

Advance Colorado Broadband - Broadband Equity Access and Deployment

CATEGORY

Cross-Boundary Collaboration

START DATE

2022

END DATE

2026



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COLORADO

Governor's Office of
Information Technology

EXECUTIVE SUMMARY

The Challenge & Mandate: A Statewide Directive

Colorado's mission to achieve universal high-speed internet access was not just an administrative goal — it was an executive mandate. Under Executive Order 2022-023, the Governor's Office tasked the [Colorado Broadband Office](#) (CBO) with a monumental objective: connecting every Coloradan to high-speed internet. However, bridging the digital divide across a geographically and socially diverse state required more than just funding; it demanded a revolutionary model of cross-boundary collaboration and robust public-private partnerships.

In 2022, approximately 360,000 locations in Colorado lacked high-speed internet, creating significant disparities in rural areas. To address this, the CBO launched the BEAD initiative to achieve universal broadband coverage and ensure all Coloradans have the reliable access needed to thrive.

Colorado's broadband expansion proves that infrastructure is only as strong as the ecosystem supporting it. By serving as the central nervous system between the Governor's executive vision, 3,000+ stakeholders, and 150+ private-sector Internet Service Providers (ISPs), the Broadband Office transformed a fragmented challenge into a unified triumph of modern civic governance. This project stands as a premier model for how public-private partnerships can solve our era's most complex equity challenges.

IDEA

What Problem or Opportunity does the Project Address?

The BEAD program aims to close Colorado's digital divide by connecting 163,042 locations that currently lack high-speed internet. By leveraging a \$420 million investment strategy shaped by 3,000 stakeholders, the state is building a future-proof fiber network to ensure equitable access to essential services and support next-generation technologies.

Why Does it Matter?

The BEAD program transforms Colorado's digital landscape by closing the digital divide. Historically, high costs excluded low-income and rural communities from essential connectivity. OIT is fulfilling its commitment to connect all Coloradans, ensuring equitable access to resources, healthcare and employment.

Inaction would widen inequalities. This initiative also future-proofs the state by building a robust fiber-optic network to support next-generation technologies such as AI and quantum computing.

What Makes it Different?

Focus on Universal Service and Unserved/Underserved Locations

Unlike previous federal broadband initiatives that often settled for incremental deployment, the BEAD program is fundamentally transformational. It mandates universal service by explicitly prioritizing unserved locations (those lacking 25/3 Mbps) and then underserved locations (those lacking 100/20 Mbps). The project relies on a state-led, data-driven approach that uses the FCC's highly granular, standardized Broadband Data Collection maps to direct funds precisely to where the need is greatest, allowing us to identify 163,042 locations eligible for BEAD.

Requirement for Robust, Future-Proof Infrastructure

BEAD explicitly prioritizes projects that deploy fiber-optic cable (Fiber-to-the-Home, or FTTH) or other technologies capable of providing symmetrical speeds of 100/100 Mbps or higher, scalable for future needs. This focus on "future-proof" infrastructure sets it apart from earlier programs that accepted lower-speed technologies, ensuring the investments made today will meet the bandwidth demands of tomorrow.

State-Led, Data-Driven Implementation

While the federal government provides the funding, BEAD delegates significant authority to states to develop tailored action plans. Crucially, the FCC's new, more granular Broadband Data Collection maps determine funding allocations. This standardized approach ensures investments reach the areas with the greatest need, transforming broadband infrastructure through strategic, data-driven planning.

Grantees must meet high standards for speed, reliability, and cost-efficiency. By prioritizing future-proof fiber and utilizing competitive selection frameworks like "Benefit of the Bargain," the program delivers sustainable, high-performance connectivity that maximizes taxpayer value and ensures long-term viability for all communities.

What Makes it Universal?

The structural economic challenge driving this project — where high infrastructure deployment costs in low-density areas lead to market failures — is a universal issue across states nationwide. In 2022, the FCC identified over 8 million locations across the U.S. and its territories that require new infrastructure investment. Colorado's BEAD initiative mitigates this universal economic barrier

through a collaborative solution model. By coordinating the efforts of the CBO with rural business owners, state agencies like CDOT and OeHi, local government officials, and over 150 ISPs, the state has built a repeatable framework for success. Connecting 96,065 unserved and underserved locations, Colorado is proving that broad stakeholder partnerships can overcome the inherent market failures that once defined the digital divide everywhere.

