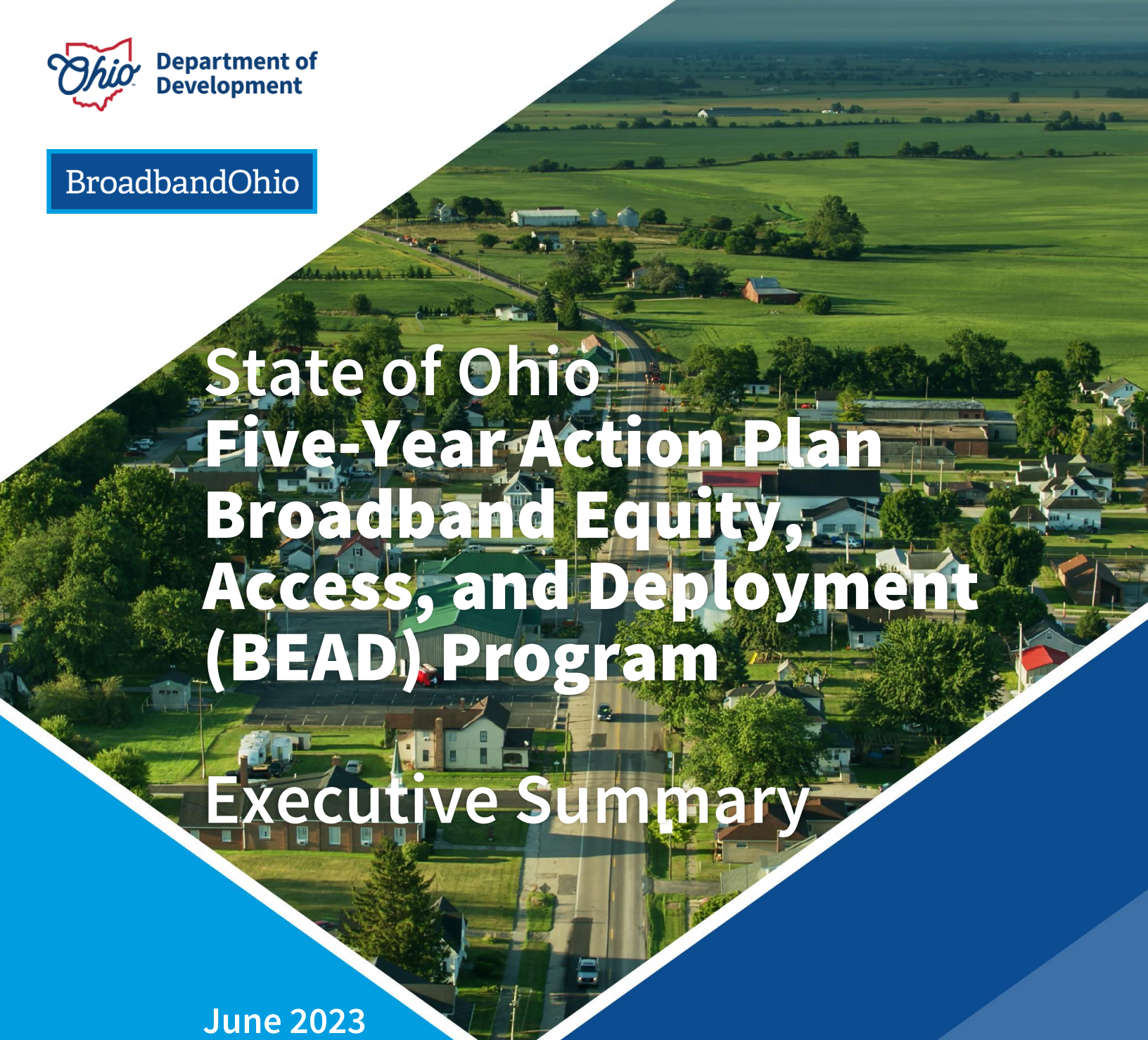


BroadbandOhio



**State of Ohio
Five-Year Action Plan
Broadband Equity,
Access, and Deployment
(BEAD) Program
Executive Summary**

June 2023



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1. Executive Summary

Ensuring that every Ohioan has access to high-speed internet and the opportunity to benefit from it has been a priority of Governor Mike DeWine and Lt. Governor Jon Husted's administration since January 2019. Led by Lt. Governor Jon Husted and InnovateOhio, Ohio released its first broadband strategy in December 2019 and created the BroadbandOhio office, housed in the Ohio Department of Development, in March 2020.¹ Since then, BroadbandOhio has:

