2023
BROADBAND EQUITY ACCESS AND DEPLOYMENT
5 Year Action Plan

Kansas
Office of Broadband Development

KANSAS BROADBAND PLANNING

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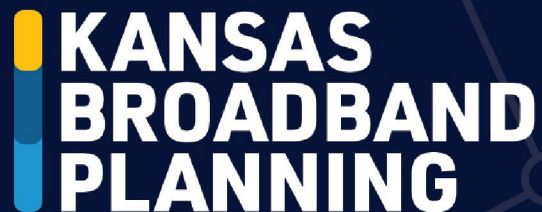
"If we are serious about competing in today's global economy and recruiting the best talent to come to our state and keeping our children where they grew up, then we must do everything in our power to end the digital divide."

> —*Governor Laura Kelly*

"Connectivity is essential in today's digital world, and this major investment in Kansas is a testament to our commitment to bring high-speed broadband to all parts of the state. With this [BEAD] funding, we will make significant strides in connecting underserved areas and empowering businesses, students and residents with the technology they need to prosper."

> —*Lieutenant Governor and Secretary of Commerce David Toland*

Ensuring that every Kansan obtains access to reliable and affordable broadband service and the digital skills necessary to live, learn, work, play and compete equitably in an increasingly technology-driven society is a priority of the Kelly administration, and has been since Governor Laura Kelly took office in 2019. Governor Kelly established the Kansas Office of Broadband Development (KOBD) in 2020 to highlight the importance of affordable, high-speed broadband in the prosperity and quality of life of Kansas communities, and with a commitment to ensure that all Kansans receive this essential service. KOBD is housed within the Kansas Department of Commerce and leads the state's broadband deployment, affordability and digital equity efforts. Since its inception, KOBD:

- Invested over $266 million, passed over 81,500 premises, administered five programs, and managed 137 projects.

- Traveled over 50,000 miles across Kansas to conduct listening "Roadshows" in all eight economic development districts as a way to gain insight into Kansans' lived experience with broadband.

- Saw Kansas become the first state awarded funds (over $15.5 million) from the U.S. Treasury's Capital Projects Fund-Digital Connectivity Technology (CPF-DCT) program in February 2023. The CPF-DCT program will support equal access to high-speed internet, free Wi-Fi to community anchor institutions (CAI), and provide internet-enabled devices to unserved and underserved Kansans.

- Was awarded, in collaboration with the Kansas Department of Transportation (KDOT), over $42.5 million from the National Telecommunications and Information Administration's (NTIA) Enabling Middle Mile Broadband Infrastructure Program (EMMBI). The awarded project plan is designed to create a 682-mile open access, middle mile fiber optic network to enable connection to new internet exchange points throughout the state. Moreover, the project will be neutrally administered and offer open access at duct, dark and lit fiber levels.

- Was awarded over $83 million in CPF funds. These funds, combined with almost $42 million in matching dollars, will result in more than 24,000 homes, businesses, schools, healthcare facilities, and other public institutions being connected to fast, reliable internet.

- Invested $9.4 million, with an additional $10.9 million in matching funds, to connect more than 5,700 locations through the first two years of the 10-year Broadband Acceleration Grant Program (BAG).

- Received notice of BEAD allocation in the amount of $451.7 million to support universal broadband service for all Kansans.

- Operationalized the KOBD, expanding its operations and managed nearly $1 billion in funds for complex, multi-million-dollar infrastructure investment projects.

As KOBD believes in taking a holistic approach to federal and state funding opportunities to close the digital divide, the State of Kansas is a national leader in applying for and using a wide range of opportunities to benefit our residents. Kansas is poised to leverage the historic federal infrastructure investment made in recent years, and we take the depth of strategic planning required for this purpose very seriously.

