low-income individuals, unemployed individuals, children, the incarcerated, and aged individuals.

The following definitions and sources were used to identify the types of community anchor institutions for inclusion in each category:

CAI	Definition and Source
Schools 	K-12 schools include all K-12 schools participating in the FCC E-Rate program or that have an NCES (National Center for Education Statistics) ID in the categories "public schools" or "private schools".
Libraries 	Including all libraries participating in the FCC E-Rate program as well as all member libraries, and their branches, of the American Library Association (ALA). Data acquired from the Library of Michigan.

CAI	Definition and Source
Health clinic, health center, hospital, or other medical providers 	Includes health clinics, health centers, hospitals and other medical providers, and other institutions that have a Centers for Medicare and Medicaid Services (CMS) identifier, as well as crisis centers and facilities, hospice facilities, nursing homes and assisted living facilities, public health offices, board and care homes, continuing care retirement facilities, and other social service facilities. Additional data acquired from Michigan State Police Michigan Critical Incident Management System.
Public safety entity 	The list includes entities such as fire houses, emergency medical service stations, police stations, correctional facilities, and public safety answering points (PSAP), The list of public safety answering points (PSAPs) includes all PSAPs in the FCC PSAP registry [911 Master PSAP Registry | Federal Communications Commission (fcc.gov). Additional data was acquired from the Michigan State Police - Michigan Critical Incident Management System.
Institutions of higher education 	Institutions of higher education include all institutions that have an NCES ID in the category "college", including junior colleges, community colleges, minority serving institutions, historically black colleges and universities, Hispanic-Serving Institutions, Tribal Colleges and Universities, other universities, or other educational institutions.
Public housing organizations 	Public housing organizations and building locations were identified by contacting the National Housing Preservation Database (NHPD).
Community support organizations 	The Michigan High-Speed Internet Office included any organizations that facilitate greater use of broadband service by vulnerable populations, including low-income individuals, unemployed individuals, and aged individuals. The Michigan High-Speed Internet Office included the following organizations as community support organizations: • Senior centers; (data acquired from the Michigan Association of Senior Centers and the National Council on Aging Map of Partners and Programs) • Job training centers; (data acquired from the Michigan Works! Association and cross referenced with the American Job Center Finder) • Boys and Girls Clubs and YMCAs; (data acquired from Boys and Girls Clubs Michigan Alliance and State Alliance of Michigan YMCAs, respectively) • Community centers; (data acquired from the Michigan State Police Michigan Critical Incident Management System) • Community development organizations; (data acquired from the Community Economic Development Association of Michigan) • Convention centers and stadiums; (data acquired from Michigan State Police Michigan Critical Incident Management System) • Food banks and pantries; (data acquired from staff research)

CAI	Definition and Source
	• Homeless service agencies; (data acquired from staff research) • Michigan State University Extension offices; (data acquired from Michigan State University) • Organizations offering digital inclusion services (not included in other CAI definitions); (data acquired from staff research and organizations self-identifying as offering digital inclusion services) • Zoos, aquariums, campgrounds, and wildlife centers; (data acquired from the Michigan State Police Michigan Critical Incident Management System) • Child Care Centers; (data acquired from Early Childhood Investment Corporation)
Government facilities 	Michigan High-Speed Internet Office selected to include the following government and related facilities that support the greater use of broadband service among the public and vulnerable populations; • Tribal, township, village, city, and county administrative offices; (data acquired from multiple sources including the United Tribes of Michigan, Michigan Townships Association, Michigan Association of Counties, and the Michigan Municipal League); • State government facilities; (data acquired from the Michigan Department of Technology, Management, and Budget, the Michigan State Police Michigan Critical Incident Management System, and Michigan Department of Natural Resources); • Federal government facilities; (data acquired from the General Services Administration); • Court administrative offices; (data acquired from Michigan Courts); and • Polling locations (not included in other CAI definitions); (data acquired from the Michigan Department of State).
Public transportation facilities 	Public-facing transportation facilities including rail stations, bus stations, regional airports, local airports, and ferry terminals. Data acquired from multiple sources including the Michigan State Police - Michigan Critical Incident Management System, National Transit Database, and the National Census of Ferry Operators.
Agricultural labor camps 	Agricultural labor camps that house migrant farm workers identified through the Migrant Labor Housing have been included as CAIs. Data acquired from the Michigan Department of Agriculture and Rural Development.

