

The Michigan High-Speed Internet Office's BEAD Proposal: A Public Comment

By Ted Bolema

Introduction

The Michigan High-Speed Internet Office, or MIHI, requested comments on its initial proposal on how the state will spend the \$1.559 billion available through the federal Broadband Equity Access and Deployment Program, or BEAD. This brief was submitted as a comment to the office's proposal on Oct. 31, 2023.

MIHI lists a series of facts that paint a dismal picture of insufficient internet access in Michigan and its supposed economic consequences. Specifically, the agency asserts:

More than 212,000 households in our state lack the opportunity to access a high-speed internet connection and another additional 865,000 households face barriers related to affordability, adoption, or digital literacy. Taken together, this means that **approximately 31% of Michigan households do not have an affordable, reliable high-speed internet connection** that meets their needs.¹ [emphasis in original]

This statement is highly misleading because it mashes together the concepts of “unserved households” (those with no internet access), “underserved households” (those with internet access with speeds deemed too

slow), and low adoption rates (when people choose not to purchase internet access available to them).

In reality, there are far fewer unserved households than the proposal states, and the ones that remain should be the primary focus of MIHI's funding. As discussed below, the MIHI proposal is not designed to reach those unserved households, which are mostly in rural areas. Most of the unserved will not benefit from the MIHI approach to funding, which appears to be directed to the most populated areas of the state.

The MIHI approach will likely do very little to address low adoption rates. There is no reason to believe that the MIHI approach — with a heavy focus on funding duplicative internet infrastructure — will cause people who can sign up for broadband internet who have not done so already take that step. If the problem is low adoption rates, it would be better to support training programs and offer subsidies directly to those who do not subscribe to a service available to them.

The number of underserved households is also much smaller than the initial report claims. The report defines “underserved” as not having access to internet through only certain technologies, and it sets a minimum standard of download speeds of 100 Mbps and upload speeds of 20 Mbps. This overcounts the number of underserved households in two ways.

First, the report makes clear that MIHI intends to pick winners and losers among competing internet

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¹ “Michigan High-Speed Internet Office” (Michigan Department of Labor and Economic Opportunity, 2023), <https://perma.cc/96ZC-F3TE>.

technologies. When it estimates the number of households with high-speed access, it explicitly excludes households served by technologies such as 5G home internet, regardless of whether those technologies are now or soon will be providing speeds in excess of 100 Mbps/20 Mbps.

Second, the report sets a minimum standard that goes far beyond what most households will use in the near future. As a result, funds will be directed to areas that currently provide sufficient access while rural areas with poor access will be left out. As former Federal Communications Commission Chief Economist Michelle Connolly recently wrote:

Everyone should have the opportunity to have broadband. But does closing digital divides require that every household in the U.S. have access to the highest tiers of Internet service? Should we be spending money to make sure that as many households as possible have the opportunity to buy a Lamborghini (even if that means leaving many without an opportunity to buy any car), or should we be spending money to make sure that as many households as possible have the opportunity to buy a working car that can take them from point A to B?²

Proceeding with BEAD funding decisions based on such a misleading and dismal picture of internet access in Michigan will lead to massive waste and do little to address the problems that the initial report claims to want to solve. The MIHI initial report describes the kind of “mindfully wasteful spending” that former FCC Chief Economist Connolly criticizes in her report. As she explains:

Current programs explicitly and implicitly prioritize fiber networks regardless of relative cost – and blithely assume that the massive amounts of

federal dollars available, literally hundreds of billions, will assure that, even with all of the overbuilding they encourage, enough of that spending actually helps unserved or underserved areas. This is worse than mindless spending. This is mindfully wasteful spending.³

Comments on Section 2: Existing broadband funding

Section 2 of MIHI’s initial report provides a useful list of 15 existing broadband programs in Michigan, with funding from various government sources, in addition to the BEAD funding. The 15 programs that are not from BEAD total \$1,217.6 million, and new BEAD funding will add another \$1,559 million. The initial report shows that of the \$1,217.6 million, Michigan has already spent all but \$65.7 million, or a total of \$1,151.9 million. This is even before the BEAD funding gets disbursed.

The obvious question arises: What does Michigan have to show for the more than \$1 billion in recent government funding through existing programs? If MIHI claims that “approximately 31% of Michigan households do not have an affordable, reliable high-speed internet connection that meets their needs,” then what is MIHI doing with all of this taxpayer money?

It would help if MIHI were to document what it claims to be the impact of all of its recent spending to explain how current government spending is not achieving better results. If existing programs are failing as badly as MIHI claims, why should Michigan residents expect better results from the upcoming disbursements of BEAD funds? The office ought to tell us.