KOBD documents its plans for infrastructure deployment and broadband initiatives throughout the state in this Broadband Equity, Access, and Deployment (BEAD) Five-Year Action Plan (FYAP). Our FYAP is the first of four (4) documents focused on accessing and implementing federal funding. The State Digital Equity Plan, the BEAD Initial Proposal (BEAD-IP), and the BEAD Final Proposal (BEAD-FP) will build on this effort as required by the NTIA.
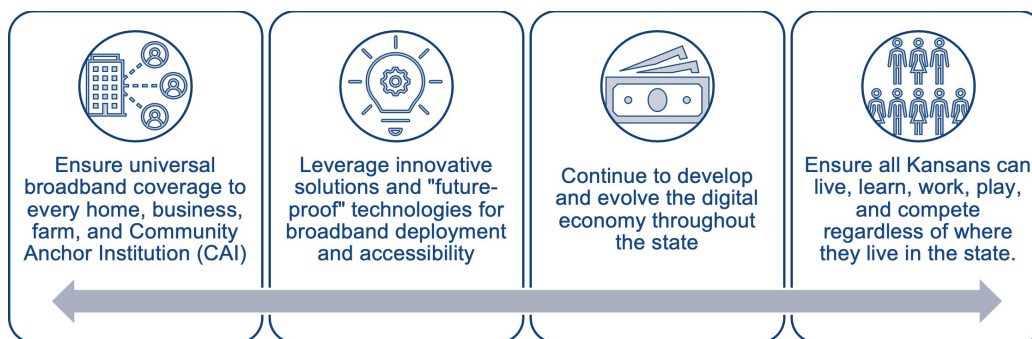
The following pages summarize key results of our planning to date, including our vision and goals; the needs, gaps and obstacles that we must address to achieve our vision; the programs, assets and partners required to make the vision a reality; and our implementation plan, including a preliminary estimate of deployment costs for a fully connected Kansas and strategies that will guide execution.

Kansas' broadband vision. KOBD's vision is to ensure that all Kansans can live, work, learn and compete in a global economy regardless of where they live in our state by improving universal access to quality, affordable and reliable broadband. Specifically, Kansas strives to be among the top 10 states by 2030 in the percentage of households able to access 100/20 Mbps service.

KOBD aligns these efforts through these five pillars: (1) reliable and quality infrastructure, (2) access, (3) affordability, (4) adoption and (5) equity, and will build on the directions outlined in the Statewide Broadband Expansion Planning Task Force report (2019) and the Kansas Department of Commerce fifteen (15) year economic development strategic plan called the Kansas Framework for Growth (2021). Our commitment to these BEAD and Digital Equity Act (DEA) efforts will set Kansas apart as a state with processes, partnerships and grant designs that ensure sustainability and the accrual of long-term benefits. We know that these benefits will accumulate as we continue growing leadership, working together, engaging in shared listening, as well as respecting and incorporating the unique needs of individual communities so that all people may contribute to this important effort.

Goals and objectives. KOBD's goal is to ensure that no Kansan is left behind in the digital world. To achieve this goal, we must be data-driven to guide our implementation plan and assess progress, utilizing both quantitative metrics and lived experiences shared by our stakeholders.

Specifically, our broadband objectives are as follows:

| Ensure universal broadband coverage to every home, business, farm, and Community Anchor Institution (CAI) | Leverage innovative solutions and "future-proof" technologies for broadband deployment and accessibility | Continue to develop and evolve the digital economy throughout the state | Ensure all Kansans can live, learn, work, play, and compete regardless of where they live in the state. |

KANSAS BROADBAND PLANNING

The Goals and Objectives section of our FYAP plan outlines goals, key metrics and targets for each objective, which will create an accountable and reportable baseline to measure and demonstrate progress toward our vision of a universally and equitably connected Kansas.

Needs and gaps. Achieving Governor Kelly's vision of universal service for all Kansans must start with a clear picture of our current state. To this end, KOBD conducted extensive quantitative and qualitative analyses such as a Fiber Asset Inventory survey in partnership with the University of Kansas, speed tests, CAI inventories, and work with other state agencies as described in Section 9: Needs and Gaps.

Statewide, over 153,000 Kansans lack subscriptions to high-speed internet. This gap is attributable to one or more issues:

- **Infrastructure availability.** Of the 1.1 million locations in Kansas, 87,489 remain unserved (8.2%) and 57,316 remain underserved for a total of 144,805 (12.0% of Broadband Serviceable Locations (BSLs) without qualifying broadband service). These BSLs exist throughout all 105 counties, four (4) Sovereign Tribal Nations, and the 1,890 cities, towns and villages that make up the State of Kansas.

- **Affordability.** As of May 2023, of the 438,634 households eligible for the Affordable Connectivity Program (ACP), only 105,575 have enrolled (24% of those eligible). This ranks Kansas as 35th in the nation for ACP subscriptions.

- **Access to devices.** 6.8% of Kansans do not have an internet-ready device capable of handling audio and video transactions, such as a laptop, computer or tablet.

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

- Eight Kansas counties are more than 50% unserved or underserved with 37 additional counties that are over 25% unserved or underserved.