4.2 Determining connectivity of CAIs

To assess the network connectivity needs of the types of eligible community anchor institutions listed above, the Michigan High-Speed Internet Office:

- **Engaged government agencies.** The Michigan High-Speed Internet Office reached out to several state agencies to understand what records they have available regarding relevant community anchor institutions 1 Gbps broadband service availability. Ultimately, the Michigan High-Speed Internet Office coordinated with the Michigan Department of Education to determine which schools and libraries do not currently have access to 1 Gbps symmetrical broadband service. Further, the Michigan High-Speed Internet Office reached out to the provider of connectivity to each PSAP in the state to determine 1 Gbps availability to each PSAP. Lastly, the Michigan High-Speed Internet Office reached out to the Department of Technology, Management, and Budget to obtain availability and network connectivity needs based on existing records of procured broadband service for state-affiliated community anchor institutions.
- **Engaged relevant umbrella organizations and nonprofits.** The Michigan High-Speed Internet Office engaged with umbrella and nonprofit organizations that work with community anchor institutions to coordinate and obtain 1 Gbps broadband service availability data. Specifically, the Michigan High-Speed Internet Office requested information related to availability needs from the member organizations across all geographic regions. Organizations contacted include: AARP Michigan, Community Economic Development Association of Michigan, Michigan Municipal League, Michigan Townships Association, Michigan Association of Counties, Michigan Courts, State Education Network, Michigan Coalition Against Homelessness, and Michigan State University, among others.
- **Conducted spatial analysis.** The Michigan High-Speed Internet Office conducted a detailed spatial analysis to determine high-speed fiber availability to CAIs. Using fiber availability data from the FCC National Broadband Map, field-collected fiber facility location data, and third-party fiber location data, the Michigan-High-Speed Internet Office calculated the proximity of each CAI to fiber facilities and used that proximity to determine the availability of 1 Gbps fiber connectivity to the identified CAIs. CAIs within 500 ft. of a FTTP network are considered to have 1 Gbps fiber available to their location.

Using the responses received and analysis conducted, the Michigan High-Speed Internet Office then compiled the list of those CAIs that do not have adequate broadband service, attached in Section 4.3.

4.3 List of CAIs in Michigan

Based on the Michigan High-Speed Internet Office definition of CAI, a .csv file has been provided which lists locations. A copy of these files can be found here:

CAIs: https://www.michigan.gov/leo/-/media/Project/Websites/leo/Documents/MIHI/CAI.csv

5 Challenge Process (Requirement 7)

5.1 NTIA BEAD Model Challenge Process Adoption

The Michigan High-Speed Internet Office intends to adopt the NTIA BEAD Model Challenge Process

☒ Yes
☐ No

5.2 Modifications to Reflect Data Not Present in the National Broadband Map

MIHI will include the following modifications to reflect data not present in the National Broadband Map:

Modification1: DSL Modification: The purpose of this modification is to facilitate the phase-out of legacy copper infrastructure that no longer meets today's definition of a served location.

Modification 2: Speed Test Modification: The purpose of this modification is to consider actual speed experienced at locations using evidence to determine if a location is served and is eligible for funding.

Modification 3: MDU Modification: The purpose of this modification is to ensure unserved or underserved units within MDUs are accounted for in the list of unserved and underserved units.

Modification 4: Cellular Fixed Wireless Modification: The purpose of this modification is to ensure that locations served only by this technology are truly served given the limitations of this service delivery technology.

5.2.1 Modification 1: DSL served locations reclassified as underserved

The Michigan High-Speed Internet Office will treat locations that the National Broadband Map shows to have available qualifying broadband service (i.e., a location that is "served") delivered via DSL as "underserved." This modification will better reflect the locations eligible for BEAD funding because it will facilitate the phase-out of legacy copper facilities and ensure the delivery of "future-proof" broadband service.

5.2.2 Modification 2: Speed test materially below "served" speeds

The Michigan High-Speed Internet Office will treat as "underserved" locations that the National Broadband Map shows to be "served" if rigorous speed test methodologies (i.e., methodologies aligned to the BEAD Model Challenge Process Speed Test Module) demonstrate that the "served" locations actually receive service that is materially below 100 Mbps downstream and 20 Mbps upstream. This modification will better reflect the locations eligible for BEAD funding because it will consider the actual speeds of locations.

5.2.3 Modification 3: Certain multiple-dwelling units reclassified as underserved

Inclusion of this modification is contingent on approval by NTIA. Details may be substantially revised if and as required by NTIA.

The Michigan High-Speed Internet Office will treat as "underserved" multiple-dwelling unit (MDU) locations with twenty or more units that the National Broadband Map identifies as "served" and that are located in

Census tracts that have high broadband availability but high rates of households reporting no internet subscription[3]. MIHI has identified 1,947 MDUs matching this criteria.