As we discuss below, a large share of this alleged failure of Michigan households to get connected has to do with how MIHI defines “affordable, reliable high-speed internet connection that meets their needs.” The

2 Michelle P. Connolly, “Mindfully Wasteful Spending: The Definition of Broadband” (Free State Foundation, *Perspectives from Free State Foundation Scholars* 18, no. 20, May 18, 2023), <https://perma.cc/DUR5-QKWH>.

3 Ibid.

way MIHI defines these terms sets up Michigan for spending on duplicative infrastructure spending. This spending will not reach the truly unserved, and it will not increase internet access in those areas where a large share of households has opted not signed up for the services available to them.

Comments on Section 3: Unserved and underserved locations

MIHI does not explain how it produced overly large estimates of unserved and underserved markets. The estimates appear to be only a listing of the results of the MIHI categorization process. In Section 5 of the report, MIHI identifies several modifications it made to the FCC National Broadband Map classifications. All these modifications in that section produce the effect of reclassifying more locations as unserved or underserved than the FCC does.

MIHI should abandon this effort to manipulate the unserved and underserved categories to make them larger. As discussed above, defining “unserved” and “underserved” markets is a critical issue. Using an overly broad definition, as MIHI appears determined to do, leads to wasteful duplication of infrastructure spending.

In addition, MIHI should adopt a more forward-looking approach. Section 3 states that MIHI will base its funding decisions on data as of June 30, 2023. The United States has benefited from a recent surge in private investment in broadband infrastructure, which far exceeds government spending on broadband. According to USTelecom data, private investment by the larger internet providers in 2022 alone was over \$102 billion nationwide, an increase of 19% over 2021. These figures do not include investments by smaller internet service providers, which are difficult to track, but USTelecom estimates total private spending at more than \$200 billion.⁴

The ongoing investments by private companies will continue alongside BEAD-funded projects. MIHI should keep this in mind and avoid directly funding projects in areas that may be unserved or underserved on June 30, 2023, but have substantial, privately funded projects in the pipeline. If MIHI fails to consider these projects, the likely result will be that when it announces funding for such areas, private investment will quickly be redirected elsewhere. Under that scenario, BEAD funding will simply be a substitute for the lost private investment in those areas, with no net increase in access for households there.

Comments on Section 4: Community Anchor Institutions

Section 4 provides a description of what appears to be a list of 24,413 “community anchor institutions” that would be eligible for funding grants. According to the initial report:

[T]he 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, 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.

⁴ “2022 Broadband Capex Report” (USTelecom, Sept. 8, 2023), <https://perma.cc/QWB9-8D92>.

The definition of “community anchor institutions” may be reasonable, but even a cursory review of the list of identified eligible institutions raises serious concerns.

First, the MIHI plan prefers spending for building new high-speed lines at community anchor institutions (like hospitals, libraries, and community centers) rather than supporting organizations promoting broadband adoption. That is a major missed opportunity, considering almost every urban community institution on the state’s list already has high-speed broadband networks at their front door.

To the extent there is a digital divide in populated areas of Michigan, it has very little to do with a lack of infrastructure of the type the MIHI program would fund.⁵ Instead, the digital divide is about low broadband adoption rates. The initial report has far too little focus on equipping community organizations with resources to help them get more people connected. These organizations could undertake many activities, including hiring Digital Navigators, providing outreach and enrollment campaigns for the federal Affordable Connectivity Program, and expanding subsidies for broadband to low-income families. They could also provide digital skills training classes to help digital newcomers thrive online and offer low-income families subsidies for computers or tablets. Programs like these are not a priority under the MIHI initial plan, which doles out as much physical infrastructure funding as fast as possible, to the neglect of human infrastructure.

Second, many of the community anchor institutions on the state’s list are owned by massive, for-profit companies, such as Tenet Health or Davita Kidney Care, that hardly need taxpayer handouts. The state’s list of eligible institutions even includes Ford Field and Comerica Park. It’s hard to grasp how upgrading the WiFi in the Tigers’ front office is a better use of tax

dollars than helping low-income families get a home internet connection. Other strange inclusions are orchards, day care centers, horse parks, farmers’ markets and nurseries.

MIHI should revise its plan to emphasize increasing adoption rates over building duplicative infrastructure. Invest in people, not in unnecessary buildouts that only benefit contractors and property developers. MIHI should also do a comprehensive review of all 24,413 community anchor institutions on its list and greatly narrow it. The office should emphasize those in truly unserved areas and those that can play a role in encouraging adoption in areas already well served by high-speed internet service providers.

Comments on Section 5: Challenge process

Section 5 identifies four modifications it plans to make to the FCC National Broadband Map’s classifications. All of these modifications have the effect of expanding the number of areas classified as unserved or underserved. All four should be dropped and replaced with a statement that MIHI funding will be technologically neutral, so that any funded infrastructure will be evaluated on performance and cost factors alone.