- Counties where at least 25% of the BSLs in the county do not have qualifying broadband service represent 43% of all Kansas counties (45 counties).

- Most CAIs do not have 1Gbps symmetrical service. For instance, only 19% of the 331 healthcare facilities receiving the Rural Health Care subsidies have 1Gbps symmetrical service; 48% have 100/20 Mbps; and 33% had service less than 100/20 Mbps. Additional research is being done to determine whether this lack is due to not subscribing or not having availability.

Significant effort is needed to support the connectivity needs of our state in areas such as rural emergency services, residents' access to technology, enrollment in affordability programs, workforce development, economic development, and the creation of resources for digital literacy and skills training.

BEAD funding, alongside collaborative planning with each region and population, provides the opportunity to reduce the number of unserved and underserved BSLs and underserved CAIs by delivering broadband infrastructure previously unavailable in these areas.

Obstacles. KOBD worked closely with partners across the state, and throughout the country, to understand the obstacles and barriers that drive up the costs of deployment. Evaluating the optimal and efficient use of the unprecedented federal investment dollars requires consideration of needs, planning resources, operational capabilities and structured prioritization.

While KOBD knows the barriers and obstacles to our goal of universal service are more significant and prevalent

than had been expected, this funding opportunity and focus will lead to significant progress and results.

Key obstacles to closing the digital divide in Kansas:

- Kansas averages 36 people per square mile and 18 BSL locations per square mile. This lack of density represents one of the state's largest broadband investment challenges as rural communities are often overlooked in infrastructure planning due to the prohibitively high costs of deployment to remote locations. Prioritizing investment based on rate of return schedules leaves economically distressed rural areas at an even greater disadvantage for investment. Without broadband access, many rural Kansas communities lack adequate infrastructure to support business development, resident retention, emergency service, and access to telehealth services.

- In addition to rural locations, Kansas has urban locations that have challenges for ubiquitous access. For example, during the last census, hundreds of Multiple Dwelling Units (MDUs) were identified that do not have access to all housing units.

- Urban, suburban, and rural locations alike suffer from CAIs that either have no access or lack high speed access to properly support their communities. KOBD has worked with all partners to identify needed CAI locations that can help to close this gap.

- Lower income areas tend to represent higher percentages of poor broadband access. Broadband investments are but one of many investments needed to stimulate revitalization for these neighborhoods and opportunities for their residents.

- Education on the value of a broadband connection in today's economy is needed to ensure that residents in all areas of the state that may have "opted out" of broadband subscriptions in the past now understand how vital they are to conducting the daily business of living in digital economy. For example, connections are now needed to register for a driver's license, apply for social services, enroll in school, and participate in healthcare portals. Historically, these activities could be fulfilled in person or via U.S. Mail, but the transactions are evolving to digital use only. The inclusion of residents who previously opted out requires education for the users and the possible extension of provider facilities. These investments can also serve to improve the financial return for providers by improving their subscriptions.

- As heard in many of the KOBD Roadshow sessions, many Covered Population groups list affordability, the lack of devices, and the lack of digital skills as key barriers to broadband adoption. Others simply do not understand the world that is available to them via a broadband connection due to a lack of knowledge or experience.

- Lower income groups, veterans, older adults, and non-English speakers all referenced these same barriers. Given the premium placed on workers with digital skills, and the need for these same capabilities to participate in all aspects of the digital economy, there is a very real need to remove these, or any, barriers to adoption, providing more Kansans with robust digital skills and more opportunities.

- Workforce shortages are expected for all broadband-related roles in Kansas, especially in the technical and labor-intensive roles required to deploy fiber and fixed wireless infrastructure in the field.

- Material supply chains for broadband deployment were strained during the COVID-19 pandemic. Supply chain constraints are compounded by the infusion of funding nationwide and the timeframe in which projects must be completed. Procurement lead times for broadband technology materials, including

conduit, vaults, fiber, junction boxes, wireless radios, towers, antennas, cabinets, connectors, termination panels, switches and other communications equipment have lengthened bur appear to be improving.

- Fiber optic technology has become a priority for broadband design throughout the nation because of its scalability and resiliency. There are two methods of fiber optic installation: (a) buried and (b) aerial attachments to utility poles. Buried fiber optics are more resilient and less susceptible to line breakages, and other damage from external events than aerial installations. Buried installation methods can be significantly more expensive depending on geography (i.e., rock versus soil), rights-of-way (ROW) acquisition costs, and other factors. Buried fiber costs can be as high as 75% more per mile than the cost of aerial installation. This cost differential is exacerbated in low-density areas where there are only a few locations per mile.