Based on the BEAD NOFO[4], unserved and underserved MDU locations are eligible for deployment of Wi-Fi infrastructure as an eligible use of funding. To ensure that every resident in Michigan has access to a reliable, affordable, high-speed broadband connection, the state will only consider last-mile broadband deployment projects that will provide access to every unit within a BEAD-eligible MDU and will not consider last-mile broadband deployment projects that only provide access to the BSL. The National Broadband Map identifies MDUs as one Broadband Serviceable Location (BSL), without further representing broadband availability of the individual units or households within the MDU. Without accurate unit-by-unit data, the National Broadband Map potentially undercounts the number of unserved and underserved households living in MDUs. There are several scenarios where availability of broadband service at an MDU BSL does not equate to the same availability of broadband to all units within that location. This results in an overstatement of the availability of broadband service at MDU locations and thus undercounts the number of households that are unserved or underserved. Examples of these scenarios are summarized below:

- Internet Service Provider (ISP) offers more substantial service to the building manager's office or commercial space at the MDU BSL than their inside wiring can deliver to the residential units.
- ISP has fiber-to-the-curb or building but has no inside wiring infrastructure to the unit.
- ISP is able to deliver fiber to the building (FTTB) within 10 days, but only offers business-class internet services, not residential service.
- Technology at the MDU is not capable of delivering 25/3 or 100/20 across all households simultaneously due to bandwidth or technology limitations.
- Inside wiring infrastructure is in a state of disrepair and cannot support speeds of 100/20 Mbps.
- Construction materials used in older buildings may impede wireless availability or the installation of wired infrastructure to support modern connectivity needs.
- Licensed Fixed Wireless Access (FWA) providers without existing equipment/service in the MDU may not meet the 10-day installation window. The individual household of an MDU does not have the ability to authorize a Licensed FWA provider to access rooftops, telco rooms, and run new wiring to the unit. This may require an agreement with the building owner and possibly a permit.

Michigan can prioritize MDUs that have a high probability of meeting the BEAD prioritization requirement of having "a substantial share of underserved households" by expanding the universe of underserved locations to include all MDUs in census tracts with high broadband availability, but also high rates of households reporting no internet subscription. To determine whether there is a "substantial share of underserved households" in an MDU, unit level availability data is needed. As the current National Broadband Map does not classify

[3] Census tracts meeting this criteria are those where at least 90% of residential locations are considered served at a speed of at least 100/20 Mbps by a reliable broadband technology according to the FCC National Broadband Map and at least 15% of households have no internet subscription as reported by the US Census American Community Survey. The average tract-level availability across Michigan is 89.6% and the average tract-level rate of households without an internet subscription is 14.4%.

[4] BEAD NOFO p. 33, "4. Installing internet and Wi-Fi infrastructure or providing reduced-cost broadband within a multi-family residential building, with priority given to a residential building that has substantial share of unserved households or is in a location in which the percentage of individuals with a household income that is at or below 150 percent of the poverty line applicable to a family of the size involved is higher than the national percentage of such individuals" (emphasis added)

households at the unit level, their true classification is unknown; therefore, the Michigan High-Speed Internet Office considers these specified MDUs as underserved until they are successfully challenged as served.

Internet service providers may submit challenges to BSL(s) impacted by this modification by providing evidence via the state challenge portal that demonstrates that qualifying broadband service is available to every unit in the MDU(s).

To challenge these designations, the internet service providers can use any of the permissible challenges listed below.

- Provider shows that the unit subscribes or has subscribed to service within the past 12 months, e.g., with a copy of a customer bill.
- Provider submits evidence that service is now available as a standard installation, e.g., via a copy of an offer sent to the unit.
- Provider has speed test evidence showing sufficient speed at each unit, e.g., from their own network management system.[5]
- Provider has speed test evidence showing latency at or below 100 ms at each unit, e.g., from their own network management system or the Connect America Fund (CAF) performance measurements.[6]
- Provider has evidence from its network management system showing an appropriate residential gateway that matches the provided service.

5.2.4 Modification 4: Licensed cellular fixed wireless reclassified as underserved

Inclusion of this modification is contingent on approval by NTIA. Details may be substantially revised if and as required by NTIA.

The Michigan High-Speed Internet Office will treat as "underserved" locations that the National Broadband Map shows to be "served" where Licensed Fixed Wireless using cellular technologies (e.g., 4G/5G home internet) is the only technology at the location satisfying the "served" requirements. According to speedtest.net, as of August 2023, the median cellular internet speeds in the United States are approximately 85 Mbps download and 8 Mbps upload, which do not meet the definition of served.[7] A recent study from July 2023 found only one provider in the United States of 5G home internet was able to meet 100Mbps average download speed and none met 20Mbps average upload speeds[8].

Additionally, cellular networks, by design, have a significant drop-off of data rates the farther a user is from the source (e.g., tower). The optimum range may be as little as 10 miles from the nearest tower. While cellular providers may not impose unreasonable data caps, they do impose throughput limits and de-prioritization of traffic on data plans, including on plans listed as "unlimited". A heavy data user could be defined as a

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[5] As described in the NOFO, a provider's countervailing speed test should show that 80 percent of a provider's download and upload measurements are at or above 80 percent of the required speed. See Performance Measures Order, 33 FCC Rcd at 6528, para. 51. See BEAD NOFO at 65, n. 80, Section IV.C.2.a.