Specifically, the MIHI report states: “MIHI will include the following modifications to reflect data not present in the National Broadband Map:

- ♦ **Modification 1: 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

⁵ Ted Bolema and Jarrett Skorup, “State broadband plan won’t help rural communities” (The Detroit News, Oct. 30, 2023), <https://perma.cc/KF6D-UFMG>.

determine if a location is served and is eligible for funding.

- ♦ **Modification 3: [Multiple-dwelling unit]**
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.”

Modification 1 takes an unnecessarily hostile view of copper wire internet service. This type of internet delivery is being gradually replaced, but much of it is still useful. In Michigan, about 34% of copper wire internet customers are currently receiving service at speeds that meet or exceed the current FCC standard of 25 Mbps download/3 Mbps upload, so replacing their connections will not necessarily help them.⁶ The 66% of copper wire customers not achieving broadband speeds tend to be in rural areas and probably are good candidates for BEAD funding. Copper wire services should be evaluated just like any other technology, based on the results. Simply saying that all copper wire needs to be phased out is an unnecessary exercise of industrial policy and will lead to waste, as perfectly good connections are replaced and unserved areas are left out of funding projects.

Modification 4 shares the same problem as Modification 1 in that it picks winners and losers among technologies rather than looking at the results. Modification 4 automatically designates areas as unserved if the prevailing technology is wireless. This shows an unnecessary bias in favor of wired technologies (other than copper wire). Many

households would actually be better off with wireless technology.

Satellite internet reaches more U.S. homes than any other type of internet because it does not require ground-laid infrastructure like cable wires or cellular towers. Today, new satellite internet services come through satellites in much lower orbits than the older technologies, such as HughesNet, so their speeds can be competitive with wireline broadband. Current satellite services offer download speeds up to 100 Mbps, but that will soon change for the better. Elon Musk’s Starlink network has launched more than 5,000 low-orbit satellites as part of a plan to offer high-speed internet service to almost anyone in the world, via more than 10,000 satellites. Starlink already has more than 1.5 million subscribers, mostly in North America. Recent tests show that Starlink offers average download speeds of 67 Mbps in the United States, and Musk claims the network will soon reach speeds of 300 Mbps.⁷ Amazon is planning to compete with Starlink when it launches Project Kuiper with more than 3,000 satellites.⁸ The FCC recently began recognizing that Starlink is meeting the minimum standard for broadband service in 97% of the United States.⁹

A rapidly emerging technology is 5G home internet, which uses the mobile internet network largely designed for cell phones. Recent technology improvements and increased speeds make mobile connections a practical home internet option for many people. Cell carriers use the same wireless 5G signals they use for cell phone services to deliver internet to a router in the home, which then delivers service to all users in the home in the same way a router for fixed services does. T-Mobile’s 5G internet service reaches more than 50 million households, while Verizon

6 “FCC National Broadband Map: Michigan” (Federal Communications Commission, Dec. 31, 2022), <https://t.ly/izypVA>.

7 Ry Crist and Trey Paul, “Starlink Explained: What You Need to Know About Elon Musk’s Satellite Internet Service” (CNET, June 20, 2023), <https://perma.cc/3RA6-CJ99>.

8 “Everything you need to know about Project Kuiper, Amazon’s satellite broadband network” (Amazon, June 30, 2023), <https://perma.cc/984K-W2K4>.

9 “FCC National Broadband Map: Selected Providers: Space Exploration Technologies Corp.” (Federal Communications Commission, June 30, 2022), t.ly/nytGW.

reaches 40 million.¹⁰ Verizon’s 5G Home plan offers top download speeds between 50 and 300 Mbps, while its 5G Home Plus offers top download speeds between 85 and 1,000 Mbps.¹¹ Speeds vary by location in the coverage area, with the top speeds available closest to the source of the 5G signal.

The traditional type of fixed wireless has been available for many years as primarily a rural internet option. Google Fiber and Starry Internet, however, have introduced a new type of fixed wireless service, mostly in large cities, where they provide internet signals to entire apartment buildings and then connect individual units through an Ethernet cable. These urban fixed wireless services are quite new, and they can deliver download speeds much faster than those of traditional fixed wireless service — over 1,000 Mbps in some areas.¹²

Indeed, the MIHI initial plan states that as of August 2023, the national average mobile internet speed was 85 Mbps download/8 Mbps upload, which is why mobile was not included in the office’s proposal. These speeds are well above the current FCC standard of 25 Mbps/3 Mbps for broadband, however. More importantly, the source cited by the MIHI initial plan shows how quickly these speeds are increasing as deployment moves forward. The data the office cites were updated for September 2023 and show average mobile speeds of 97 Mbps/9 Mbps. These improvements are likely to continue so that very soon there will be more mobile broadband that meets or exceeds MIHI’s standard of 100 Mbps/20 Mbps.¹³

The MIHI report considers these various technologies to be inadequate, even though they have the potential to make cable wire and other

technologies favored by MIHI obsolete in the near future. The office is not qualified to draw such sweeping conclusions about which technologies serve households well and which do not. There are good reasons to believe that many households will prefer a wireless delivery, either now or soon. MIHI, however, will consider these households to be making a bad decision by not adopting one of the wired technologies preferred by the office.