- Launched the Ohio Residential Expansion Grant Program (ORBEG), which has deployed \$250 million in state funds, matched by another \$250 million in private sector funds.
- Partnered with the Department of Transportation to streamline permitting.
- Implemented a telehealth pilot in schools to meet mental health needs.
- Built a broad network of partners across local government, other state agencies, internet service providers, and community-based nonprofits. Many of these stakeholders are among the more than 500 members of the Ohio Broadband Alliance, which convenes stakeholders quarterly to discuss progress toward our collective goals, insights, best practices from recent work, and opportunities to collaborate.

“Lack of access to high-speed internet can stand in the way of our ability to do business, to obtain an education, or even to access emergency services. My administration is serious about improving broadband connectivity to corners of Ohio that have been left behind.”²

– Governor Mike DeWine

“In today's information-driven world, high-speed internet access is not a luxury — it is a necessity. By connecting our communities, we are reconnecting Ohioans with one another and helping to ensure that everyone has the opportunity to benefit from this vital resource.”³

– Lt. Governor Jon Husted

¹ <https://Governor.ohio.gov/media/news-and-media/creation-of-broadbandohio>

² <https://innovateohio.gov/news/news-and-events/062019>

³ [The Ohio Broadband Strategy](#). BroadbandOhio



The pandemic confirmed what we already knew about high-speed internet — all our residents need access and opportunities, and we must do much more work to reach this goal. Ohio is ready to capitalize on the historic federal infrastructure investment made in the wake of the pandemic,⁴ and we take the depth of planning required very seriously.

The following pages summarize key results of our planning to date, including our vision and goals; the needs, gaps, and obstacles that we must address to achieve our vision; the programs, assets, and partners required to make the vision a reality; and our implementation plan, including our preliminary estimate of deployment costs for a fully connected Ohio and strategies that will guide execution.

This is the first of four documents focused on accessing and implementing the federal funding. The State Digital Opportunity⁵ Plan (SDOP), the BEAD Initial Proposal (BEAD-IP), and the Final Proposal (BEAD-FP) will build on this effort.

⁴ 2021 Bipartisan Infrastructure Law (BIL)

⁵ The [Infrastructure Investment and Jobs Act](#) defines digital equity 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"; and defines digital inclusion as "the activities that are necessary to ensure that all individuals in the United States have access to, and the use of, affordable information and communication technologies, such as— (i) reliable fixed and

Vision and Pillars of the 2023 Ohio Broadband Strategy

BroadbandOhio

Bring reliable, affordable, high-speed internet to every Ohioan, in their homes and communities

- A1. Invest in last mile broadband infrastructure deployment
 - Bring reliable, affordable high-speed internet to all Ohioans via a competitive grant process
- A2. Expand middle mile network to facilitate last mile deployment
 - Extend the reach and accessibility of middle mile networks, including Ohio's OARNet network, to help facilitate last mile deployment, increase competition, and improve affordability
- A3. Remove barriers to deployment & maximize asset reuse
 - Reduce cost barriers / streamline permitting processes (e.g., railroad crossing) and leverage existing state and local assets to support infrastructure deployment

Promote the creation of worldclass broadband networks throughout the state, via the use of best-in-class technologies

- B1. Keep pace with changing technology and demand
 - Ensure Ohio's broadband infrastructure always meets the highest standards of reliability and scalability through efficient upgrades and by upholding standards in grants and permitting processes
- B2. Connect community anchor institutions to serve as digital hubs
 - Empower CAls as local hubs for connectivity, digital inclusion and innovation through access to at least 1 Gigabit symmetrical service