[6] Performance Measures Order, including provisions for providers in non-contiguous areas (§21).

[7] See, Speed Test Global Index ranking mobile and fixed broadband speeds from around the world on a monthly basis. Available at https://www.speedtest.net/global-index/united-states.

[8] Opensignal is the mobile analytics company that provides independent research. The July 2023 5G Experience report can be found here: https://www.opensignal.com/reports/2023/07/usa/mobile-network-experience-5g?clreqid=d80b4e88-fe34-4514-b09c-c7fc2a8d885c&promoCode=88472

customer using as little as 50Gbps of data in a single billing cycle. These customers can experience extreme data throttling (i.e., reduced bandwidth allocation) during periods of high demand when a network is congested; consequently, users will often experience inconsistent broadband service, including the inability to access speeds of 25/3Mbps or 100/20Mbps to meet the underserved or served requirements of the BEAD Program respectively.

Internet service providers may submit challenges to BSL(s) impacted by this modification by providing evidence via the state challenge portal that demonstrates that qualifying broadband service is available to the BSL(s).

To challenge these designations, the internet service providers can use any of the permissible challenges listed below.

- Provider has countervailing speed test evidence showing sufficient speed, e.g., from their own network management system[9]
- Provider has speed test evidence showing latency at or below 100 ms, e.g., from their own network management system or the CAF performance measurements[10]

5.3 Deduplication of Funding

The Michigan High-Speed Internet Office intends to use the BEAD Eligible Entity Planning Toolkit to identify existing federal enforceable commitments.

☒ Yes
☐ No

The Michigan High-Speed Internet Office will enumerate locations subject to enforceable commitments by using the BEAD Eligible Entity Planning Toolkit, and consult at least the following data sets:

1. The Broadband Funding Map published by the FCC pursuant to IIJA § 60105.[11]
2. Data sets from state broadband deployment programs that rely on funds from the Capital Projects Fund and the State and Local Fiscal Recovery Funds administered by the U.S. Treasury.
3. State and local data collections of existing enforceable commitments.

Michigan High-Speed Internet Office will make a best effort to create a list of BSLs subject to enforceable commitments based on state or local grants or loans. If necessary, the Michigan High-Speed Internet Office will translate polygons or other geographic designations (e.g., a county or utility district) describing the area to a list of Fabric locations. The Michigan High-Speed Internet Office will submit this list, in the format specified by the FCC Broadband Funding Map, to NTIA.[12]

[9] As described in the NOFO, a provider's countervailing speed test should show that 80 percent of a provider's download and upload measurements are at or above 80 percent of the required speed. See Performance Measures Order, 33 FCC Rcd at 6528, para. 51. See BEAD NOFO at 65, n. 80, Section IV.C.2.a.
[10] Performance Measures Order, including provisions for providers in non-contiguous areas (§21).
[11] The broadband funding map published by FCC pursuant to IIJA § 60105 is referred to as the "FCC Broadband Funding Map."
[12] Guidance on the required format for the locations funded by state or territorial and local programs will be specified at a later date, in coordination with FCC.

5.3.1 Speed Validation

The Michigan High-Speed Internet Office will review its repository of existing state and local broadband grant programs to validate the upload and download speeds of existing binding agreements to deploy broadband infrastructure. In situations in which state or local program did not specify broadband speeds, or when there was reason to believe a provider deployed higher broadband speeds than required, the Michigan High-Speed Internet Office will reach out to the provider to verify the deployment speeds of the binding commitment. The Michigan High-Speed Internet Office will document this process by requiring providers to sign a binding agreement certifying the actual broadband deployment speeds deployed.

The Michigan High-Speed Internet Office drew on these provider agreements, along with its existing database on state and local broadband funding programs' binding agreements, to determine the set of state and local enforceable commitments.

5.3.2 Funding Programs

Programs included in the deduplication of enforceable commitments are included below. Only locations included in these programs with enforceable commitments to provide at least 100/20 Mbps using a reliable broadband technology are used for deduplication.

Federal

- FCC Rural Digital Opportunity Fund (RDOF)
- FCC Connect America Fund Phase II (CAFII)
- FCC Enhanced Alternative Connect America Cost Model (E-ACAM)
- NTIA Tribal Broadband Connectivity Program
- USDA Community Connect Grant Program (ReConnect)
- USDA Rural E-Connectivity Program
- USDA Telephone Loan Program

State

- Connecting Michigan Communities Grant Program
- Realizing Opportunity with Broadband Infrastructure Networks (ROBIN) Grant Program (funded by the US Treasury Capital Projects Fund)

Local projects for deduplication funded by the State and Local Fiscal Recovery Fund program included in the American Rescue Plan Act as identified by the Brookings Institution Local Government ARPA Investment Tracker13 and researched further by staff.