- Fixed wireless service may be a necessity to achieve universal broadband service for Kansas due to a variety of factors affecting rural counties. While KOBD recognizes fixed wireless solutions may be necessary, KOBD's preferred technologies are fiber optic based.

- Obtaining the approval and permits from third-party entities to deploy broadband infrastructure on their assets is a key challenge. These third-party entities in Kansas include roughly 35 different utility pole owners, more than 300 public rights-of-way (ROW) owners, and 12 railroad companies. Providers must also seek easement rights from landowners, franchise agreements from local municipalities and counties, and permits to cross bodies of water or drainage easements.

Thus, the cornerstone to our success is overcoming these obstacles to enable all Kansans to enjoy the resources, knowledge, and technical skills necessary to maximize the opportunities created by broadband access.

Outreach efforts and partners. KOBD immediately understood that identification of and outreach to diverse and local stakeholders is the foundation for success in closing the digital divide. KOBD conducted a statewide "Broadband Roadshow" in the spring of 2023, with staff traveling over 50,000 miles and presenting events in 26 locations. These meetings served as the initial introduction of KOBD to the residents, businesses, local officials, non-profits, CAIs, and associations of Kansas, and were designed to meet Kansans "where they are and live."

Key outreach efforts and partners:

- In the late fall and early winter of 2022, KOBD conducted social media campaigns to encourage Kansans to review the Federal Communications Commission (FCC) recommended broadband service maps to determine the accuracy of the representation.

- KOBD facilitated meetings with all four Sovereign Tribal Nations to discuss their broadband needs and specific, unique funding opportunities.

- The Digital Equity Advisory Council (Advisory Council) was created in January 2023 to act as an advisory adjunct of KOBD to assist in DEA planning. This Advisory Council consists of members from education, healthcare, library, sciences, banking, non-profits, industry, Sovereign Tribal Nations, National Telecommunications and Information Administration (NTIA) and National Digital Inclusion Alliance (NDIA). The broad and varied experience available from council members offers KOBD a broad range of support, advice, and input to planning. Advisory Council meetings are held bi-weekly to review current KOBD plans and seek feedback and guidance.

Executive Summary

- KOBD held planning meetings with key state departments and agencies on the plans, timelines, and priorities of BEAD funding. Agencies were identified that either represented support and administration of programs that support covered populations, or agencies that impacted the planning, execution and security of infrastructure facilities in Kansas. Continued engagement with these partners and all other key stakeholders will be a hallmark of KOBD's work.

- In addition to attending dedicated and individualized meetings with ISPs, KOBD hosted two (2) provider meetings to review timelines, funding, planning requirements and the cooperation needed from all providers. KOBD also hosts biweekly industry roundtable meetings.

- KOBD conducted outreach to organizations serving the covered populations of Kansas to present the BEAD and DEA planning efforts, understand their broadband needs, and document barriers or limitations within their organizations and/or communities.

- KOBD and its partners, including Wichita State University, the University of Kansas, and the Kansas Farm Bureau, distributed surveys to gather statewide data on key elements of broadband and digital equity assets available in the state.

- An additional survey was conducted to determine workforce gaps amongst the internet service providers in the state to ensure successful BEAD execution. Data from these surveys has been instrumental in shaping this plan, and continued collection of data through additional surveys and other instruments will help guide decisions by ensuring maps, strategies, and asset inventories are current and accurate.

- KOBD met with the leadership teams from the eight Economic Development (ED) regions to detail BSLs, CAIs and funding gaps in each region and to hear feedback on specific broadband needs in their areas.

- KOBD launched a website for residents of the state to conduct speed tests and provide demographic survey data in support of our BEAD and DEA efforts.

- KOBD maintains a public facing website and regularly publishes the Kansas Broadband Newsletter.

Early in the BEAD and DEA planning effort, KOBD adopted an aggressive local outreach plan. With a goal to hear from Kansans across the state, structured and organized plans were created for the Roadshow, surveys, agency meetings, ED discussions, partnership meetings and state agencies. Our efforts reflect a wide range of intentional collaboration, partnerships and community involvement to collectively rise to this great challenge.

Moving Forward

KOBD and its partners are committed to ensuring access to reliable, affordable broadband for all Kansans, which unlocks opportunities for economic development, education, jobs, healthcare, and more. This Five-year Action Plan is the first step in the journey all of Kansas will take together to reach that future.