Enable participation in the modern economy

- C1. Expand telehealth access and usage via targeted programming
 - Expand telehealth access and usage through targeted initiatives, including further linking Ohio's health systems to schools and expanding current programming to additional health priorities
- C2. Expand access to remote education opportunities
 - Ensure all students and teachers have access to reliable internet & internet capable devices to access digital learning at home & school
- C3. Support Ohio's farmers to improve productivity by enabling precision agriculture uptake
 - Enhance agricultural productivity by enabling precision agriculture uptake through identification of use cases, strategic partnerships, and expanded broadband access
- C4. Enable safe and easy movement of people and goods via foundational investments to enable intelligent transportation systems
 - Ensure robust highway broadband access to support the deployment of smart corridors across Ohio in partnership with the Department of Transportation

Empower Ohioans through training, device access and digital skills

- D1. Support workforce development initiatives that connect Ohioans to broadband deployment and digital jobs
 - Partner with universities & workforce development orgs to build the broadband network, upskill workers for digital jobs, and enable remote work opportunities
- D2. Accelerate adoption, usage, and economic empowerment via Regional Digital Inclusion Alliances
 - Partner with RDIAAs as they engage local communities in driving Digital Opportunity via funding for programs that promote broadband adoption, devices access, and digital skills training

Ohio's broadband vision. As described in our 2023 Broadband Strategy, Ohio has set a four-pronged broadband vision, anchored in 11 strategic pillars.

This vision aligns with and reinforces the administration's focus on innovation, economic development and opportunity, and economic competitiveness for all Ohioans, as well as the goal of improving outcomes in education, health, and safety, especially for those most in need.

Needs and gaps. Achieving this vision of access and opportunity for all Ohioans must start with a clear picture of our current state. To this end, we conducted extensive quantitative and qualitative analysis, including engagement with affected stakeholders.

wireless broadband internet service; (ii) internet-enabled devices that meet the needs of the user; and (iii) applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration; and includes— (i) obtaining access to digital literacy training; (ii) the provision of quality technical support; and (iii) obtaining basic awareness of measures to ensure online privacy and cybersecurity." For the purposes of this document, Ohio uses the term "digital opportunity" to reflect both of these concepts.

Statewide, some 1.3 million Ohioans lack subscriptions to high-speed internet. This gap is attributable to one or more issues:

- Infrastructure availability. Of the 4.5 million locations in Ohio, 188,000 remain unserved (4 percent) and 144,000 remain underserved (3 percent), according to the FCC National Broadband Maps.⁶
- Affordability. Of the 1.98 million Ohio households eligible for the Affordable Connectivity Program (ACP) (41 percent), only 850,000 have enrolled (43 percent of those eligible).
- Access to devices. Some 17 percent of Ohioans do not have an internet-ready device (e.g., laptop, computer, or tablet).⁷
- Digital literacy and skills. At least 706,000 households earn \$50,000 or less per year and have “low digital skills.”⁸

The impact of these issues varies by region and by covered population group.

Deployment factors:

- Sixty-one percent of unserved locations and 38 percent of underserved location are in Appalachian Ohio — a region that represents only 20 percent of all Ohio locations.
- Twenty-three percent of underserved locations are in Northwest Ohio — a region that represents only 14 percent of all Ohio locations. This correlates with a concentration of FWA technologies in cities and towns with lower housing density.
- Local government and resident feedback indicates connectivity gaps in multi-dwelling-unit buildings (MDUs). The FCC maps do not capture these gaps that BroadbandOhio is exploring via a targeted survey.

Non-Deployment factors (to be further expanded in the SDOP)

⁶ FCC National Broadband Maps accessed on January 31, 2023.

⁷ This analysis does not include smart phone as an internet-ready device because it is insufficient for such use cases as remote education, reskilling, and working from home.

⁸ Preliminary estimate that a survey of Ohio residents will refine.