5.4 Challenge Process Design

Based on the NTIA BEAD Challenge Process Policy Notice, as well as the Michigan High-Speed Internet Office's understanding of the goals of the BEAD program, this proposal represents a transparent, fair, expeditious and evidence-based challenge process.

[13] https://www.brookings.edu/articles/arpa-investment-tracker/

5.4.1 Permissible Challenges

The Michigan High-Speed Internet Office will only allow challenges on the following grounds:

- The identification of eligible community anchor institutions, as defined by the Michigan High-Speed Internet Office;
- Community Anchor Institution BEAD eligibility determinations,
- BEAD eligibility determinations for existing broadband serviceable locations (BSLs);
- Enforceable commitments; or
- Planned service.

5.4.2 Permissible Challengers

During the BEAD Challenge Process, the Michigan High-Speed Internet Office will only allow challenges from nonprofit organizations, units of local and tribal governments, and broadband service providers.

5.4.3 Challenge Process Overview

The challenge process conducted by the Michigan High-Speed Internet Office will include four phases, spanning about 120 days[14]:

1. Publication of Eligible Locations: Prior to beginning the Challenge Phase, the Michigan High-Speed Internet Office will publish the set of locations eligible for BEAD funding, which consists of the locations resulting from the activities outlined in Sections 5 and 6 of the NTIA BEAD Challenge Process Policy Notice (e.g., administering the deduplication of funding process). The office will also publish locations considered served, as they may be challenged. Estimated to be 1/22/2024.[15]
2. Challenge Phase: During the Challenge Phase, the challenger will submit the challenge through the Michigan High-Speed Internet Office challenge portal. This challenge will be visible to the service provider whose service availability and performance is being contested. The portal will notify the provider of the challenge through an automated email, which will include related information about timing for the provider's response. After this stage, the location will enter the "challenged" state.
    a. Minimum Level of Evidence Sufficient to Establish a Challenge: The challenge portal will verify that the address provided can be found in the Fabric and is a BSL. The challenge portal will confirm that the challenged service is listed in the National Broadband Map and meets the definition of reliable broadband service. The challenge portal will confirm that the email address of the challenger is reachable by sending a confirmation message to the listed contact email. For scanned images, the challenge portal will determine whether the quality is sufficient to enable optical character recognition (OCR). For availability challenges, the Michigan High-Speed Internet Office will manually verify that the evidence submitted falls within the categories stated in the NTIA BEAD Challenge Process Policy Notice and the document is unredacted and dated.

[14] The NTIA BEAD Challenge Process Policy Notice allows *up to* 120 days. Broadband offices may modify the model challenge process to span up to 120 days, as long as the timeframes for each phase meet the requirements outlined in the NTIA BEAD Challenge Process Policy Notice.
[15] This date is an estimate and depends on the date NTIA approves Michigan's Initial Proposal Volume I.

b. **Timeline:** Challengers will have 30 calendar days to submit a challenge from the time the initial list of unserved and underserved locations, community anchor institutions, and existing enforceable commitments are posted. Estimated to be 1/22/2024 to 2/21/2024.

3. **Rebuttal Phase:** Only the challenged service provider may rebut the reclassification of a location or area with evidence, causing the location or locations to enter the "disputed" state. If a challenge that meets the minimum level of evidence is not rebutted, the challenge is sustained. A provider may also agree with the challenge and thus transition the location to the "sustained" state. Providers must regularly check the challenge portal notification method (e.g., email) for notifications of submitted challenges.
    a. **Timeline:** Providers will have 30 business days from notification of a challenge to provide rebuttal information to the Michigan High-Speed Internet Office. Estimated to be 2/21/2024 to 4/3/2024.
4. **Final Determination Phase:** During the Final Determination phase, the Michigan High-Speed Internet Office will make the final determination of the classification of the location, either declaring the challenge "sustained" or "rejected."
    a. **Timeline:** Following intake of challenge rebuttals, the Michigan High-Speed Internet Office will make a final challenge determination within 30 calendar days of the challenge rebuttal. Reviews will occur on a rolling basis, as challenges and rebuttals are received. Estimated to be 4/3/2024 to 5/21/2024.

5.4.4 Evidence & Review Approach

To ensure that each challenge is reviewed and adjudicated based on fairness for all participants and relevant stakeholders, the Michigan High-Speed Internet Office will review all applicable challenge and rebuttal information in detail without bias, before deciding to sustain or reject a challenge. The Michigan High-Speed Internet Office will document the standards of review to be applied in a Standard Operating Procedure and will require reviewers to document their justification for each determination. The Michigan High-Speed Internet Office plans to ensure reviewers have sufficient training to apply the standards of review uniformly to all challenges submitted. The Michigan High-Speed Internet Office will also require that all reviewers submit affidavits to ensure that there is no conflict of interest in making challenge determinations.