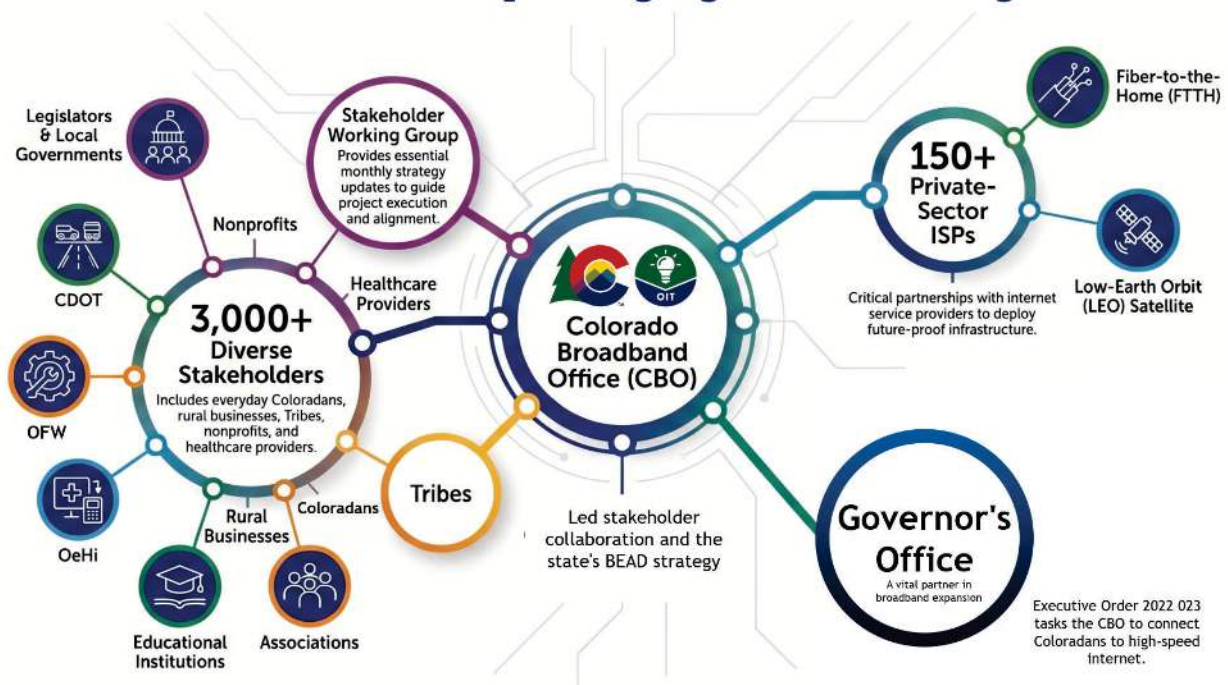
IMPLEMENTATION

What was the Roadmap?

The 2022-2026 BEAD roadmap was a [state-led, deeply data-driven strategy to achieve universal broadband coverage](#).

Who was Involved?

The Power of Partnership: Bridging Colorado's Digital Divide



Cross-Boundary Collaboration: Uniting 3,000+ Diverse Voices

True equity in broadband expansion cannot be achieved in a vacuum. To guide project execution and maintain strict strategic alignment, the CBO established a dedicated **Stakeholder Working Group** to provide essential monthly strategy updates. This Broadband Office successfully mobilized

a massive coalition of **over 3,000 diverse stakeholders, including everyday Coloradans, rural businesses, Tribes, nonprofits and healthcare providers.**

By breaking down silos, the CBO brought together crucial state agencies, community pillars and essential services, including:

- **Government & Infrastructure:** Close alignment with Legislators, Local Governments, and the Colorado Department of Transportation (CDOT), the Colorado Department of Labor & Employment's Office of Future Work (OFW) to streamline regional deployment.
- **Community Pillars:** Direct integration of Tribes, rural businesses, educational institutions, associations, and nonprofits to ensure no community was left behind.
- **Essential Services:** Active participation from healthcare providers and digital health initiatives like the Office of eHealth Innovation (OeHi) to ensure infrastructure was mapped directly to critical community needs.

This unprecedented level of cross-boundary engagement ensured that the state's BEAD strategy was co-authored by the very people it was designed to serve.

Public-Private Partnerships: Deploying Future-Proof Infrastructure

While public collaboration developed the strategy, private-sector ingenuity built the infrastructure. The CBO forged critical partnerships with more than 150 private-sector Internet Service Providers (ISPs). This was not a one-size-fits-all deployment; it was a sophisticated, hybrid infrastructure strategy designed to tackle Colorado's unique topographical challenges.