- Fifty percent of the households without subscriptions are located in 10 of Ohio’s 88 counties, especially Cuyahoga (161,000), Franklin (107,000), Hamilton (79,000), Montgomery (62,000), and Summit (54,000) counties⁹
- Lowest adoption rates are in the Appalachian counties
- Adoption gaps are disproportionate in low-income households and among aging people and people with disabilities
- For internet devices, the same trend is present, but with smaller gaps

Participants in listening sessions stressed the need for digital skills development, focused especially on digital skill-building, cybersecurity, and privacy. This need surfaced particularly strongly in communities notable for low incomes, an aging population, and language barriers. These gaps impact educational outcomes, well-being, and access to healthcare and economic development opportunities.

Obstacles. Diverse stakeholders have given BroadbandOhio valuable feedback on the obstacles to closing the digital divide in Ohio.

The overarching barrier to broadband deployment is the gap in funding required to make provider co-investments business feasible. Root causes of this barrier are the terrain where gaps in infrastructure availability persist (e.g., the Appalachian Mountains), low household density, and excessive distance to middle-mile access points. Make-ready¹⁰ costs and potential labor and supply chain shortages could exacerbate the funding gap. Stakeholders also called permitting processes and timelines, especially for railroad crossings, an obstacle to efficient deployment. Gaps in the maps — missing locations and insufficient visibility into MDU gaps — further complicate reaching the state’s goal of a fully connected Ohio.

Stakeholders repeatedly cited the affordability of subscriptions as the primary obstacle to closing the adoption gap. ACP has secured wide adoption in Ohio, and broadband leaders across the state voiced concerns about how long ACP will remain available. Other key barriers to increasing adoption mentioned by stakeholders include digital learning and the development of digital skills needed for education, jobs, and telehealth, resources for replicating and tailoring quality, and program accessibility.

⁹ Cuyahoga, Franklin, Hamilton, Montgomery, and Summit are Ohio’s most populous counties.

¹⁰ Make-ready describes the work that must be done before a Service Provider can add a new attachment or line to a utility pole so that the pole can handle a new attachment/line.

Residents, digital inclusion experts, and practitioners all highlighted the importance of community-based programs to building residents' trust. Often confusing pricing and contract terms and ever-changing applications, technologies, and privacy and cybersecurity risks create obstacles to accessing and using the internet. Developing open, trust-based relationships with residents is a first, critical step in overcoming barriers to residents' digital learning.

Partners and assets. Fully connecting Ohio will require leadership and collaboration by many partners across the state and leveraging Ohio's programmatic and physical assets for efficient, effective execution. BroadbandOhio already has more than 90 distinct private and non-profit partners across the state, collaborative partnerships with 17 state agencies, and over 200 programmatic and physical assets to tap.

Implementation plan. Bringing high-speed internet access to all Ohioans could cost an estimated \$1.14 – 1.61 billion, taking into account expected cost pressures on labor rates, make-ready costs, and likely undercounting of unserved and underserved locations, and execution may take 5 – 7 years. The state has already allocated \$370 million of this cost via the Rural Digital Opportunity Fund (RDOF), Connect America Fund Phase II (CAF II), and ORBEG. Potential cost for driving digital opportunity in the SDOP is planned for publishing in late summer 2023.

Closing the digital divide will require implementing a competitive grant program that funds only efforts undertaken with co-investment by the private sector, streamlining permitting, and building a skilled, broadband deployment workforce. As described in the 2021 Strengthening Ohio's Broadband & 5G Workforce Strategy, BroadbandOhio will partner with the Governor's Office of Workforce Transformation to support the planned approach and investments in multiple awareness, recruitment, and training programs to develop that workforce.

Finally, increasing internet access and adoption, with deep impact on education, healthcare, and economic development, will require participation by a wide range of public, private, non-profit, and resident stakeholders. Through ongoing partnerships and participation in listening sessions and surveys, over 5,500 stakeholders have already contributed to the effort, and BroadbandOhio will continue engaging them until we have a fully connected Ohio.