Code	Challenge Type	Description	Specific Examples	Permissible rebuttals
A	Availability	The broadband service identified is not offered at the location, including a unit of a multiple dwelling unit (MDU).	• Screenshot of provider webpage. • A service request was refused within the last 180 days (e.g., an email or letter from provider). • Lack of suitable infrastructure (e.g., no fiber on pole). • A letter or email dated within the last 365 days that a provider failed to schedule a service installation or offer an installation date within 10 business days of a request.[16] • A letter or email dated within the last 365 days indicating that a provider requested more than the standard installation fee to connect this location or that a Provider quoted an amount in excess of the provider's standard installation charge in order to connect service at the location.	• Provider shows that the location subscribes or has subscribed within the last 12 months, e.g., with a copy of a customer bill. • If the evidence was a screenshot and believed to be in error, a screenshot that shows service availability. • The provider submits evidence that service is now available as a standard installation, e.g., via a copy of an offer sent to the location.
S	Speed	The actual speed of the service tier falls below the unserved or underserved thresholds.[17]	Speed test by subscriber, showing the insufficient speed and meeting the requirements for speed tests.	Provider has countervailing speed test evidence showing sufficient speed, e.g., from their own network management system.[18]
L	Latency	The round-trip latency of the broadband service exceeds 100 ms[19].	Speed test by subscriber, showing the excessive latency.	Provider has countervailing speed test evidence showing latency at or below 100 ms, e.g., from their own network management system or the CAF performance measurements.[20]

[16] A standard broadband installation is defined in the Broadband DATA Act (47 U.S.C. § 641(14)) as "[t]he initiation by a provider of fixed broadband internet access service [within 10 business days of a request] in an area in which the provider has not previously offered that service, with no charges or delays attributable to the extension of the network of the provider."

[17] The challenge portal has to gather information on the subscription tier of the household submitting the challenge. Only locations with a subscribed-to service of 100/20 Mbps or above can challenge locations as underserved, while only locations with a service of 25/3 Mbps or above can challenge locations as unserved. Speed challenges that do not change the status of a location do not need to be considered. For example, a challenge that shows that a location only receives 250 Mbps download speed even though the household has subscribed to gigabit service can be disregarded since it will not change the status of the location to unserved or underserved.

[18] As described in the NOFO, a provider's countervailing speed test should show that 80 percent of a provider's download and upload measurements are at or above 80 percent of the required speed. *See Performance Measures Order*, 33 FCC Rcd at 6528, para. 51. *See* BEAD NOFO at 65, n. 80, Section IV.C.2.a.

[19] *Performance Measures Order*, including provisions for providers in non-contiguous areas (§21).

[20] *Ibid.*

Code	Challenge Type	Description	Specific Examples	Permissible rebuttals
D	Data cap	The only service plans marketed to consumers impose an unreasonable capacity allowance ("data cap") on the consumer.[21]	• Screenshot of provider webpage. • Service description provided to consumer.	Provider has terms of service showing that it does not impose an unreasonable data cap or offers another plan at the location without an unreasonable cap.
T	Technology	The technology indicated for this location is incorrect.	Manufacturer and model number of residential gateway (CPE) that demonstrates the service is delivered via a specific technology.	Provider has countervailing evidence from their network management system showing an appropriate residential gateway that matches the provided service.
B	Business service only	The location is residential, but the service offered is marketed or available only to businesses.	Screenshot of provider webpage.	Provider documentation that the service listed in the BDC is available at the location and is marketed to consumers.
E	Enforceable Commitment	The challenger has knowledge that broadband will be deployed at this location by the date established in the deployment obligation.	Enforceable commitment by service provider (e.g., authorization letter). In the case of Tribal Lands, the challenger must submit the requisite legally binding agreement between the relevant Tribal Government and the service provider for the location(s) at issue (see Section 6.2 above).	Documentation that the provider has defaulted on the commitment or is otherwise unable to meet the commitment (e.g., is no longer a going concern).

[21] An unreasonable capacity allowance is defined as a data cap that falls below the monthly capacity allowance of 600 GB listed in the FCC 2023 Urban Rate Survey (FCC Public Notice DA 22-1338, December 16, 2022). Alternative plans without unreasonable data caps cannot be business-oriented plans not commonly sold to residential locations. A successful challenge may not change the status of the location to unserved or underserved if the same provider offers a service plan without an unreasonable capacity allowance or if another provider offers reliable broadband service at that location.