Modification 2 is beyond the capabilities of MIHI to do well. Internet delivery technologies show some variation in speeds. Many internet services can be susceptible to network congestion, so the top speeds often are somewhat slower during peak usage times. Sending out MIHI employees or contractors to conduct speed tests will inevitably lead to false positives and reclassification of well-served areas as unserved or underserved. If MIHI contemplates such tests, it shows that the office has a fundamental misunderstanding of how internet delivery works. MIHI does not understand that the standard specified in Section 5 of 100 Mbps download and 20 Mbps upload is far faster than most households ever use, so most drops in speed from that standard will never be noticed.¹⁴

Modification 3 shows a serious misunderstanding of the difference between having access to internet service and adopting it. The initial report states, “The Michigan High-Speed Internet Office will treat as ‘underserved’ multiple-dwelling unit 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.” In other words, if MIHI finds an

10 Trey Paul, “What Is 5G Home Internet? Separating Fact From Fiction” (CNET, Sept. 30, 2023), <https://perma.cc/J2CT-GW72>.

11 Ry Crist and Trey Paul, “Verizon 5G Home Internet: Should You Trust It For Your Home Broadband” (CNET, Sept. 28, 2023), <https://perma.cc/GQ4R-A5LB>.

12 David Anders and Sean Jackson, “Yes, the Technology Your Internet Provider Uses Does Make a Difference” (CNET, Sept. 28, 2023), <https://perma.cc/753E-XFJB>.

13 “United States Median Country Speeds, September 2023” (Ookla, 2023), <https://perma.cc/3WQ5-9RJZ>.

14 Michelle P. Connolly, “Mindfully Wasteful Spending: The Definition of Broadband” (Free State Foundation, Perspectives from Free State Foundation Scholars 18, no. 20, May 18, 2023), <https://perma.cc/DUR5-QKWH>.

apartment building or condominium with an adoption rate below 85%, it will reclassify every unit in the building as “unserved,” no matter how many high-speed internet providers are already available.

As mentioned before, households not having access to high-speed internet is not the same thing as households not signing up for it. This proposed reclassification appears designed to allow for duplication of existing networks that will almost certainly lead to very few new adoptions in a multiple-dwelling unit. It is hard to envision a more apt example of “mindfully wasteful spending,” as former FCC Chief Economist Connolly used the term.

These types of multifamily buildings are likely to benefit most from new high-speed fixed wireless services that Google Fiber and Starry Internet are rolling out. But MIHI intends to ignore them in its Modification 4. At best, Modification 3 will lead to BEAD funding supplanting funding by these private providers, and residents of these supposedly underserved buildings will not benefit.

As these comments suggest, MIHI should abandon all its efforts to manipulate the unserved and underserved categories in order to make them appear larger. The one-way-street exercise of redefining some markets as “unserved” and “underserved” will only lead to wasteful duplication of infrastructure spending and lost opportunities to make better use of the BEAD funds.

Additional Comments

The MIHI initial proposal uses the term “future-proof” to refer to its expectations for projects it will fund. This is a highly inaccurate view of the market for internet access. As can be seen from the 30-year history of commercial internet service in the United States, internet access is a technologically dynamic.

There is no such thing as future-proof because nobody can predict the future in such a fast-changing market.

A possible explanation for why the “future-proof” claims resonate with government officials is that they are accustomed to operating in markets like water pipes, sewers, roads, and electricity delivery. These operations, like internet services, require a large initial investment. But they are nowhere near as technologically dynamic and do not require nearly as much ongoing investment to keep up with technological improvements. Roads, sewer pipes, and electricity lines can last for decades if maintained and are unlikely to be radically different in 20 or 50 years. But broadband has advanced rapidly over the last 30 years and there’s no reason to believe it won’t continue to do so. Thus, any current technology for internet access is inevitably going to be far less future-proof than other types of investments governments fund.¹⁵

While calling its funded infrastructure future-proof may be an excellent marketing slogan for selling the projects to local taxpayers, it creates a false expectation that the new infrastructure will stay ahead of future technological developments and will never have to be updated. MIHI should drop this term and instead try to paint a more realistic picture of what taxpayers should expect from BEAD-funded infrastructure projects.

¹⁵ Doug Brake and Alexandra Bruer, “Does Municipal Broadband Scale Well to Fit U.S. Broadband Needs” (Information Technology and Innovation Foundation, June 24, 2021), <https://perma.cc/2U9P-AD6T>.

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