How Did You Do It?

CBO took stakeholder and industry input to develop its BEAD deployment strategy, which prioritizes building a cost-effective, future-proof fiber network, backed by a total investment commitment of \$420.6 million, including \$166 million in private match funding.

- **~\$4,378:** The average cost to connect a Broadband Serviceable Location (BSL). Though this figure masks the wide range in project complexity, with costs per BSL fluctuating dramatically from a low of \$561 to a high of \$15,157 in the most challenging, remote or high-cost areas. The state invested an additional \$51 million to reduce deployment costs, resulting in over \$300 million in savings for other non-deployment funding for digital adoption programming.
- **27,045 unserved and 18,678 underserved locations connected with Fiber-to-the-Home (FTTH),** the foundational future-proof solution. In Colorado, our mountainous terrain and

rural nature require a technology deployment strategy that is a mix designed to reach every corner of the state, so other technologies are critical for maximum reach and to maximize federal dollars to efficiently achieve universal service.

- **29,961 unserved and 17,691 underserved locations connected by low-Earth orbit (LEO) satellite technology** in remote areas where terrestrial fiber deployment is prohibitively expensive or geographically impractical.
- **96,065 total locations** (the sum of all unserved and underserved locations listed) will be connected with reliable, high-speed connectivity using a combination of fiber, fixed wireless, and LEO with BEAD funding and highly leveraging matching funds.

IMPACT

“For too long, thousands of Coloradans have been stuck without the reliable, high-speed internet needed to work, learn, run a business, or access health care. This historic investment will help ensure that Coloradans have access to affordable, reliable high-speed internet required to thrive,” said Gov. Jared Polis.

What Did the Project Make Better?

The BEAD program required years of partnership with everyone invested in bringing reliable, fast broadband to all Coloradans. will fundamentally change Colorado's digital landscape by delivering universal broadband access and directly dismantling the state's digital divide. By strategically using public funds to overcome the structural economic barriers and market failures that previously prevented commercial build-outs in low-density areas, the project will connect 96,065 unserved and underserved locations. This transformation ensures that all Coloradans can fully participate in the state's economic, educational, and social future.

How Do You Know?

The success of this monumental effort is demonstrated through verifiable infrastructure deployment metrics, strategic cost-avoidance and innovative state-led processes.

Deployment and Strategic Technology Mix

The BEAD program is connecting 96,065 distinct unserved and underserved locations. This was achieved through a multi-technology approach to maximize reach in Colorado's challenging terrain:

- Future-proof Fiber-to-the-Home (FTTH) will be deployed to 45,723 locations (27,045 unserved and 18,678 underserved).

- Low-Earth Orbit (LEO) satellite technology will connect 47,652 locations (29,961 unserved and 17,691 underserved) in remote areas where fiber was geographically impractical.

The program maximized federal funding and matching funds, resulting in massive savings:

- By continuously refining the BEAD map to remove ineligible locations (like those already served by private investment), the state avoided spending over \$234 million in taxpayer funds on overbuilding existing services.
- Competitive applications from satellite providers, whose cost per location was very low, further contributed to fiscal efficiency.

Innovative, Data-Driven Implementation

- The **Advance-BEAD Application Mapping Tool** was created to provide potential grantees with an interactive, address-level resource, which was critical for identifying project areas and streamlining applications. This tool served as a model for other states and had over 700 active users.
- The selection process mandated stringent requirements for grantees—including high speed (100/20 Mbps or better), reliability (future-proof fiber prioritized), and affordability through the "Benefit of the Bargain" framework—
- The project used highly granular data and leveraged the federal "Benefit of the Bargain" framework to maximize public investment efficiency.

Collaboration

Colorado's BEAD initiative stands as a model of innovation: partnering with over 150 providers, utilizing highly granular data, and capitalizing on the federal "Benefit of the Bargain" framework to ensure that public investments are maximized for cost-efficiency.

What Now?

The BEAD project represents a monumental, future-defining achievement that directly addresses the most pressing issue of digital inequity in Colorado. By connecting homes and businesses with scalable fiber and Low Earth Orbit (LEO) technology, we will close the digital divide.

BEAD grantees are signing their agreements and putting shovels in the ground starting in the summer of 2026. Soon, many Coloradans who have lacked reliable, affordable internet access will have it.