Code	Challenge Type	Description	Specific Examples	Permissible rebuttals
P	Planned service	The challenger has knowledge that broadband will be deployed at this location by June 30, 2024, without an enforceable commitment or a provider is building out broadband offering performance beyond the requirements of an enforceable commitment.	• Construction contracts or similar evidence of on-going deployment, along with evidence that all necessary permits have been applied for or obtained. • Contracts or a similar binding agreement between the Eligible Entity and the provider committing that planned service will meet the BEAD definition and requirements of reliable and qualifying broadband even if not required by its funding source (*i.e.*, a separate federal grant program), including the expected date deployment will be completed, which must be on or before June 30, 2024.	Documentation showing that the provider is no longer able to meet the commitment (e.g., is no longer a going concern) or that the planned deployment does not meet the required technology or performance requirements.
N	Not part of enforceable commitment.	This location is in an area that is subject to an enforceable commitment to less than 100% of locations and the location is not covered by that commitment. (See BEAD NOFO at 36, n. 52.)	Declaration by service provider subject to the enforceable commitment.	
C	Location is a CAI	The location should be classified as a CAI.	Evidence that the location falls within the definitions of CAIs set by the Eligible Entity.[22]	Evidence that the location does not fall within the definitions of CAIs set by the Eligible Entity or is no longer in operation.
R	Location is not a CAI	The location is currently labeled as a CAI but is a residence, a non-CAI business, or is no longer in operation.	Evidence that the location does not fall within the definitions of CAIs set by the Eligible Entity or is no longer in operation.	Evidence that the location falls within the definitions of CAIs set by the Eligible Entity or is still operational.

[22] For example, eligibility for FCC e-Rate or Rural Health Care program funding or registration with an appropriate regulatory agency may constitute such evidence, but the Eligible Entity may rely on other reliable evidence that is verifiable by a third party.

5.4.4 Area and MDU Challenge

The Michigan High-Speed Internet Office will administer area and MDU challenges for challenge types A, S, L, D, and T. An area challenge reverses the burden of proof for availability, speed, latency, data caps and technology if a defined number of challenges for a particular category, across all challengers, have been submitted for a provider. Thus, the provider receiving an area challenge or MDU must demonstrate that they are indeed meeting the availability, speed, latency, data cap and technology requirement, respectively, for all (served) locations within the area or all units within an MDU. The provider can use any of the permissible rebuttals listed above.

An area challenge is triggered if six (6) or more broadband serviceable locations using a particular technology and a single provider within a census block group are challenged.

An MDU challenge requires challenges by at least three (3) units or 10% of the unit count listed in the Fabric within the same broadband serviceable location, whichever is larger.

Each type of challenge and each technology and provider is considered separately, i.e., an availability challenge (A) does not count towards reaching the area threshold for a speed (S) challenge. If a provider offers multiple technologies, such as DSL and fiber, each is treated separately since they are likely to have different availability and performance.

Area challenges for availability need to be rebutted with evidence that service is available for all BSL within the census block group, e.g., by network diagrams that show fiber or HFC infrastructure or customer subscribers. For fixed wireless service, the challenge system will offer representative random, sample of the area in contention, but no fewer than [10], where the provider must demonstrate service availability and speed (e.g., with a mobile test unit).[23]

5.4.5 Speed Test Requirements

The Michigan High-Speed Internet Office will accept speed tests as evidence for substantiating challenges and rebuttals. Each speed test consists of three measurements, taken on different days. Speed tests cannot predate the beginning of the challenge period by more than 60 days.

Speed tests can take four forms:

1. A reading of the physical line speed provided by the residential gateway, (i.e., DSL modem, cable modem (for HFC), ONT (for FTTH), or fixed wireless subscriber module.
2. A reading of the speed test available from within the residential gateway web interface.
3. A reading of the speed test found on the service provider's web page.
4. A speed test performed on a laptop or desktop computer within immediate proximity of the residential gateway, using a commonly used speed test application.

Each speed test measurement must include:

- The time and date the speed test was conducted.

[23] A mobile test unit is a testing apparatus that can be easily moved, which simulates the equipment and installation (antenna, antenna mast, subscriber equipment, etc.) that would be used in a typical deployment of fixed wireless access service by the provider.

- The provider-assigned internet protocol (IP) address, either version 4 or version 6, identifying the residential gateway conducting the test.

Each group of three speed tests must include:

- The name and street address of the customer conducting the speed test.
- A certification of the speed tier the customer subscribes to. Speed tests must be accompanied by a certified attestation from the customer that states the following: "I hereby certify, under penalty of perjury, that the download and upload speed indicated in this submission are the true and correct speeds to which I subscribe at the location where the speed tests included in this submission were measured. The entry of my name above constitutes my electronic signature to this certification. Persons making willful false statements in this form can be punished by fine or imprisonment under 18 U.S.C. § 1001." A copy of the customer's latest internet bill would also provide certification of the speed tier to which the customer subscribes.
- An agreement, using an online form provided by Michigan High-Speed Internet Office, that grants access to these information elements to the Michigan High-Speed Internet Office, any contractors supporting the challenge process, and the service provider.

The IP address and the subscriber's name and street address are considered personally identifiable information (PII) and thus are not disclosed to the public (e.g., as part of a challenge dashboard or open data portal).

Each location must conduct three speed tests on three different days; the days do not have to be adjacent. The median of the three tests (i.e., the second highest (or lowest) speed) is used to trigger a speed-based (S) challenge, for either upload or download. For example, if a location claims a broadband speed of 100 Mbps/25 Mbps and the three speed tests result in download speed measurements of 105, 102 and 98 Mbps, and three upload speed measurements of 18, 26 and 17 Mbps, the speed tests qualify the location for a challenge, since the measured upload speed marks the location as underserved.

Speed tests may be conducted by subscribers, but speed test challenges must be gathered and submitted by units of local government, nonprofit organizations, or a broadband service provider.

Subscribers submitting a speed test must indicate the speed tier they are subscribing to. If the household subscribes to a speed tier of between 25/3 Mbps and 100/20 Mbps and the speed test results in a speed below 25/3 Mbps, this broadband service will not be considered to determine the status of the location. If the household subscribes to a speed tier of 100/20 Mbps or higher and the speed test yields a speed below 100/20 Mbps, this service offering will not count towards the location being considered served or underserved. However, even if a particular service offering is not meeting the speed threshold, the eligibility status of the location may not change. For example, if a location is served by 100 Mbps licensed fixed wireless and 500 Mbps fiber, conducting a speed test on the fixed wireless network that shows an effective speed of 70 Mbps does not change the status of the location from served to underserved.

A service provider may rebut an area speed test challenge by providing speed tests, in the manner described above, for at least 10% of the customers in the challenged area. The customers must be randomly selected. Providers must apply the 80/80 rule[24], i.e., 80% of these locations must experience a speed that equals or exceeds 80% of the speed threshold. For example, 80% of these locations must have a download speed of at

[24] The 80/80 threshold is drawn from the requirements in the CAF-II and RDOF measurements. *See* BEAD NOFO at 65, n. 80, Section IV.C.2.a.

least 20 Mbps (that is, 80% of 25 Mbps) and an upload speed of at least 2.4 Mbps to meet the 25/3 Mbps threshold and must have a download speed of at least 80 Mbps and an upload speed of 16 Mbps to be meet the 100/20 Mbps speed tier. Only speed tests conducted by the provider between the hours of 7 pm and 11 pm local time will be considered as evidence for a challenge rebuttal.

5.4.6 Transparency Plan

To ensure that the challenge process is transparent and open to public and stakeholder scrutiny, the Michigan High-Speed Internet Office will, upon approval from NTIA, publicly post an overview of the challenge process phases, challenge timelines, and instructions on how to submit and rebut a challenge. This documentation will be posted publicly for at least a week prior to opening the challenge submission window. The Michigan High-Speed Internet Office also plans to actively inform all units of local government of its challenge process and set up regular touchpoints to address any comments, questions, or concerns from local governments, nonprofit organizations, and Internet service providers. Relevant stakeholders can sign up for the Michigan High-Speed Internet Office newsletter on the website challenge process updates and newsletters. They can engage with the Michigan High-Speed Internet Office by the designated email address LEO-MIHighSpeedInternet@michigan.gov. Providers will be notified through the challenge portal via email when a challenge is submitted.

Beyond actively engaging relevant stakeholders, the Michigan High-Speed Internet Office will also post all submitted challenges and rebuttals before final challenge determinations are made, including:

- the provider, nonprofit, or unit of local government that submitted the challenge,
- the census block group containing the challenged broadband serviceable location,
- the provider being challenged,
- the type of challenge (e.g., availability or speed), and
- a summary of the challenge, including whether a provider submitted a rebuttal.

The Michigan High-Speed Internet Office will not publicly post any personally identifiable information (PII) or proprietary information, including subscriber names, street addresses and customer IP addresses. To ensure all PII is protected, the Michigan High-Speed Internet Office will review the basis and summary of all challenges and rebuttals to ensure PII is removed prior to posting them on the website. Additionally, guidance will be provided to all challengers as to which information they submit may be posted publicly.

The Michigan High-Speed Internet Office will treat information submitted by an existing broadband service provider designated as proprietary and confidential consistent with applicable federal law. If any of these responses do contain information or data that the submitter deems to be confidential commercial information that should be exempt from disclosure under state open records laws or is protected under applicable state privacy laws, that information should be identified as privileged or confidential. Otherwise, the responses will be made publicly available.

The Michigan High-Speed Internet Office will comply with all state and federal laws regarding the protection of PII including:

- Identity Theft Protection Act - Michigan Legislature - Section 445.72
- Social Security Number Privacy Act - Michigan Compiled Laws § 445.83 (2022)

5.5 Challenge Process Answer

Model Challenge Process Answer:

Michigan High-Speed Internet Office will be adopting the BEAD Model Challenge Process.

6 Volume 1 Public Comment

6.1 Public Comment Period Overview

Following the public comment period, this section will contain a description of the public comment period, high-level summary of the comments received during the Volume I public comment period, and how they were addressed.